

# IMAGINING THE ANTHROPOCENE

Science Fiction Cinema in an era of  
Climatic Change

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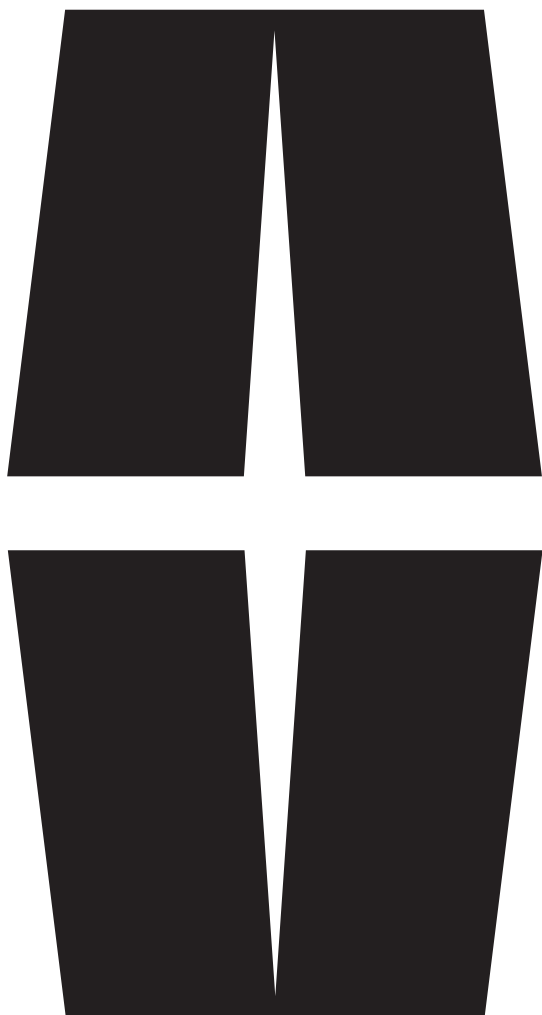
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# ABSTRACT

This thesis explores contemporary science fiction cinema through the concept of the Anthropocene. The literature review suggests that science fiction film studies doesn't engage with ecological concerns as much as it could, that ecocinema studies tends to ignore the genre, and that the broader field of the environmental humanities similarly overlooks the genre's uses. By bringing science fiction cinema into conversation with emergent Anthropocene debates, it makes useful contributions to science fiction film studies, ecocinematic understanding and the wider environmental humanities field. This thesis is split in two. Part one suggests a trend within a number of science fiction films of the 21<sup>st</sup> century, which are shown to respond to the ecological concerns of this era marked by rapid environmental change. Chapters two and three in particular are concerned with showcasing how legacy forms of representation in the genre undergo Anthropocene-inflected alterations. These chapters showcase a movement from technological to ecological concern in a selection of contemporary science fiction films. Beyond demarcating this shift towards the ecological that's being borne out in the genre, this thesis also suggests science fiction cinema as a uniquely placed framework for mediating and experiencing certain aspects of this era. In part two, comprising chapters four and five, this thesis argues for the importance of science fiction films in lending aesthetic and experiential consideration to the dwarfing nonhuman timescales and objects that pervade human experience in the Anthropocene. Through an analysis of the representation of time and planets across a range of films, this thesis argues for the uses and importance of the genre in wider ecocritical discourse and understanding.

# CHAPTER 1

## **INTRODUCTION, LITERATURE REVIEW & METHODOLOGY**



# INTRODUCTION

The genesis of this work came from an offhanded observation that science fiction films appear to be a bit “greener” of late. From this starting point I started to consider what exactly I meant by this, if it is true and why it might be so. By “green” I do not mean that these films are aesthetically more verdant, though in some instances this is most certainly true. Instead, this remark reflected on the appearance of considered engagement with ecological themes, issues and aesthetics across a range of 21<sup>st</sup> century science fiction films. This thesis suggests that the shift towards a more ecologically attentive approach in the genre is a trend that runs parallel with the global rise in concern over environmental issues. As heralded by the coinage of the term “The Anthropocene” at the turn of the millennium (Crutzen and Stoermer: 2000) humanity is now burdened with the status of a geological force, having perpetrated and continuing to perpetrate, catastrophic environmental damage. As global temperatures rise, biodiversity declines and rainforests burn, the disastrous realities of this newfound geological agency begin to sink in. Indeed, as a result of these various eco-crises of the Anthropocene context, the state and fate of humanity’s relationship with Planet Earth has been changed irrevocably. By way of an ecocritical analysis this thesis charts how contemporary

science fiction films<sup>1</sup> are informed by, and inform, these changes. In doing so it discloses the knotted ties between the pressures of the Anthropocene and the representational mechanics of science fiction cinema. My work here unveils how contemporary science fiction films are informed by the Anthropocene context,

