Regine Holst Samuelsen

Preparing for the Future, Acknowledging the Past

Responsibility and Justice in *The Gods Themselves* and *The Broken Earth*

Master's thesis in Language Studies with Teacher Education
Supervisor: Yuri Cowan
May 2022

Master's thesis

NTNU
Norwegian University of Science and Technology
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Abstract

This thesis is concerned with the portrayal of responsibility, action and justice in four works of SF, and argues that in order to make the transition to a more sustainable future, one must acknowledge the mistakes of the past. The first chapter provides the theoretical framework for the thesis and uses Ursula K. Le Guin's short story "The Ones Who Walk Away from Omelas" and N. K. Jemisin's complementary "The Ones Who Stay and Fight" as case studies to discuss how responsibility can be effectively thematised in literature. I argue that Le Guin's more subtle parallels to the reader's own world are more effective in encouraging the reader to take action than Jemisin's direct approach. The second chapter focuses on Isaac Asimov's novel *The Gods Themselves* and discusses how the antagonists refuse to acknowledge a global threat caused by technology and instead rely on technology to provide a quick fix for said threat. While this tendency is somewhat problematised in the novel, I argue that Asimov ultimately relies on technology as a *deus ex machina* to solve the novel's central conflict, proving the antagonists' lack of action justifiable. The third chapter focuses on Jemisin's *Broken Earth* trilogy and discusses how the move to a more sustainable future must include social, as well as environmental justice. Jemisin's novel illustrates how the oppressive systems that have created the present environmental and social issues, must be addressed before a more sustainable future is possible. I argue that Jemisin's approach is ultimately more effective than Asimov's, precisely because her novels acknowledge the complexity of environmental threats and include social justice as a central goal.

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Responsibility in Omelas and Um-Helat

In *The Great Derangement,* Amitav Ghosh claims that the "mere mention" of climate change places a work of fiction within the genre of science fiction and that "it is as though in the literary imagination climate change were somehow akin to extraterrestrials or interplanetary travel" (9-10). Building on Margaret Atwood's definition of science fiction as something that draws on "those imagined other worlds located somewhere apart from our everyday one" (qtd. in Ghosh 97), Ghosh argues that the era of global warming resists science fiction because it is not another imagined world, time, or dimension (97). While it is certainly true that climate change is not something from an imagined alternate dimension, it seems as though Ghosh underestimates the value of SF as a way to engage with climate change. Alistair Iles seemingly agrees when he accuses Ghosh of misunderstanding ecological fiction when Ghosh argues that climate change should be written about "in terms of realities on the planet on which we live" rather than future-oriented fiction (3). Iles contends that SF, precisely because of its otherworldly setting, "allows readers to experiment with different scenarios of change" that helps them to better understand world-making (Iles 3). Ghosh seems to fear that by depicting climate change through the genre of SF, it is reduced to a fictional phenomenon that the readers will not consider themselves responsible for, while Iles argues that the imagined nature of SF is what allows it to effectively engage the readers. There is a stark contrast between the alternatives drawn up by these two authors, and while I agree more with Iles' standpoint, I do believe that the mere imagined nature is not enough and that if done poorly, an SF text can indeed cause the effect warned by Ghosh. In this thesis, I examine the themes of responsibility and action in works of SF, beginning with how Ursula K. Le Guin's "The Ones Who Walk Away from Omelas" and N. K. Jemisin's "The Ones Who Stay and Fight" fall on either side of Ghosh and Iles' disagreement. Ghosh fears a lack of responsibility, and that since the readers will not *feel* responsible for climate change in a fictional setting, they will not *take* responsibility and act. The themes of responsibility, action and justice, will be discussed further in two later chapters that focus respectively on Isaac Asimov's *The Gods Themselves* and N.K. Jemisin's *Broken Earth* trilogy.

The lack of responsibility that Ghosh fears seems to be a result of a distance between the reader and the reality of the situation. The fictional setting marks the environmental disasters as something unreal. It is not something that can or will affect the reader. Similar sentiments are among the reasons for inaction or lack of belief in climate change. Climate

change and its consequences fall under what Rob Nixon calls slow violence: "a violence of delayed destruction that is dispersed across time and space, an attritional violence that is not typically viewed as violence at all" (2). Nixon argues that the media favours the spectacular and that the stories of the casualties of environmental change are not sensational enough to warrant interest from the public because the catastrophe unfolds over years and decades (3). Therefore, it is hardly surprising that SF writers use future-oriented writing to warn the reader of the dire consequences of environmental change. By portraying climate change as spectacular and dramatic, the narratives become containable within one setting and one cast of characters, while avoiding having to portray the political struggle to act before it is too late (Trexler 206).

Author Paolo Bacigalupi argues that fiction can create empathy for alien experiences, and that science fiction allows the writer to extend that empathy into the future and engage readers "with a set of consequences that we otherwise would discount" (Finn 207-08). SF can, in short, challenge the readers held beliefs and offer a new perspective. Bacigalupi argues that by setting his stories in a fictional world in which environmental change has already wreaked havoc, he can "tell stories to people who otherwise would be completely unwilling to look at climate change or take it seriously" (Finn 206). Bacigalupi, like Iles, believes that it is precisely the otherworldliness that Ghosh criticises that allows the SF author to challenge the reader to engage with contentious topics such as climate change.

Manjana Milkoreit discusses how science fiction and what she has dubbed socio-climatic imaginaries can help shape the politics that might provide a solution to the environmental crisis. Science fiction can function as a sandbox for possible futures and solutions to the environmental crisis. In her discussion, she uses Bacigalupi's *Water Knife* and Kim Stanley Robinsons *Green Earth* as case studies. Bacigalupi's novel is a dystopic narrative illustrating the potential future if humanity continues to make the wrong choices, whereas Robinson's novel is utopic, and illustrates one possible pathway to a desirable future (Milkoreit 13). According to Keira Hambrick, environmental writing should stress the validity of the issue and galvanise readers to "take appropriate action" (129). She further argues that science fiction has a didactic potential, as apocalypticism in SF is less likely to immobilise the readers with fear and eco-anxiety, and that the readers therefore may join "the call-for-action" raised by the text (Hambrick 135). Hambrick also points to how the real world is suppressed in the reader when reading science fiction, which enables them "to fully engage in the imaginative spaces left open by the […] genre" (Hambrick 138). This can be

seen as an elaboration of Bacigalupi's point about how SF can "trick" readers into engaging with topics they otherwise hold a firm stance on. Iles points to something similar when he describes how SF can "enable readers to begin questioning key assumptions, values, and choices inherent in the organization of a society, whether existing or imaginary" (Iles 4). Writing within this genre offers new vantage points that may help the author convince the reader to embrace a new perspective.

The Ghosh-Iles dichotomy is inherently a question of responsibility and agency. As the setting of a text moves further away from the reader's reality, the connections between those realities can become muddled, and the metaphor confused. This can, as Ghosh outlines, lead to apathy and a lacking sense of agency, but it is not necessarily an inherent trait in SF texts. Depending on their presentation, both SF and other fictional settings have the potential to make the reader question the faulty foundations we have built our societies on, as well as encourage the reader to take responsibility for the society they exist within. To understand this further I will examine the two complementary short stories by Le Guin and Jemisin.

Le Guin's short story "The Ones Who Walk Away from Omelas" has, according to the author herself, "had a long and happy career of being used by teachers to upset students and make them argue fiercely about morality" (*The Unreal and the Real* 326). The story is inspired by a passage from William James, in which a character remarks how hideous a society would be if its continued happiness and prosperity depended on the torment of a single soul. Le Guin writes that she felt a "shock of recognition" upon reading said passage, and argues that "the dilemma of the American consciousness can hardly be better stated" (*The Wind's Twelve Quarters* 251). The inspiration from James' passage is evident in "Omelas." The short story begins with descriptions of a beautiful, happy and prosperous city as it appears during the Festival of Summer (*The Unreal and the Real* 329). The narrator seems to be struggling to convey the image of the city satisfyingly and expresses their own shortcomings: "I wish I could describe it better. I wish I could convince you" (*The Unreal and the Real* 331). In an attempt to convince the reader, the narrator encourages the reader to imagine Omelas "as your own fancy bids," as it would be impossible to describe a utopia to suit all the readers (*The Unreal and the Real* 331). The narrator then proposes different scenarios that may help the reader to envision this grand city, whether it be technology, orgies, or drugs. However, the narrator is adamant about certain aspects of the city: there is no clergy, no soldiers, and there is no guilt (*The Unreal and the Real* 331-32). Despite supplementing the reader's vision of Omelas with ample examples, the narrator still assumes that the reader will not accept such a perfect and joyous city, and therefore describes one last

thing: The tormented child, whose continued misery is what allows the city its prosperity. Barbara Bennett writes that most teachers use Omelas as a story about a scapegoat "in which one member of a society is forced to bear the sins of everyone" (63). In her discussions with students, most students initially chose to walk away, but later realise that as members of the American society, they are among those who stay (Bennett 66). Bennett's experience with her students can be seen as an example of what Hambrick and Iles discuss. By presenting a fictional world, "The Ones Who Walk Away from Omelas" removes the readers from their own reality and makes them question certain assumptions about their own society, and how their affluent lifestyle depends on someone else's suffering.

The scapegoat, as well as serving as an ideal starting point for fierce discussions about morality, can also lend itself to an ecocritical analysis. As an allegory for American society, and particularly American capitalism, the child can be interpreted as a victim of American (and Western) overconsumption. According to a recent report by the World Meteorological Organization, 91% of the deaths caused by natural disasters in the last 50 years have been in countries that the UN defines as developing economies (World Meteorological Organization 21). This echoes what Nixon points out in his book *Slow Violence and the Environmentalism of the Poor*, namely that the burden of environmental change, both the effects such as extreme weather and the pollution itself falls disproportionately on the poorest population (16). The developed countries have been major polluters following the industrial revolution, and now that the consequences of global warming are becoming more evident, the consequences in terms of loss of human lives fall largely upon the developing countries. WMO's report shows that it is the developing economies that suffer the greatest human losses because of natural disasters. These countries and their people will most likely appear distant to a Western audience. Nixon argues that climate change, as a form of slow violence, does not inspire the same interest and engagement that spectacular violence does (2). The temporal scale of climate change creates a distance that diminishes a sense of agency and responsibility. If literature is to spark engagement and a desire for action, it must remove this distance while also providing hope, so as not to leave the readers apathetic. I would argue that the distance that Nixon speaks of can be spatial, temporal, or personal.

In Le Guin's fantastic city of Omelas, the child, even though it might be read as a representation of the global south, is not half a world away. There is no spatial distance between the Omelasians and the child. It is locked in a dark basement underneath the city, and while it might be hidden from view, its presence and the purpose for its torment are well known. The Omelasians seemingly neither feel nor take responsibility for the child. Omelas

is without guilt, and though its inhabitants might feel disgusted and outraged when looking upon the child, it is said that to exchange the happiness of the entire city with the chance of the child's happiness "would be to let guilt within the walls indeed" (*The Unreal and the Real* 334-35). Because of the lack of guilt, Alexander Keller Hirsch questions what motivates those who walk away. He proposes "responsibility without guilt," in which he sees them as "being motivated by fidelity to a principle that should be adhered to," even if they don't experience guilt if they transgress said principle (Hirsch 2). By walking away, they might rid themselves of the feeling of responsibility as they no longer contribute to or enjoy the results of the child's suffering. However, since their doing so does nothing to relieve said suffering, it is questionable whether their choice can be seen as *taking* responsibility. According to Hirsch, the child's suffering is meaningful to the city, and that by leaving Omelas they convert the suffering "into meaningless pain" (9). This could even render the walkers' sacrifice meaningless, because "there are now fewer beneficiaries available to enjoy its felicitous effects" (Hirsch 9). Those who walk away go towards a place that might not even exist (Le Guin 336), and it is not disclosed whether they attempt to create a new and improved society or if they merely are removing themselves from the equation resulting in the child's suffering. Hirsch still contends their leaving may still carry some meaning, as they freely risk the possibility of annihilation as they walk away (9). But this is a self-sacrifice, rather than an attempt to do anything for the child. By leaving, they wash their hands of any influence the child might have over their lives, ensuring that whatever happens next is a result of their own choices.

Bennett contends that since Le Guin expects and leads the reader to "assume the ethically superior stance" when reading the short story, "the fall into reality and shame is much more meaningful" when the readers realise their actual position (66). She states that the image of the suffering child is one that every American (and the citizen of any affluent industrial nation) has seen before (Bennett 66). Images of suffering children are often used to raise awareness and incite donations to various emergencies around the world. The image of a child with spindly legs and a protruding belly due to malnutrition evokes the infamous images from the Ethiopian and Sudanese famines, such as "The Vulture and the Girl," that were widely circulated in connection to events like Live Aid in the 80s and 90s, that sought donations from "overfed viewers" that wanted to "quell their guilt by writing checks" (Bennett 66). While the publication of "Omelas" preceded these events by some decades, the image is a timeless one, and one strongly connoting Western Neo-colonialism.

If we continue to see the child as a representative of the Global South, it is necessary to take climate change into account, and therefore also the systems that propel it. The current model of capitalism is pointed to as one, if not the principal driver of climate change. Murray Bookchin argues that capitalism is "inherently anti-ecological" because a capitalist society necessarily treats nature as "a mere resource to be plundered and exploited" and that the destruction of the natural world, therefore, is inexorable (16-17). He further argues that the "notion that man must dominate nature emerges directly from the domination of man by man" and that bourgeois society in addition to pitting humans against each other, also pits humanity against the natural world – processes that turn both humans and nature into commodities (Bookchin 63). This ties in with Ghosh's arguments when he points to empire and imperialism as equally important drivers of climate change (Ghosh 117). The current system is incompatible with the changes necessary to address the climate crisis. Social inequalities and the vulnerable state of the Global South are the direct results of imperialism and colonialism. According to Ghosh, the Paris Agreement reduced climate change to a minor inconvenience that did not take social inequalities into account (Ghosh 207). Cheryl Lousley highlights how the "environment" is not necessarily the main issue, but rather

> the *dismissal of the value* of certain lives, communities, and affective relationships […]; the *privatization of the power* to shape common life […]; and the *injustices and inequalities* of the distribution of ecological hazards and pleasures. (157)

She argues how environmentalism necessarily articulates problems at the social level, further illustrating how environmental and social justice are intertwined. When Le Guin evokes the images of the humanitarian crises in the global south, she also criticises the systems that are part of the cause behind these crises – primarily those of exploitation in the name of both imperialism and capitalism.

While "Omelas" clearly can function as an eyeopener for the readers, Bennett's experiences can be seen as an example of what Hambrick believed to be the didactic value of SF, even though Le Guin's short story is not apocalyptic in nature. The readers may be more open to challenging their own assumptions after having read "Omelas," precisely because they are first challenged in a fictional setting. However, the story's ending might not inspire much hope. The narrator admits that the place those who leave walk towards, might not exist. The choice to walk away seems solely based on the conviction that they do not want to be the beneficiaries of the child's suffering, but no alternative is offered. In an interview with *The Paris Review*, N. K. Jemisin points out that many have interpreted the ending of "Omelas" as

the author's suggestion that "the only way to create a society that is a better place is to walk away from this one or to go off the grid" (Bereola). Jemisin objects to the interpretation that merely removing oneself from the equation is a viable option, stating that "you've got to fix it, especially when there's nowhere to walk away to" (Bereola). She advocates for taking responsibility and fixing the systems that allow the child's suffering.

This is the stance Jemisin promotes in the opening story of her collection *How Long 'Til Black Future Month?*. "The Ones Who Stay and Fight" is a clear reply to "Omelas," and distances itself from the moral ambiguity of Le Guin's story by being assertive instead. "The Ones Who Stay" follows the same structure as "Omelas": it begins with a description of a city, Um-Helat, during a festival, next, it engages with the reader and their assumed scepticism, and finally it describes an ethical challenge. Jemisin uses the same dialogic metanarration as Le Guin, but the narrator in "The Ones Who Stay" is less accommodating to the reader's imagination. When the narrator expresses their shortcomings, they partially blame the reader as well: "The difficulty lies partly in my lack of words, and partly in your lack of understanding" (*Black Future* 4). Where Le Guin's narrator seems resigned and disappointed in the reader's assumed need for "realism," Jemisin's narrator is almost hostile:

> Oh friend! I fear I have offended. My apologies. Yet… how else can I convey Um-Helat to you, when even the thought of a happy, just society raises your ire so? Though I confess I am puzzled as to *why* you are so angry. It is almost as if you feel threatened by the very idea of equality (*Black Future* 6).

Mark A. Tabone notes that Jemisin in this section "can be read confronting what Robin Diangelo calls 'white fragility'," where challenges of the racial worldview are interpreted as a challenge to one's identity (Tabone 379). The narrator actively challenges the assumptions and worldview of the imagined reader.

Where "Omelas" and its intended message is ambiguous, "The Ones Who Stay" is decidedly not. In one passage, the narrator explicitly references both Omelas and America, thus making the story's intended analogue abundantly clear:

> This is Um-Helat, after all, and not that barbaric America. This is not Omelas, a tick of a city, fat and happy with its head buried in a tortured child. My accounting of Um-Helat is an homage, true, but there's nothing for you to fear, friend. (*Black Future* 5).

In this passage, Jemisin seemingly abandons the narrator in favour of her own voice when she acknowledges that the accounting of Um-Helat is an homage to Le Guin's work. In addition, she makes it clear that it will not echo the "values" of the aforementioned civilisations. Le Guin never describes Omelas' past. The readers are told that the child was not always locked

in the basement, but nothing of the city's history is revealed. Jemisin provides Um-Helat with a past, in order to show that the city is actively working for a better future. The narrator describes how there are more people of colour among the workers in the street than there are in the executive towers, but they add that "there is history rather than malice in this, and it is still being actively, intentionally corrected – because the people of Um-Helat are not naive believers in good intentions as the solution to all ills" (*Black Future* 5). The narrator later acknowledges that "Um-Helat has been a worse place, after all, in its past" (*Black Future* 7), and that the aftermath of a horrible war can be seen around the city. The reader is told that the Um-Helat of the past, is in fact the same as their own world (*Black Future* 8). By placing the city in a possible future rather than an alternate world, Jemisin presents one possible way forward for the reader's own society.

Where "Omelas" provides the reader with a potential realisation of how their own society is built and depends upon the misfortune of others, "The Ones Who Stay and Fight" is looking towards a possible future. When introducing the third part of the story, Jemisin uses a near-perfect echo of Le Guin: "Do you believe, friend? Do you accept the Day of Good Birds, the city, the joy? No? Then let me tell you one more thing" (*Black Future* 6). However, the reader is not introduced to a tormented child and those that walk away to rid themselves of the responsibility. The reader is rather introduced to those who fight to maintain the utopia: "social workers" who kill those who have been corrupted by the reader's world and who have adopted the notion that "*some people are less important than other*" (*Black Future* 9), an idea that is anathema in Um-Helat. The narrator describes a young girl who crouches beside the body of her father, who had succumbed to the ideas of our world. She is "curly-haired, plump, blind, brown, tall for her age" (*Black Future* 10), a stark contrast to the small, frail and malnutritional child of Omelas. The girl is also described as being "nearly septic with the taint of our world" (*Black Future* 11), but she is offered a chance of redemption. The narrator assumes that the reader would expect the story to "end with the cold-eyed slaughter of a child" (*Black Future* 11) but offers instead a glimmer of hope. The child is the Um-Helatian parallel of the child in the basement, and in the final part of the story, the narrator encourages the reader to remain in the city: "So don't walk away. The child needs you, too don't you see? You also have to fight for her, now that you know she exists, or walking away is meaningless" (*Black Future* 13). The sentiments that the narrator presents here echo those of Hirsch when he stated that by walking away, the child's suffering was rendered meaningless (9). While Le Guin stated that there was no guilt in Omelas, she still encouraged the reader to feel guilty as they realised the parallels between Omelas and

their own world. Despite this clear encouragement of guilt, the story offers no possibility for redemption. When the narrator in Jemisin's story speaks directly to the reader and gives them responsibility for the child, it evokes some sense of guilt. But the reader is also offered a chance at redemption if they only follow the narrator's request to fight for the girl. By providing the city of Um-Helat with a past, Jemisin also provides it with a potential future. By showing that the city has improved, there is hope for the tainted child. In her interview with *The Paris Review*, Jemisin stated that Um-Helat is not meant to be a perfect society, but rather a society that can be utopian as "long as they manage to fight off people who immediately assume that some people are less important than others and those people can be exploited" (Bereola). The short story is an explicit call to action, as exemplified by the final sentence: "Let's get to work" (*Black Future* 13).