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1. By this I mean films from the 21<sup>st</sup> century. Given that the Anthropocene was coined in the year 2000 and that environmental concern has accelerated alongside rising global temperatures and human population since then, this seems an appropriate bracketing of ‘contemporary’ in this context.

whilst arguing that they allow for unique and hitherto undisclosed ways of imagining and mediating this era of rapid environmental change.

While the Anthropocene, as a historical period, stretches back many centuries into human history, as a concept it is very much one of the 21<sup>st</sup> century. It is an idea that is arrived upon through the heightened scale of, and urgency to act upon, anthropocentrically induced climate change. Thus, when I suggest that science fiction cinema has changed in the Anthropocene, I do not mean that it has changed through the entirety of the epoch, since this would very comfortably house all of cinema's history. Instead I mean that science fiction cinema has more specifically undergone changes that are informed by the idea of the Anthropocene and the planetary scale environmental demands that underpin it. As this thesis will disclose, 21<sup>st</sup> century science fiction films are often woven

7 through with the historical and representational intricacies of living in an era marked by catastrophic human influence on the planet we call home. Each chapter herein explores a set of interdependent changes in the genre that speak to this heightening of environmental concerns, using a theoretically informed textual analysis that draws on ecocriticism to do so. This thesis journeys from Death Stars to temporally estranged Earths and back into outer space to accomplish its goals, which is to demonstrate how the ecocritically engaged propulsions of the genre are correspondingly linked to the imperatives, pressures and demands of co-existing with a dying planet.

But what is the Anthropocene, exactly? As Timothy Clark would have it in *Ecocriticism on the Edge*:

**if criticism and politics to date have had such difficulty finding adequate strategies to engage with climate change, the most prominent feature of the Anthropocene, it is**

**perhaps because there is no simple or unitary object directly to confront, or delimit, let alone to "fix" or to "tackle". There is no "it", only a kind of dissolution into innumerable issues. (2015, 10)**

While I agree with Clark, this is perhaps not too useful as concrete definitions go. While critically reflecting on the Anthropocene most certainly results in a devolvement into innumerable issues, it is clear that this term has some unitary definition. On a strictly scientific level the Anthropocene names a historic moment in the Earth's geological history. Paul Crutzen and Eugene Stoermer coined this term at the turn of the millennium in the appropriately titled newsletter, 'The Anthropocene'. This term was created a means of stratifying a new geological epoch, one that proposes humankind has had such an impact on the ecology and geology of the globe that we can now consider ourselves a telluric force.

8 A baseline level of radioactivity in the ground, evidence of plastic embedded in the rock fossil record, rapidly melting sea-ice as well as an unprecedented quantity of chicken and cattle bones in the ground reflect a step change in humanity's relationship with the atmospheric, ecological and geological conditions of the Earth. If aliens landed hundreds of thousands of years from now to find an Earth absent of humans, a quick look at the rocks would attest not only to our existence, but also to our self-destructively consumptive practices. We are beginning to see ourselves embedded in deep Earth history, akin perhaps to volcanoes or the Cambrian explosion in our Earth and life-shaping power. This thesis argues that it is through this rather scary historic moment that a good number of science fiction films are aesthetically, thematically and philosophically enmeshed with the 21<sup>st</sup> century.