Lousley argued that capitalism enforces a dismissal of the value of certain lives (157), and this is precisely what both Jemisin and Le Guin are criticising, albeit with varying degrees of subtlety. SF has the potential of offering up new and fresh perspectives to the reader, because of the suppression of the real world. The affective value of allowing the readers themselves to recognise the parallels between the fictional world and their own is considerable, but the ambiguity present in "The Ones Who Walk Away from Omelas" might undermine its ability to encourage readers to take responsibility. Jemisin's "The Ones Who Stay and Fight" is, according to the author, more a response to those that misinterpret Le Guin, than to Le Guin herself. Jemisin has been criticised for being too didactic and preachy in her reimagining of Le Guin's classic (Tabone 370). However, her story leaves little room for misinterpretation, which she considered to be a challenge with "Omelas."

I have briefly outlined climate change as the result of capitalism and imperialism, and how the consequences fall largely upon the populations that have already been exploited by the two processes. While Le Guin and Jemisin's short stories are not explicitly climate fiction, they criticise the same systems that have facilitated the climate crisis. Omelas and Um-Helat are places of plenty, but not necessarily of overconsumption. The two short stories both affect the reader's feeling of responsibility, although differently. "The Ones Who Walk Away from Omelas" can make readers realise that they *are* responsible for the child, as they realise the parallels between Omelas and their own society. "The Ones Who Stay and Fight" encourages the readers to *take* responsibility and make a change, because they are not offered the option to merely walk away into oblivion.

Ghosh fears that SF is unable to make the readers feel responsible for real-world phenomena. The parallels between Le Guin and Jemisin's utopian cities and the real world

are evident, and while Bennett's evidence is anecdotal, her article suggests that Le Guin's short story effectively makes the readers *feel* responsibility for the child, although the story itself does not necessarily offer up an alternative that inspires the readers to *take* responsibility. Jemisin's alternative is explicit in its comparison to the reader's world and directly encourages the reader to take responsibility. However, because it is so explicit, it does not create the same engagement with the text as Le Guin's story does. Iles argues that the suppression of reality while reading SF is what allowed the readers to obtain new vantage points. The gaining of a fresh perspective depends on the reader being allowed to think for themselves, and it involves suppression of the real world, something that is not achieved in "The Ones Who Stay and Fight" precisely because of the similarities to the real world are made so clear. Le Guin might ultimately be more effective in both Ghosh and Iles' eyes because the ambiguity in the ending inspires discussion, and thus might function as a jumping-off point for actual action.

In the coming chapters, I will continue to examine the theme of responsibility and action in works of SF. In Asimov's *The Gods Themselves*, technology is hailed as the redeeming quick fix that will ultimately save humanity. The novel plays with apocalyptic themes, as it is set after a climate crisis and during a threat of universal extinction. The central conflict revolves around the damning piece of technology that has put the Earth in its current situation. When the consequence of this technology is revealed, the people in power show an extreme reluctance to accept the gravity of the situation. There is an unwillingness to take responsibility and act because they do not want to sacrifice comfort to ensure long-term survival. But all these problems are avoided by the introduction of a new technological marvel. Taking responsibility is thematised to a greater degree in Jemisin's *The Broken Earth.* The population suffers under a drastically changed atmosphere due to failed technology, which bears parallels to Asimov's novel. However, where Asimov focused on the technology itself, Jemisin's focus is on the people and the exploitation necessary to create this technology, as well as the exploitation that enables the continued but precarious survival. The trilogy explores the pitfalls of using people as tools, bearing obvious parallels to slavery and colonial exploitation as a basis for modern capitalism and prosperity.

Both *The Gods Themselves* and *The Broken Earth* thematise responsibility and action against the backdrop of a looming apocalypse. Both settings are set in a climate-changed world after a near-extinction level event, but they are facing a bigger catastrophe, which further emphasises the need to take responsibility and action. By juxtaposing them we can begin to understand how we deal with questions of responsibility and social justice in the face

of looming catastrophe. These novels, in contrast to the short stories examined in this chapter, also show us that the lack of action is not met with ambivalence or apathy, but instead with enthusiasm for maintaining the status quo.

Responsibility and Technology in *The Gods Themselves*

In Isaac Asimov's *The Gods Themselves*, Earth is recovering from the Great Crisis, an environmental disaster that reduced the global population by two-thirds in the twentieth century (*Gods Themselves* 184). Through a series of coincidences, an alternate universe has been discovered, and the Electron Pump, a device that uses the transfer of electrons between the two universes to create energy, has been constructed. Since its construction, it has been known that the use of the Pump will cause an increase in the rate of hydrogen fusion in the Sun. This increase will, after several billion years, eventually cause the Sun to explode in a supernova. However, Lamont, a young scientist, has discovered that the calculations behind the expected timeframe are wrong and that the threat of a supernova is instead imminent. His dire warnings fall on deaf ears, as the leading figures of society are hesitant to abandon their prime source of energy and comfort. Tracey Heatherington argues that *The Gods Themselves* "foreshadowed the late twentieth century and its failing climate politics with dismaying accuracy" (197). In *The Gods Themselves,* an environmental disaster, possibly akin to the climate crisis that humanity is facing now, has already occurred, and Earth's population is aware of the casualties that global disasters can bring. This wilful ignorance displayed by the world leaders in *The Gods Themselves* speaks of an inability to take responsibility for the consequences of the predecessor's actions. This unwillingness to take responsibility can be tied with the fundamental trust the characters have in technological solutions to impending crises. The leaders in Asimov's novel do not seem to believe that they need to act, because they have faith in a miraculous technological solution that will allow them to maintain the status quo. *The Gods Themselves* provides a familiar yet paradoxical view on technology and responsibility. Examining the novel's optimistic attitude toward technology in a story where technology is threatening humanity's existence, can perhaps shed light on our own attitudes toward crises and responsibility.

The faith in technology seems to reflect Asimov's own beliefs. The characters in *The Gods Themselves* refer to the advantages of the population decrease following the Great Crisis on several occasions. Asimov himself had a Malthusian fear of overpopulation and wrote multiple essays on the topic. One of these essays is "The Price of Survival," in which the author outlines his proposal for how to ensure negative population growth. This essay also reveals his faith in technology: "If we are to enter the twenty-first century with a reasonable hope of avoiding the greatest catastrophe in human history, it will be because our

technology is still in operation" (*Roving Mind* 67). While Asimov does not seem to believe that technology will be able to save humanity from the disasters caused by overpopulation, he seems to believe that technology will be the final barrier that protects humanity from the impending disaster. In *The Gods Themselves*, the catastrophe Asimov refers to in "The Price of Survival" has already occurred, and the population has been reduced to a sustainable number. Further sustainability is ensured by the existence of the Electron Pump. The current population, even with positive population growth, will not need to worry about draining the Earth's resources for energy, as they can rely on the parallel universe to supply their needs.

Despite the current comfort provided by new technology, the Earth is still affected by the aftermath of the Great Crisis, which again affects the human population's relationship with technology. Barron Montez, one of the main characters in the third part of *The Gods Themselves*, argues that the Earth has lost its nerve and that the Great Crisis "left behind a permanent distrust of technology; a vast inertia; a lack of desire to risk change because of the possible side-effects." (*Gods Themselves* 184). The Great Crisis is referred to as an environmental crisis (*Gods Themselves* 50), but its precise nature is never fully disclosed. The modern reader will most likely imagine the predictions made by the recent IPCC report. The distrust of technology that Montez refers to suggests that a technological fix was the desired solution to the Great Crisis, and that it failed spectacularly. In his article on *The Broken Earth* series, Iles discusses how science fiction can problematise sustainability transitions. He points out that certain researchers argue that in our current situation, urgent transitions are needed to control some of the damage that will come from the coming environmental changes. This justification for dramatic and fast change can, according to Iles, be interpreted by politicians "to mean hasty large-scale trials of untried technologies" (2). Whether such attempts were made before the Great Crisis is not disclosed, but the distrust suggests so. The Electron Pump can be seen as a large-scale trial of untried technology, but the use of it is not implemented due to a sense of crisis. Its implementation is the result of technological innovation and a desire for a more comfortable lifestyle due to a limitless energy supply.

The very existence of the Pump seems to undermine Montez's argument about the distrust of technology, given its sophisticated nature and connection with another universe. However, Montez himself argues that since the Pump is the result of cooperation with the para-men, it is not a result of humans being forward-thinking. The Pump, according to Montez, "fits Earth's present mood perfectly. Infinite energy at virtually zero cost, except for maintenance, and with zero pollution besides" (*Gods Themselves* 186-87). The convenience

of the Pump apparently outweighs both the distrust of technology and the relatively recent memory of the crisis. When Lamont attempts to present his findings on the dangers of the Electron Pump, he meets considerable opposition. Part of the opposition comes from Frederick Hallam, the man who is widely regarded as the creator of the Electron Pump. Lamont has previously offended Hallam by suggesting that the Pump was the effort of the para-people, not Hallam himself. As a result, Hallam has discredited Lamont to the point where Lamont's warnings about the impending crisis fall on deaf ears. While Hallam's authority is considerable, the primary reason that Senator Burt is opposed to sounding the alarm is convenience. He argues that it is a mistake to think that the public cares more about the environment than their individual comforts, stating that:

> "When it became clear that the internal-combustion engine was polluting the atmosphere dangerously, the obvious remedy was to abandon such engines, and the desired remedy was to develop non-polluting engines. Now then, young man, don't ask me to stop the Pumping. The economy and comfort of the entire planet depend on it. Tell me instead, how to keep the Pumping from exploding the Sun." (*Gods Themselves* 50)

Burt's observations do not line up with Montez's view that Earth's population is unwilling to risk change due to the side effects. If Montez was right, then the revelation that the destructive side-effects of the Pump would far surpass the damage from the Great Crisis, should spark a more intense reaction from the Senator. Nevertheless, the Senator still seems to have faith in technology. The most convenient and comfortable solution would be for technology to relieve humanity of the potential danger. It is Burt that Heatherington refers to when she argues that Asimov predicted that "American politics would seek a technological fix rather than address the complexity of systemic failure" (Heatherington 196). There is a reluctance to abandon material entitlement, even when it is supported by unsustainable use of natural resources (197). In the scenario in *The Gods Themselves,* it is not even a question of depleting the natural resources on Earth, but rather of destabilizing our universe and turning the Sun into a supernova. Despite a much more dramatic outcome, the reluctance to abandon comfort is still present. Iles argues that in much scholarship on sustainability there tends to be an assumption that sustainability requires technological progress to maintain or even improve material well-being (2). The notion that sustainability is undesirable if it requires regression echoes the sentiments of Senator Burt. When prompted with why Earth's population will refuse to reject the Pump if it means death, Denison, the protagonist of the third part of the novel, provides the following explanation: "All they have to do is refuse to believe it means

death. The easiest way to solve a problem is to deny it exists" (*Gods Themselves* 239). This sentiment is a haunting echo of similar attitudes to current problems facing the human population. If there is no problem, there is no need to be responsible.

Responsibility is harder to avoid if there are inescapable physical reminders of the potential consequences of inaction. Montez argues that the Moon is better suited for technological progression because, unlike the Earth, it is not haunted by the past (*Gods Themselves* 185). This makes the Lunarites capable of looking forward instead of dreaming about "a pastoral past that never really existed" (*Gods Themselves* 184). The combination of Earth's distrust of technology and its history with the Great Crisis is reminiscent of what Elaine Gan et al. have called ghosts. According to Gan et al., the remnants of past ways of life remain in the current landscape (G1). They argue that paying attention to these haunted landscapes and the ghosts that fill them can enable "us to stand up to the constant barrage of messages asking us to *forget*" and allow projects that ignore environmental devastation, and instead focus on short term gains (Gan et al. G1). Evoking imagery of dead bodies instead of environmental decline is in line with the emphasis on consequences found in Asimov's text. Environmental catastrophe is often represented through images of dying oceans or deforestations, but images of dead human bodies are seemingly harder to ignore. Awareness and acknowledgement of past mistakes is crucial when attempting to create a new and less destructive path for the future. Asimov's Earth is most likely filled with the ghosts of non-human lives and ecosystems as well as the ruins of the civilisation that existed before the Great Crisis. These ghosts demand responsibility, but Montez considers them to halt the technological progression on Earth.

There is one character who represents the voice of reason in each of the novel's parts. In the first part, this voice of reason is Lamont. Burt is presented as a contrast to Lamont, and his request is seen as somewhat ridiculous. Particularly since the reader knows that Lamont and his associate have had contact with the para-Universe, and there is someone at that end who is just as afraid of the Pump as Lamont is. Despite the way Asimov has built up the Pump to be dangerous technology with unknown consequences, technology is not ultimately condemned in the novel. Both Iles and Heatherington are sceptical about the use of technology as a quick fix for the environmental crisis. In *The Gods Themselves*, the solution for the instability caused by connecting with the para-Universe, is to connect with another universe to cancel out the instability caused by the first connection (*Gods Themselves* 275). In other words, the solution to the dangerous technology is to use more of the same technology. When Denison presents this idea, it turns out that the consequences of this new

connection are somewhat similar to those of the Electron Pump. At the time of the Pump's creation, it was known that the connection between the two universes would draw them towards an equilibrium, which was believed to occur in 10^{30} years. Given that the expansion of the Sun into a red giant is thought to occur in 4.5 million years, humanity can be forgiven for not being concerned about an event that will occur in a time span longer than the existence of the universe. However, Lamont discovered that these calculations were wrong and that the effect on our universe would come much sooner. Yet these issues are not brought up when Denison presents his solution of creating a new connection. It might seem as though humanity is doomed to repeat its own mistakes. Heatherington's comment regarding the commitment to technological fixes instead of addressing the systematic change needed still holds true. Burt's demand "to keep the Pumping from exploding the Sun." (*Gods Themselves* 50) seemed ludicrous, but it turns out to be the ultimate solution, and no sacrifice to personal comforts is demanded. Asimov believed in the power of technology to the point where it functions as the *deus ex machina* for a seemingly unsolvable problem.

The connections that are made to these parallel universes can be seen as an expansion of the rifts that John Bellamy Foster et al. have presented in relation to planetary boundaries and the ecological crisis. Foster argues that ecological problems are shifted around through geographic displacement. When the resources of the region are spent, the production is moved to another part of the world (Foster et al. 74). In *The Gods Themselves*, it is mentioned that the Moon is "the major source for Earth's supply of mini-electronic devices and fine biochemicals. […] At the present rate, it may become the sole source in the near future" (*Gods Themselves* 185). The geographical displacement that Foster described is not limited to Earth in Asimov's novel. At least some of Earth's resources have been depleted and humanity has turned to the Moon for additional resources and to parallel universes for energy. The Anthropocene epoch has become an inter-universal phenomenon as humanity's impact has expanded beyond our own atmosphere and even our own universe. Foster describes how one way of solving environmental crises in the short term is to change the type of production and often generate a new crisis, while not truly healing the rift created previously. He mentions the shift from wood to plastic as an example of this (Foster et al. 7). In *The Gods Themselves*, Earth has created a rift into another universe to supply its energy. It is not revealed whether humanity has adjusted its consumption drastically following the Great Crisis, but the fact that they have outsourced production to the Moon, suggests that they have not. The Crisis did drastically change the size of the population, and it is conceivable that

their consumption continued but did not put as much strain on the planet's resources, due to the smaller population. If this is the case, then Heatherington's words ring true: they have still not addressed the complexity of systemic failure that brought them into the Great Crisis in the first place – their ghosts. This contrasts with Jemisin's *Broken Earth* series, in which the roots of the problems are addressed. The extreme seismic activity that affects the continent in Jemisin's series is the result of the overconsumption of natural resources, and a failed experiment that drastically altered the Moon's orbit and ignited the anger of the Earth's living core. The series contains two views on how the problems can be addressed: one is to destroy the entire system and hope for a better future for the survivors, while the other is to return what was lost. Eventually, it is the latter that prevails. By returning the Moon, and thus making peace with Father Earth, they are quite literally addressing the core of their problem and their society will be drastically changed as a result. Foster et al. criticise the dominant economic forces for "assuring us that capital, technology, and the marked can […] ward off any threats without a major transformation of society" (73-74). They argue that this approach frames the ecological crisis as merely a technical problem that the system is capable of fixing through technological endeavours. Senator Burt considers the threat of equilibrium to be a technical problem, and his beliefs are justified when he is presented with a technological fix that eliminates the threat without the need for societal transformation.

In addition to presenting a more extreme version of Foster's ecological rifts, *The Gods Themselves* also presents a more extreme version of Nixon's slow violence, namely the threat of equilibrium. The casualties of the Electron Pump are not expected to occur for several billions of years, as opposed to the decades or centuries that Nixon discusses. The threat of an environmental crisis was apparently not spectacular enough to spark sufficient action in Asimov's novel, it is only to be expected that an event that is further away than the creation of the universe, does not create any large-scale panic. However, when Lamont's research does get out, and the global population is faced with the prospect of rapidly approaching spectacular violence in the form of a supernova, an outrage does occur. The temporal distance makes it easier to avoid responsibility. This echoes Arkady's argument in Robinson's *Red Mars* when discussing the effects of the anti-ageing treatments being developed. He believes that short lifespans have been essential in maintaining the old systems, stating that it is easier "to hold onto whatever short-term survival scheme you have, rather than risking it all on a new plan that might not work – no matter how destructive your short-term plan might be for

the following generations" (Robinson 340). As soon as that temporal distance is reduced or removed completely, action becomes more necessary.

Nixon also includes space as a factor in his definition of slow violence. Having the catastrophe occur somewhere that does not affect oneself is more comfortable and easier to ignore. The first casualties of slow violence are predominantly the poor in the Global South, where the population is seen as disposable by those who extract resources in those areas. In the second part of *The Gods Themselves* it is humanity that is presented as disposable by the para-people. Where humanity seems wilfully ignorant, the para-people are seemingly aware of the consequences of the Electron Pump. They are dependent on photosynthesis to feed and reproduce, but their sun is weakening, leaving less sustenance for a dwindling population. The Electron Pump provides them with an alternate source of energy that will last them longer than their sun. Where the Pump will increase the rate of hydrogen fusion in the Earth's Sun, it will decrease the fusion rate in the para-Sun. The para-world will slowly freeze to death rather than be swallowed by an expanding inferno. But the para-people are equally not concerned with the fate of the Earth, as Odeen clearly states:

> If the Sun in the other Universe explodes, there'll be an enormous flood of energy; a huge flood that will last for a million lifetimes. There will be so much energy, we could tap it directly without any matter-shift either way; so we *don't* need them, and it *doesn't* matter what happens (*Gods Themselves* 141).

The para-people are willing to let the people on the other side of the Pump die, as long as they get the energy they need. This is an exploitation of the people on the other side, particularly since it is heavily implied that the Pump is the para-people's accomplishment and that they are the superior of the two life-forms. Odeen points out that "we don't need them" (*Gods Themselves* 141), as the para-people are perfectly capable of using the Pump alone. The exploding Sun merely means more readily available energy for them, and that is their only concern. Their overexploitation of the energy that passes through the Electron Pump will come at the cost of 2 billion human lives, and the para-people are still faced with a slowly freezing universe. The destruction of the other Sun provides them with enough energy that they can postpone their extinction, making them willing to disregard the coming inferno on the other side.

The physical distance between the two populations seemingly makes it easier for the para-people to disconnect from the responsibility of the casualties that their actions will cause. In fact, it is heavily implied that the destruction of Earth is required by the para-people to gain the amount of energy needed. Dua is the only character that feels responsible for

destroying a whole planet, and she is determined to stop the Pump. When the Hard Ones learn of her intentions, Losten encourages Odeen to gain control over Dua, saying: "I fear she is advising the other creatures to stop their half of the Positron Pump. If they do that before their Sun explodes, we will be helpless at this end" (*Gods Themselves* 158). This is an interesting contrast to the Earth, where they seem to cause catastrophes by accident or inaction. The para-people are knowingly causing a genocide to gain the needed resources.

The Gods Themselves is a novel that argues scepticism, both about technology and about the people in power. It highlights the ridiculousness of inaction in the face of a potential cataclysm, either to save face (in the case of Frederick Hallam) or because the action necessary is undesirable (in the case of Senator Burt). Heatherington uses Burt's request to "keep the Pumping from exploding the Sun" as an example of how Asimov divined the failure of twentieth-century climate politics. While it might echo the current failure, Burt's request is fulfilled. This might undermine Asimov's general message and his concern for the future. Hambrick states that apocalypticism in literature often aims to create "a sense of crisis" in the reader that galvanizes them into action (130). However, this sense of crisis can instead cause the readers to develop "eco-anxiety," which leaves them feeling overwhelmed and immobilised (131). The different reactions of the readers can be a result of the way the apocalypse is portrayed. Hambrick employs David Seed's definition of apocalypse as either terminus or telos. In terms of the environmental crisis, apocalypse as terminus suggests that the world will end in an environmental disaster, whereas through apocalypse as telos, the current paradigm will end, but life will find a way regardless (131). The former is usually what renders the readers helpless, while the latter might spark hope.

Asimov's *The Gods Themselves* balances between a dystopic and a utopic narrative. The Great Crisis is an example of the apocalypse as telos. It had disastrous consequences, but humanity survived, and is now seemingly thriving. Asimov imagines the Malthusian overpopulation problem as having been resolved before the events of this book, but there is no evidence of humanity having addressed the systemic problems that brought on the Great Crisis in the first place. The Great Crisis is over, but the threat of total annihilation remains. The looming threat is an example of an apocalypse as terminus, as it will obliterate the planet. The paradoxical approach to global issues with technology being both the problem and the solution makes it hard to see what the novel is trying to say. *The Gods Themselves* does not leave the reader feeling anxious and overwhelmed, nor does it galvanize the reader into action. Senator Burt is provided with a magical solution that negates the potentially disastrous effects of the Pump, without having to take responsibility and scrutinize the systems that

allowed for the threat in the first place. It appears humanity survived the Great Crisis through sheer luck and remains unable to learn from their past mistakes: their lifestyle of overindulgence and overconsumption of natural resources. This contrasts with *The Broken Earth,* where the effects of their "Great Crisis" are still felt, and a systemic and thorough change is necessary to deal with the long-term consequences of the greed displayed by previous civilisations.

Responsibility and Social Justice in *The Broken Earth*

The story of N.K. Jemisin's *Broken Earth* trilogy is set in the Stillness, a supercontinent constantly threatened by its volatile seismic activity due to a failed experiment some 40,000 years prior that drastically altered the orbit of the Moon, thus destabilizing and angering the living core of the planet. The Shattering, as this event was called, nearly drove humanity to extinction, just as the Great Crisis in Asimov's novel. At irregular intervals, the seismic activity sets off cataclysmic events known as Fifth Seasons, which prevents the establishment of any infrastructure needed for large-scale societies. In *The Gods Themselves*, temporal and physical distance from the catastrophes is what causes the reluctance to take responsibility for the consequences of the Electron Pump in both universes. In *The Broken Earth*, the cyclical nature of the cataclysms means that there is no temporal distance that allows people to ignore the cataclysmic events, as there is in Asimov's novel, yet we still observe a persistent ignorance to the ghosts of previous civilizations. In addition, there is a failure to recognise Earth as an agent with its own rights. The volatile state of the Earth is closely connected to the oppression and exploitation of "orogenes": people with the ability to sense and manipulate seismic activity. While their abilities are as highly useful on a continent that is constantly threatened by earthquakes, they are heavily discriminated against. Orogenes are seen as resources and tools rather than people, with even livestock outranking them. In *The Broken Earth*, it is personal distance and the othering of orogenes that allows the cycle of violent environmental catastrophes to continue. The exploitation of orogenes is shown to have disastrous consequences, as Alabaster, a highly-skilled orogene, tears the continent apart and sets off a new Season in an attempt to adjust the trajectory of the Moon and ensure the Earth's destruction. The threat of equilibrium in *The Gods Themselves* is considered a future scenario and is thus easily ignored. Alabaster's Rift and the coming apocalypse permeate the present in *The Broken Earth*, which makes it impossible for anyone to ignore. The explicit connection Jemisin makes between the marginalized people and their connection to the Earth adds another dimension to the ecological debate beyond what I examined in *The Gods Themselves*.

There is a tendency to discuss sustainability transitions merely in terms of technological change and according to Iles, these discussions rarely include or acknowledge environmental or social justice (1). Because so much of the discussion is centred on technology, the rights of the marginalized people that first will be affected, together with the

potential rights of the Earth, are seldom recognised (Iles 1). Barbara Rose Johnston describes environmental justice as an

> idealized goal, a hopeful outcome of political struggle to secure acknowledgement that injustices have occurred, responsible parties will apologize, and remedial action will occur to repair human and environmental harm ("Action-Research and Environmental Justice" 174).

Johnston equates the damage done to both humans and the environment, which illustrates that environmental justice cannot be disconnected from social justice. When taking responsibility to move towards a more sustainable future, both forms of justice need to be taken into account. The systems of exploitation that have led to modern-day overconsumption and global capitalism have their roots in colonialism. In *The Broken Earth*, the connection between social and environmental justice is made explicit through the oppressed peoples' direct connection to the Earth, as well as the Earth itself, which is alive and has a clear agency. The Earth in Jemisin's novels actively opposes being mined for resources and provides a new perspective on the rights of the planet itself.

Theories that the Earth and its various nonhuman lifeforms should have legal status have largely been dismissed, whereas corporate personhood is widely accepted (Iles 15). There are examples of legal rights and personhood being granted to nonhuman living entities like rivers, forests and other ecosystems, such as New Zealand's recognition of the Whanganui River and Mount Taranaki as legal entities (Rogers 119). Nicole Rogers acknowledges that not all legal systems are prepared to recognise the legal rights of nonhuman entities, but that recent developments suggest "a hitherto unprecedented degree of authoritative endorsement of the Rights of Nature discourse" (Rogers 120). Rogers refers to The Bolivian Law of the Rights of Mother Earth and the Framework Law of Mother Earth and Integral Development for Living Well as important legislative steps for the Rights of Nature movement (Rogers 119). These latter two are particularly interesting in that they refer to Mother Earth, which seems to suggest that if the rights of the planet are to be recognised, the planet must be personified. The geographic features of New Zealand that have been granted legal personhood are closely tied with the native Maori tribes, meaning that the Whanganui River and Mount Taranaki have been given these legal rights on behalf of what they mean to humans, not necessarily because of any intrinsic value in the geographic features themselves. In order to justify giving rights to any non-human entities, they must be proven to be of particular importance to humans or to have some human quality, as exemplified through the personification of Mother Earth.

The tendency to personify Earth as a nurturing maternal figure is visible in for instance the naming of James Lovelock's Gaia hypothesis. Named after the Greek goddess, the Gaia hypothesis suggests that "the Earth could be described as a self-regulating system, analogous to a living organism" (Garrard 199). While the Gaia hypothesis does personify the planet to a certain extent, it does not frame Earth as a conscious being or as a mother goddess, as the name perhaps would suggest. In Jemisin's novels, the Earth *is* a conscious being, but it is not portrayed as the typical nurturing maternal figure, but rather as an actively hostile and vengeful Father Earth. By portraying the planet as a male figure with potent anger, Jemisin avoids the connotations of a passive caregiver that might accompany Mother Earth. This allows Jemisin to portray an actively hostile planet. By introducing this new perspective in her story Jemisin asks us to consider how something fundamentally identical to our world, the planet, should be treated differently if it is active and hostile. And further, why are we not giving the same treatment to a planet that is equally generous but (currently) passive?

The current state of the planet in *The Broken Earth* was caused by Syl Anagist, a highly technologically advanced civilisation that used to span across the landmass that is now the Stillness. In Jemisin's world, magic is the by-product of life. The Sylanagistine are able to use magic as an energy source and are therefore described as having "shaped life itself to fit their whims" (*Stone Sky* 3). Because the Earth is alive it is brimming with magic, and the Sylanagistine attempts to extract the magic from the core of the planet itself, never realising "that so much magic, so much *life*, might be an indicator of awareness." (*Stone Sky* 247). Nassun reflects that "where they should have seen a living being, they only saw another thing to exploit. Where they should have asked, or left alone, they raped" (*Stone Sky* 248). The Sylanagistine ignore all evidence that the Earth is alive and sentient and attempts to leash the planet itself. They appear to only see humans as being fully alive, all while being very selective in which humans they grant the category of personhood, and consequently any rights. The Earth was not hostile prior to Syl Anagist's attempt to drain its core, but while it "did not start this cycle of hostilities […] It did not start this war, but it will rusting well *have. Its. Due*" (*Stone Sky* 248). This outright aggression would not be compatible with the traditional portrayal of Earth as a nurturing mother, but by providing a new personification in the vengeful father figure, Jemisin can explore a new portrayal of the planet. Through his anger and direct actions against those who would abuse him, Father Earth demands respect in a manner that the image of a passive caregiver would not.

Father Earth has a human counterpart in the orogenes, due to their ability to manipulate seismic activity and, in the case of the more skilled orogenes, their ability to manipulate magic. They, just as the planet itself, have been leashed and used as resources with no regard for the intrinsic value of their lives. Just as the Earth was seen by the Sylanagistine as a "thing to exploit," so are the orogenes viewed by the ruling classes of the Stillness. This can be seen as an example of what Bookchin argued, namely that both humans and nature are turned into commodities by the capitalist processes. In the introductory chapter, I discussed how the current climate crisis could be seen as a result of capitalism and imperialism. These are systems in which the oppressed peoples are seen as resources in themselves, or as tools to extract resources from the Earth. Bookchin argued that these systems turn both humans and nature into commodities (Bookchin 63). By portraying the orogenes as directly connected to the earth, Jemisin makes this parallel even more apparent.

While Syl Anagist's desire for magic is ultimately unsustainable, the city is portrayed as far more sustainable than its predecessors. The city itself is built with organic rather than synthetic material and is unlike the cities of old that were not only dead themselves but "deadly, poisoning soil and making water undrinkable and even changing the weather by their very existence" (*Stone Sky* 144), showing that the Sylanagistine were, to some extent, aware of the ghosts surrounding them. These descriptions clearly evoke the cities that the reader can experience, as well as the current climate crisis. In *The Gods Themselves*, Earth is recovering from the Great Crisis, but the memories of the crisis are still present. In *The Broken Earth*, the environmental crisis is so far in the past that the Sylanagistine can hardly imagine cities as the reader might know them from our own world. Here we see how a temporal distance can erase the ghosts presents in our environments, even though from the outside perspective of the reader they are more explicit. But where the Stillness will later be an apocalyptic landscape, Syl Anagist has not yet seen the horrors of the Seasons. In its pre-Season state, Jemisin's world is comparable to that of Asimov, both in terms of technology and attitudes to further technological advancements.

The Electron Pump and the other technology that is introduced in *The Gods Themselves* are set apart from living beings. Asimov's cities are, as defined in *The Stone Sky*, dead. The Pump has the potential to cause a cataclysm that exterminates the entire solar system, but this is merely an unforeseen side effect. The infrastructure in Syl Anagist is biologically based, and it is fuelled by magic, a by-product of life itself. The walls of the buildings are made of cellulose and are covered by vegetation, meaning that the city itself is alive. Iles argues that Syl Anagist can function as a "metaphor for what 21st century industrial

society could evolve into, if we pursue a bioeconomy pathway" (11). The Sylanagistine alternative to the Electron Pump is the Plutonic Engine, a device that could harvest magic from the core of the Earth, and thus provide the city with unlimited energy. The Pump is described as "the key to human paradise" (Asimov *Gods Themselves* 35) and the Plutonic Engine seems to be equally important. The Engine promises a world in which people will live forever, and be able to travel to other worlds beyond their own star, a world that "has been freed from scarcity and want" (*Stone Sky* 259), which evokes the familiar trope of post-scarcity SF. Where the Pump merely converts the para-universe's electrons into energy, a process that is presented as purely mechanical, the Engine feeds on life, and it depends on living creatures to do so. It is operated by the "tuners:" a genetically engineered people with a strong connection to magic, who were created for the sole purpose of operating the Engine on its launch day. The civilisation of Syl Anagist is portrayed as a living city, compared to the dead cities of the past and thus the cities of the reader's present. But despite being a more sustainable civilisation that is built of living organisms, with hardly any pollution, the civilisation is still greedy for more. This is emphasised by Syl Anagist's willingness to build a device that will draw on the life force of the Earth itself to ensure a more comfortable future for its population.

The Sylanagistine disregard for what they consider nonhuman entities is also evident with the tuners, genetically engineered people who were created as tools to operate the Engine. If the tuners fail to fulfil their function they are discarded just as any other malfunctioning tool. Decommissioned tuners are taken to "the briar patch," one of the sockets in which the giant crystalline obelisk fragments of the Plutonic Engine rest while awaiting launch day. Each socket is filled with thousands of people whom the Sylanagistine have deemed unworthy of personhood. These people are being kept barely alive so that they continue to produce the magic that will charge up the fragments in preparation for launch day. For the para-people in *The Gods Themselves,* the Electron Pump is the device that will ensure their survival, and the genocide of Earth is treated as a means to an end. The Sylanagistine are not threatened by extinction, and their actions cannot be excused as a desperate attempt at survival. Their use of people as their source of fuel is driven purely by greed. They desire a more comfortable future for their nation, and they consider their actions legitimized by their perceived racial superiority (Iles 12). The key to Sylanagistine paradise is built on the exploitation of the bodies that are considered unworthy.

Milkoreit has argued that "dystopic visions of the future might harbor as much motivational potential as utopias" (3). There is an Omelasian aspect to Syl Anagist. At first

glance, the city seems almost utopic. It appears to be a technological marvel that is constructed of living organic matter and is powered by the same matter in a seemingly symbiotic relationship. As Iles has commented, Syl Anagist might be seen as a metaphor for our potential future in terms of technological developments (11). However, when the Sylanagistine megalomania grows, they consider the exploitation of human lives to be necessary to enslave the planet itself. The consequences of this proposed enslavement illustrate how landscape can be haunted by imagined futures. Gan et al. argue that "We are willing to turn things to rubble, destroy atmospheres, sell out companion species in exchange for dreamworlds of progress" (G2). While their discussion is related to the reader's world, it applies to Jemisin's world as well. The Sylanagistine are willing to drain the Earth and their companion species to fuel their "dreamworld of progress," and the consequences of this willingness will continue to haunt the landscape of the Stillness millennia after the Sylanagistine themselves are destroyed. As the city's desire for energy grows past what it can produce itself, it becomes parasitic. Where the happiness of Omelas depended on the abuse of one child, the happiness of Syl Anagist seems to depend on the lives of millions. The city's parasitic nature is highlighted by the mantra that echoes throughout all the Syl Anagist chapters in *The Stone Sky*: "Life is sacred in Syl Anagist." At first, it appears to be an auspicious description, matching the biologically founded infrastructure of the city. But as more aspects of the city's prosperity are revealed, the descriptions of the sacredness of life become more cynical. Life is "a valuable resource" (*Stone Sky* 209), it is "lucrative and *useful*" (*Stone Sky* 314) and it should be sacred in a city that "burns life as the fuel for its glory" (*Stone Sky* 334). While the first impressions of Syl Anagist and its technology might be utopic, it becomes increasingly clear that the city's advanced technology cannot be considered in a vacuum. The Plutonic Engine is not a neutral device that will ensure the city's growing luxury with consequences. It must be controlled by the genetically engineered tuners, which emphasises how no technology can be completely separated from living beings. The city treats all life as a resource that can be exploited for its own continued growth. The Engine is the epitome of the interwovenness of technology and life because of the people fuelling the fragments, and the people created solely to operate the device. The dystopic aspects of Syl Anagist lie in its complete disregard for all lives considered to be lesser, whether it be non-sentient beings or "othered" humans. With such consumption of life, Syl Anagist must create a narrative in which they are superior and entitled to the life force of other beings: "*someone* must suffer, if the rest are to enjoy luxury" (*Stone Sky* 334). This

sentiment is a clear echo of Le Guin's "The Ones Who Walk Away from Omelas," and further emphasises the complete disregard the Sylanagistine have for "lesser lifeforms."

The othering of the tuners and the people filling the sockets for the fragments, allows the Sylanagistine to avoid responsibility. The process of othering creates a form of personal distance from the violence, a sense that it is acceptable as long as it happens to someone else. The people filling the sockets are Niess, a people that were distinct from the Sylanagistine because of their physical appearance and their affinity with magic. The Sylanagistine interpreted this affinity as a threat to their own dominance and created a narrative that marked the Niess as "other." What began as rumours stemming from the Niess' physical appearance, developed into scholarship on how the Niess' affinity for magic was the result of their sessapinae, the part of the brain that allows people to detect seismic activity, being fundamentally different from everyone else's. The Niess' sessapinae is described as "more sensitive, more active, less controlled, less civilized" (*Stone Sky* 210), a statement that clearly evokes eugenics and racial hierarchies. This parallel is emphasised further by Hoa's reflection that this perceived difference in the Niess' sessapinae "was what made them not the same kind of human as everyone else. Eventually not *as* human as everyone else. Finally: not human at all" (*Stone Sky* 210). This careful othering eventually causes a genocide as the Niess, after being subject to experiments, are given to the sockets to fuel the city. The tuners are created to be caricatures of the Niess, with drastically exaggerated features, and an affinity for magic far surpassing any held by the Sylanagistine or the Niess (*Stone Sky* 211). The Niess were already considered to be non-people, and this trait is transferred to the tuners. The engineering process before their creation and the conditioning the tuners receive is aimed at extinguishing all signs of personhood. Syl Anagist treats the bodies of any deemed unworthy of personhood as commodities that can be used and discarded at the city's whim. On the launch day of the Plutonic Engine, only six tuners remain of the original fourteen. Eight of them have performed suboptimally and have therefore been "decommissioned," further illustrating how disposable The Sylanagistine consider those that they deem to be non-persons.

The orogenes of the Stillness are direct descendants of one of the prototypes for the tuners. While the nature of their power has changed during the ten thousand years since the Shattering Season, the non-human aspect has remained. Official documents state that "any degree of orogenic ability must be assumed to negate its corresponding personhood" (*Obelisk Gate* 258). Their abilities spark fear to the point where a father is willing to beat his two-year-old child to death for showing orogenic power. Much like their predecessors, the orogenes are

treated as commodities by the ruling class. Any orogene found in the wild is taken in and trained by the Fulcrum, and if they show sufficient skill, they become Imperial orogenes, whose services can be rented. Through the training at the Fulcrum, orogenes hone their skill and learn to forfeit their sense of personhood: "Orogenes are not people. Weapons have no need of friends" (*Fifth Season* 297). They are essential to the survival of the continent's population, and according to Schaffa, this means that the orogenes are not "permitted to have a *choice* in the matter. You must be tools – and tools cannot be people" (*Stone Sky* 178). Just like the tuners, orogens are taught to think of themselves as weapons or tools. In addition to being asked to internalise their non-human status within their society, Kim Wickham argues that the orogenes "are also told a fiction—that if they behave, they will earn respect" which she describes as "a clear indictment of respectability politics or the injunction that if you just do what the police say, they won't hurt you" (Wickham 395). The only reason that the orogenes are told this fiction, is that their abilities are necessary for the survival of the Stillness, and they are easier to control if they adhere to the rules. Their value lies solely with their orogenic ability.

Their status as non-human is further emphasised by the Fulcrum's breeding programmes. The purpose of this selective breeding is to ensure the greatest orogenic potential in the next generation. Alabaster, who is one of, if not the most powerful orogene, is himself "bred to order" (*Fifth Season* 72), and has sired multiple children. The selective breeding and the forfeit of personhood illustrate that the orogenes are seen and treated as little more than livestock. Both the brainwashing of the children and the breeding programmes help maintain the systems of oppression and the cycle of violence that the orogenes are subjected to. Dillender argues that *The Broken Earth* echoes Sharpe's "hold time," a term used to describe how the time spent in the hold of a ship during the Middle Passage "transformed people into property, marking them as commodifiable and expendable" (Dillender 132-33). Dillender argues that Jemisin creates hold time through cyclicity (139). As Seasons occur at (ir)regular intervals, it maintains the structures of hold time for the orogenes. It marks orogenes as bodies "to which anything and everything can be and is done" (*In The Wake* 16). Sharpe discusses how being Black makes you "'fit the description' of the nonbeing, the being out of place, and the noncitizen always available to and for death" (*In The Wake* 86). In the Stillness, it is not Blackness, but rather orogeny that makes someone fit the description of a noncitizen and therefore being expendable commodities.

One of the most potent examples of the orogenes being treated as commodities the node maintainer Alabaster and Essun discovers in *The Fifth Season*. The larger cities of the

Stillness are protected by a network of "node-stations," in which less powerful orogenes are placed to use their powers to quell smaller shakes. This has protected the cities for years and allowed them to grow beyond what used to be possible. Following a large earthquake seemingly originating from one of these nodes, Alabaster and Essun visit the node station. What they find there is a child who has been sedated and strapped to a metal contraption, after being subjected to a medical procedure that removes the ability to control their orogeny. The child has been stripped of any remnant of humanity, and his body is treated as a tool that can help keep disasters at bay. The child had regained consciousness while one of the guards sexually abused him and, unable to control his orogeny, the child acted instinctively and set off a quake that killed everyone nearby (*Fifth Season* 142). All orogenes are under the jurisdiction of the Fulcrum, and if they do not live up to the expectations of the organisation "Mother Sanze can always find another use for them" (*Fifth Season* 140). This parallels the way Syl Anagist treated both the Niess and the tuners who performed suboptimally. While neither can serve the civilisation further in a conscious state, their bodies can still be used. Nixon discussed the concept of "disposable people" in relation to the slow violence of environmental change. In the Stillness, the disposability of certain parts of the population is made explicit. The orogenes are treated as commodities, and their bodies are used in whatever manner serves the Stillness best. If they are not skilled enough, they will simply be decommissioned and put in a node station to passively aid the Stillness. If they have the potential, but not the control, they end up in a node station. The Seasons are the Stillness' equivalent of our environmental change, and it is during a Season that the disposability becomes apparent. Where all other communities, or "comms", build storecaches that will aid them in surviving a Season, the Fulcrum has none. The orogenes are highly useful before a Season, but once a cataclysmic event has occurred, they are expected to "remove themselves from the competition for resources" (*Obelisk Gate* 263). The Guardians effectively commit genocide as they remove the orogenic population from the equation of survival. The Guardians, however, survive and can rebuild the systems that keep the orogenes chained, thus maintaining the cyclicity that creates the hold time for the orogenes.

Usefulness is the single most important factor for survival in the Stillness. The outspoken disposability of certain parts of the population is not only applied to the orogenes but also to the general population. The caste system ranks the most desirable comm-members by their potential contribution to the comm's survival. If a Season hits and becomes too rough, the lowest castes will be exiled from the comm and effectively killed (*Fifth Season* 28). Given the harsh nature of the Seasons, the society in the Stillness is built around the fact

that not everyone will survive. The primary concern is to ensure the survival of those who are essential for the future of the comm. Systems that are present in the reader's world are made explicit in Jemisin's novel, and the absurdity of disposability as an explicit category is effective. The explicit disposability of certain parts of the population creates an unstable foundation for the society of the Stillness. The Stillness itself was built on the ruins of Syl Anagist, which provides another unstable foundation. While the disposability of the lower castes is just as dreadful as that of the orogenes, it is the orogenes who are treated as commodities and expendable tools and used in whatever manner the Stillness requires outside of a Season. The continued oppression of the orogenes has led to the building of pressure for centuries, and an explosive eruption is imminent. In *The Broken Earth,* there are two cataclysmic events that are the direct result of the exploitation and oppression of people. Jessica FitzPatrick describes these events as "violent, dynamic attempts to […] reset planetary hierarchies" (81). The Shattering Season is the attempt by the tuners to reset these hierarchies, and the Rifting Season is the orogenes attempt. The continuation of societies built on oppression and exploitation is unsustainable, and in *The Broken Earth*, it is directly linked with environmental disasters through these two Seasons.

The Shattering Season is the result of the tuners' rebellion. One of them reflects that "we will understand that *people* cannot be *possessions.* And because we are both and this should not be, a new concept will take shape within us […] *Revolution*" (*Stone Sky* 50). The tuners deliberately sabotage the initiation of the Plutonic Engine in an attempt to burn Syl Anagist to the ground. However, the following calamity is just as much a result of the attempted enslavement of the Earth, as it is of the tuners. When the Sylanagistine decides that they ought to "enslave to enslave a great inanimate object that cannot feel pain and will not object" (*Stone Sky* 334) to sustain their ever-growing desire for fuel, they ignore the implications of the Earth's core being full of magic attempt to drain it. As mentioned previously, activists and philosophers who argue that the environment has its own rights are often ridiculed (Iles 13). In *The Broken Earth*, it is difficult to ridicule similar claims, because Father Earth is a living being. By portraying the planet as a living being, the story takes on an ecocentric perspective. Instead of being a passive resource that can be exploited, the Earth is a powerful presence that demands respect. When the tuners attempt to turn the Plutonic Engine back on Syl Anagist itself, the Earth attacks, and in the aftermath of the battle, the Moon's orbit is drastically altered, the Earth's crust breaks and the Shattering Season initiates the cycle of Fifth Seasons. The planetary hierarchy is reset as Syl Anagist is destroyed, and

the Earth becomes the dominant lifeform. The Shattering Season is the result of both the tuners' and the Earth's desire to eradicate humanity to avoid further exploitation.
The Rifting Season is the result of Alabaster's rebellion. The rebellion is born out of a wish to destroy the old system, but also as a way of making reparations. Johnston has described reparations as "the struggle to ensure that historical injustice is not pushed aside, dismissed and denied" ("Waging War, Making Peace" 25). She points out that while the term "reparations" usually refers to monetary compensation, it can take other forms, such as rehabilitation, the establishment of judicial mechanisms, returning property and restoring human rights and citizenship ("Waging War, Making Peace" 14). Alabaster wants to destroy the hold, and thus end the hold time that continues to mark the orogenes as expendable, thus restoring their human rights. The Rifting serves two purposes: It destroys the Fulcrum, which was a central part of the hold, and it adjusts the trajectory of the Moon, opening the possibility that it can return to its original orbit, and that the cycle of Seasons can end. As long as extinction-level natural disasters will continue to occur, the consensus seems to be that the orogenes deserve to remain in the hold. By returning the Moon and stabilising the Earth's core to end the Seasons, the hold is effectively destroyed. The return of the Moon is combined with the forfeit of the use of magic and marks an attempt at making reparations with Father Earth. Reparations, according to Johnston, originated as a way for states to repair injuries caused by war (12), and in *The Stone Sky,* the return of the Moon is portrayed as a peace offering to Father Earth to ensure a more sustainable future. Foster et al. have discussed how there is a tendency to solve an environmental crisis "by changing the type of production process and generating a different crisis" (74). As the focus moves on to the next type of production, the rift caused by the last type is forgotten. *The Broken Earth* suggests that sustainability transitions require reparations, not merely moving on. Johnston argues when making the case for reparations, "the courage and actions of the affected people" cannot be understated as a contributing factor ("Waging War, Making Peace" 21). The responsible party is hardly likely to accept blame and make reparations without outside pressure. Following the destruction of Yumenes and the Fulcrum there is no body of government in the Stillness left to take responsibility and make attempts at reparations. This leaves the responsibility with Essun and Nassun, as representatives for the affected people. The rifts of the past must be closed before one can move on, and the ghosts must be addressed before building something new on top of the remains. The interwovenness of the Seasons, Father Earth and the orogenes shows that social and environmental justice are

connected. By not addressing the mistakes of the past, one runs the risk of perpetuating, or even deepening, the damage.

The parallels between Syl Anagist and the Stillness show that repeating the mistakes of the past can have dramatic consequences. The Stillness has nevertheless created a narrative that deliberately erases those who made mistakes. The society of the Stillness clearly states that usefulness is the primary reason for deserved survival, and survival is the only marker of success. The continent is filled with what the inhabitants call "deadciv ruins": Remnants of past civilisations that are scattered around. Some, like the geode city of Castrima, are complete and functional, but their purpose has been forgotten. Others have fallen into disrepair and are barely recognisable for what they once were. And then there are remnants such as the obelisks, that are complete, but their purpose is forgotten. The obelisks too are remnants of past civilisations. They are the remaining fragments of the Plutonic Engine, giant crystalline structures that float in the sky and flicker in and out of reality. All these deadciv remnants are excellent examples of what Gan et al. called ghosts. They argue that ghosts remind the population of past civilisations and help them oppose the pressure to ignore and forget. This aspect is completely lost in the Stillness, where survival is the only marker for success. Civilisations that failed to survive a Season are therefore ignored and ultimately forgotten. A failure to withstand a Season is proof that the ways of this civilisation were wrong, and thus not worthy of any attention. The population of the Stillness follow Stonelore: knowledge originally written on stone tablets, providing the reader with information on how to survive a Season. The medium of a stone tablet was meant to ensure that this knowledge could not be edited. However, the tablets were repeatedly rewritten (*Stone Sky* 312) and the knowledge that past generations wanted to pass on, was lost. Hoa notes that:

> The original Tablet Three spoke of Syl Anagist you see, and how the Moon was lost. This knowledge, for many reasons, has been deemed unacceptable again and again down the millennia since. No one really wants to face the fact that the world is the way it is because some arrogant, self-absorbed people tried to put a leash on the rusting planet (*Stone Sky* 312-13).

This wilful ignorance allows the people of the Stillness to create a distance between themselves and the civilisations of the past. The ghosts that tell the stories of past exploitative ventures are ignored, and the new systems built around similar modes of exploitation are allowed to continue. Since the Shattering Season, there has been a tendency to forget the knowledge that is considered uncomfortable. A clear example of this is a quotation from a journal of an explorer who has discovered a mural portraying the Moon:

> But stranger than the bones are the murals. […] a great round white thing amid the stars, hanging over a landscape. Eerie. I didn't like it. I had the [imperial orogene] crumble the mural away (*Obelisk Gate* 278-79).

When the explorer makes the orogene destroy this mural, important information is lost. The loss of the Moon is both central to the current condition of the Earth, as well as a crucial part of the required reparations for a better future. The fact that important information is willingly destroyed and therefore purposefully forgotten, means that the population of the Stillness are unable to learn anything from the ghosts that litter the continent. But the Stillness' wilful ignorance is not merely limited to not acknowledging the past civilisations.

A scholar researching Season-level events discovered that the intervals between Seasons are far shorter than initially believed because orogenes frequently quell seismic activity that could set off a new Season. With this information, the scholar believes that it is possible to create a predictive model for the Seasons. When the university does not acknowledge these findings, the scholar asks "How can we prepare for the future if we don't acknowledge the past?" (*Stone Sky* 216). Foster et al. point to how economists failed to predict the financial crisis of 2008 because the models used excluded the data from the Great Depression as well as the economic crises from the 70s and 80s. These new models showed that "a serious economic and financial crisis was out of the picture, and that the financial system essentially went up but never down" (Foster et al. 26). A similar limit in perspective can be seen in Jemisin's world, where the potential patterns of Seasons are ignored because only the experience of the latest Season is taken into account. But this wilful ignorance stretches beyond merely the temporal aspect. When Hoa describes the fate of the original Tablet Three, he explains that one reason for its destruction was that "no one was ready to accept that the solution to the whole mess was simply to let orogenes live and thrive and do what they were born to do" (*Stone Sky* 312-13). Similarly, the scholar notes that "If not for roggas, we'd be a thousand times dead" (*Stone Sky* 216). The scholar's funding is eventually cut because their findings make "heroes out of roggas" and that would threaten the "livelihood and legacy" of the ruling class (*Stone Sky* 285-86). The societal structure in the Stillness depends on the othering and vilifying of orogenes. The ruling class in the Stillness deliberately suppress the knowledge that would make it easier to prepare for Seasons, because it would require the oppression and exploitation of orogenes to end. If they were to acknowledge this knowledge, the current ruling class would need to take responsibility for a system of oppression that they themselves did not build.

In *The Gods Themselves,* Senator Burt is unwilling to take responsibility for the Electron Pump, because he did not believe that Earth's population would be willing to abandon their own individual comforts. While similar levels of comfort are impossible in the Stillness due to the constant seismic activity as well as the threat of Seasons, there seems to be a similar sentiment behind the lack of responsibility. The larger cities in the Stillness are dependent on node stations to protect them from earthquakes so that the cities and their inhabitants can maintain some level of comfort. This comfort depends on the exploitation of the bodies of orogenes. But as Johnston mentioned in her definition of environmental justice, the mere acknowledgement of past injustices is not enough. True justice will require reparations or remedial actions. Iles notes that reparations can take various forms, from economic reimbursement to returning land, restoring habitats or giving up consuming habits (19). In *The Broken Earth* reparations are made to the Earth through the returning of the once-lost Moon, which in turn will end the violent cycle of the Seasons. Despite the cycle ending, Hoa notes that the current Season will run its cause and that "Surviving it will require cooperation among many kinds of people. Cooperation presents opportunities" (*Stone Sky* 394). The Seasons are the direct result of the enslavement of the tuners, the exploitation of the Niess and the attempted enslavement of the Earth. The Rifting Season is caused by an orogene rebelling against his oppressors. The journey to an unbroken Earth will require sacrifices, and it cannot be obtained if it continues to rely on the oppression and exploitation of people and the overconsumption of resources. The ongoing Season has destroyed what used to be the administrative centre of the Stillness, which means that the survivors will have to rebuild their societal structure. In this lies the opportunity to choose a structure that will not depend on the oppression of parts of the population.

The returning of the Moon to its original orbit is portrayed as one of two options for the protagonists in *The Broken Earth*. The other option is to adjust the trajectory of the Moon to collide with the planet and end *all* life. The protagonists chose to not give up, but rather provide an opportunity for reparations and a transition to a more sustainable future. The characters in Jemisin's novels take responsibility and actively work to create a better world. The sustainable future is not attained by a technological quick fix, as is seemingly the case in *The Gods Themselves*, but rather through a fundamental change. The aftermath of the current Season will potentially affect the Stillness for decades to come. Iles argues that *The Broken Earth* provides insights that could inform environmental policies. He states that while "we don't need to relinquish our society outright, we should think more seriously about what it means to make reparations" (19). A sustainable future requires both environmental and social

justice, and perhaps most importantly, it will require taking responsibility and making reparations for past injustices. While reparations are made to the Earth, and the cycle of Seasons has ended, Jemisin acknowledges that there is still work remaining, and her protagonists have chosen to stay and fight.

Conclusion

The real-world context has changed considerably during the 45 years that separate the publications of *The Gods Themselves* and *The Stone Sky*, the last instalment of the *Broken Earth* trilogy. In his 1971 essay "The Good Earth is Dying", Asimov imagined how horrendous the world would be in the year 2000 when the global population was set to pass 6 billion people: "The famines will come, the pestilence will strike, civil disorder will intensify, and by A.D. 2000 some governmental leader may well be desperate enough to push the nuclear button" (*Roving Mind* 62). To a modern reader, some of these predictions will seem more accurate than the others. When Jemisin was writing her novels, the global population was well past the 7 billion milestone and as I am writing this thesis, estimates suggest that Earth will reach the next milestone within the next year. While overpopulation is most certainly concerning, it is not necessarily the primary concern that Asimov might have predicted. At regular intervals, the UN and the IPCC publish reports that stress the severity of climate change and how the window of possible action is rapidly closing. For a modern reader, the Great Crisis in *The Gods Themselves* bears resemblance to the potential scenarios that are presented in the IPCC reports. When Jemisin describes the dead cities of old she, too, evokes the potential consequences of climate change. The world as the reader might know it has ended but the planet itself, in Jemisin's words, is "just fine" (*Fifth Season* 14). In the works of both authors, society as the reader might know it has been lost, but humanity has managed to survive the catastrophe, either by dumb luck or by sheer force of will.

Since humanity did not survive because of any particular skill of their own, they are similarly unequipped to handle the new crisis that now faces them. There is both a lack of accountability and an unwillingness to take responsibility among the people in power in Asimov and Jemisin's novels. In her short story "The Ones Who Stay and Fight," Jemisin had a rather straightforward way of encouraging the reader to take responsibility, particularly in comparison to Le Guin's more complicated perspective in "The Ones Who Walk Away from Omelas." A similar contrast can be found between *The Gods Themselves* and *The Broken Earth*. When the characters in Asimov's novel discuss the Great Crisis, the environmental disaster of the past, they present a rather simplistic picture of what a global environmental crisis would most likely look like. But perhaps most importantly, there is little evidence of humanity having taken any action to repair the previous damages. They have not addressed the systematic failures that brought on the Great Crisis in the first place. Instead,

they have seemingly treated the casualties from the Crisis as a sufficient Malthusian adjustment of the population. Even when their current level of comfort depends on an energy source that drains the Sun, there are seemingly no concerns about overconsumption nor evidence of a desire to make reparations for past mistakes. In fact, there seems to be a reluctance to even acknowledge the mistakes related to the Electron Pump. Where "The Ones Who Stay and Fight" was rather simplistic in its approach to sustainability transitions, leaving nothing up to the reader's imagination or interpretation, *The Gods Themselves* does not even acknowledge that work needs to be done. Technology is portrayed as "infinitely capable" (Roving Mind 59), and there is no acknowledgement of the resources necessary to create said technology, nor any social inequalities that might arise from these developments.

The Broken Earth, on the other hand, highlights the systems of oppression that were necessary to create Syl Anagist's analogue to the Electron Pump and shows how the creation of the Plutonic engine depended on the disregard of the lives that were considered "lesser" by the people in power. The Earth's population in both *The Gods Themselves* and *The Broken Earth* are facing man-made environmental threats. In Jemisin's novels, it is explicitly stated that the looming environmental catastrophe is partially caused by the oppression and exploitation of both planet and people. These causes are not made explicit in Asimov's novel, but a modern reader will infer that similar factors have been at play in *The Gods Themselves*. Unlike Asimov, Jemisin acknowledges that the transition to a sustainable future means more than just removing the threat of utter annihilation. A sustainability transition will require justice in the form of reparations to both the humans and the non-humans who have been exploited. Where Asimov's faith in technology provides a quick fix that does not necessitate action, Jemisin shows the beginning of a process that might create a sustainable future. This process is not portrayed as an easy solution, but the characters make the necessary sacrifices to make the first reparations to the planet. In *The Gods Themselves* action is only taken once it becomes clear that the current population's survival depends on it. What sets *The Broken Earth* apart from *Gods* is that the characters take responsibility and act on behalf of *future* generations. Essun and Nassun acknowledge that they themselves might not live to see the effects of their actions, but they still consider it worthwhile to acknowledge the injustice done to Father Earth and make the first reparations, so that in time there might be peace between Father Earth and humanity.

Essun and Nassun's actions are not empty *mea culpas*, but sacrifices that are aimed at making a real difference for the affected parties. Their sacrifices are not portrayed as mere economic transactions to rid humanity of the blame for past misdeeds, but rather as genuine

attempts at reparation and reconciliation. In *The Gods Themselves*, the grand solution is to draw on the energy of yet another universe, portraying even parallel universes as resources that humanity has a right to exploit. In *The Broken Earth*, both the Earth's magic and the Moon were treated similarly by Syl Anagist. However, the return of the Moon and the forfeiting of the access to magic mark an important change in the relationship between Father Earth and humanity. With these reparations, the planet is recognised as something more than a mere resource that can be exploited. Father Earth is portrayed as being just as worthy of receiving reparations as the orogenes and any other wronged human party. Ghosh has argued that SF is ill-equipped to deal with the topic of climate change because of the imagined nature of the settings. Asimov's novel, for instance, portrays the climate crisis as a past event that humanity has already overcome. It is a rather simple approach to a very complex and complicated issue. This does not mean, however, that the novel is without merits from an environmental perspective. I would argue that novels such as *The Gods Themselves* can function as a sandbox where the characters are allowed to make the wrong choices, an opportunity that humanity today might not have the luxury of. Just as Le Guin's short story provides the reader with a slow realisation about the nature of their own societies, Jemisin's trilogy explores the interwovenness of environmental and social justice, and how it will be impossible to achieve one without the other.

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Appendix 1: Teacher relevancy

I am a future teacher in both English and Norwegian, two subjects that have a particular responsibility for the development of pupils' literacy skills. Working with literature and engaging in close reading are excellent ways for pupils to improve their level of literacy. In addition, reading fiction provides the pupils with an opportunity to explore important themes and moral issues, that will help them gain respect for human values (Norwegian 2). This thesis was written in the wake of the IPCC report that was widely described as "code red for humanity" (McGrath). It becomes increasingly apparent that we are approaching a point of no return in terms of climate change. The new core curriculum in Norway has an explicit focus on sustainability through one of the three interdisciplinary topics: sustainable development. Through my work on this thesis, I have worked extensively with literary approaches to sustainability transitions, and I believe that it will be an important experience when working with these topics in the classroom.

The curriculum in the Norwegian subject has an explicit focus on sustainability and states that pupils should develop their knowledge of how "how texts present nature, the environment and living conditions, both locally and globally", and that the subject should help pupils to be aware of the issue and encourage and enable them to take action (*Curriculum for Norwegian*). While these aspects are not explicit in the curriculum for English, I still believe that there is great interdisciplinary potential in literature and particularly in relation to this issue. Le Guin's "Omelas" already has a rich history of being used in a classroom setting and would therefore be an excellent approach to let the pupils see their own identity in a "multicultural context" (English 3) as well as letting them explore the sustainability perspectives.

SF is not a particularly well-represented genre in the Norwegian literary canon, but anecdotally the students are often intrigued by works of SF. While writing this thesis I have gained experience working with literature in relation to a current issue, and I have explored how SF literature can function as a sandbox that will allow pupils to explore different approaches to sustainable futures. This experience will be of great importance when choosing texts that the pupils will find both engaging and relevant. I hope that this can inspire the students to read and enjoy literature, while also acknowledging its informing and inspiring potential for a more sustainable future.

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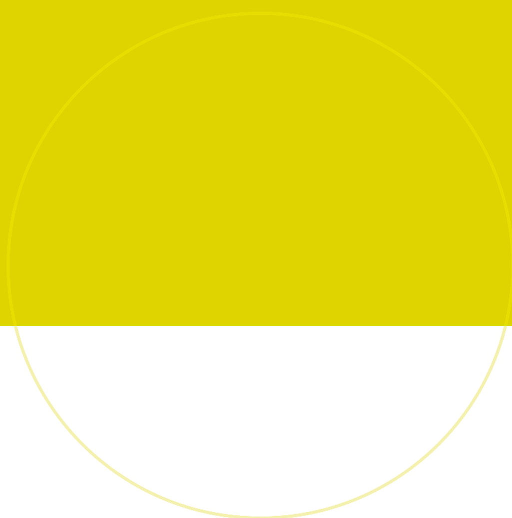

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