This stratification, and its proposed inception date, is still awaiting approval from the International Commission on Stratigraphy and the International Union of Geological Sciences before it is officially and ubiquitously considered a new geological time



period. While not an official stratification, the term is used quite pervasively to describe not only a geological epoch, but also more generally to describe the current global environmental crisis. Clark affirms this diversification of the term's uses and meaning:

**the term has rapidly become adopted in the humanities in a sense beyond the strictly geological. Its force is mainly as a loose, shorthand term for all the new contexts and demands – cultural, ethical, aesthetic, philosophical and political – of environmental issues that are truly planetary in scale, notably climate change, ocean acidification, effects of overpopulation, deforestation, soil erosion, overfishing and the general and accelerating degradation of ecosystems. (2010, 2)**

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While I will unpack some of the complexities of the term in my literature review, I write in continuum with Clark's position on the term's meaning. When I refer to the Anthropocene it is often beyond the strictly geological, aligned with the array of environmental catastrophes looming above and below it. There is something appropriately catastrophic, or dystopic, about Clark's list of planetary scale concerns in the Anthropocene. Indeed, if his conglomeration of anthropogenically induced planetary disasters sounds like something from a dystopic science fiction film, then that is perhaps all the better.

Science fiction films have long been understood as, amongst other things, an extrapolative reflection of the cultural, social and technological anxieties under which they are produced. Susan Sontag argued that science fiction films are concerned with the (re)presentation of 'the most profound dilemmas of the contemporary situation' (1965, 48), positing that they are fundamentally about disaster – namely about nuclear war. This is an edifying model of thought for science fiction cinema's

application towards understanding and allaying contemporary cultural anxieties. It is of fundamental importance to re-assess the genre's entanglement with contemporary concerns as a means of analysing if and how science fiction films are working through the new 'profound dilemma' of the Anthropocene. Through formally analysing a set of contemporary science fiction films this thesis will unveil the genre as bound up in a series of representational shifts aligned with the 'trouble of living and dying in response-ability on a damaged earth' (Haraway: 2016, 2).

10 An emblematic example of this alignment between science fiction and the ecocritical concerns of the Anthropocene context is found in the closing sequence of *Snowpiercer* (Bong, 2013), a South Korean-Czech film predominantly based in the English language. *Snowpiercer* is set aboard an eponymous train that hurtles inexorably around a globe-spanning railway in the year 2031. Outside of the train Earth now resembles a frozen Arctic tundra, the ironic result of an attempt to mitigate the worst of global warming through climate engineering. As a school child aboard the train declares at one point in the film, "old world people were friggin' morons who got turned into popsicles". The foundations of this future narrative imagines the contemporaneous crisis point of global warming whilst criticising techno-scientific mediation as a proposed solution, with the messianic terraforming project to alleviate global warming catastrophically backfiring. The majority of the film foregoes the anti-technological implications suggested by this synopsis, favouring a hyperbolised class struggle allegory on board the train. However, the closing moments of the film succinctly encapsulate many of the mutually aligned ecological estrangements occurring between the Anthropocene and science fiction cinema more generally.

In this final sequence a huge avalanche, the result of an explosion triggered by the film's protagonists Curtis (Chris Evans), has

derailed the train. Amidst the rubble emerge just two survivors, the young adult Yona (Ko Asung) and the young child Tim (Marcanthee Reis), who are both clad in animal furs so as to withstand the temperatures outside. A claustrophobically framed close-up sees them wake after the crash, and a cut to a medium shot reveals them shakily standing up in the train carriage. The train is eerily dark, fires and fizzing electricity cables are all that illuminates the bleak interior of the now destroyed train. From this constrictive, inhospitable and malfunctioning technological space Yona and Tim emerge into a forebodingly vast and snowy mountainscape. A close up of the ground appears at first to be a white background, until Yona's foot enters frame left to crunch down on the snow. A series of sweeping long pan shots reveal the complete destruction of the locomotive and swoop around to convey the immensity of the mountains compared to the two diminutive human figures that are now exposed to this environment, both having spent their entire lives aboard the train

- 11 (Figure 1). As Yona and Tim stare up at the mountain in front of them, the camera cuts to a medium-shot to reveal a polar bear clambering up its peaks. A shot-reverse-shot contrasts a close-up of Yona and Tim gazing up at the creature and then a close-up of the creature gazing back at them, at which point the film cuts to black.



Figure 1 – Yona and Tim stare at the mountains ahead of them in the closing scene of *Snowpiercer*.

The tone of this reflective gazing is instructively ambiguous. Are they staring in wonder at the mountain and the bear? Or, are they gaping in fear at this unforgiving landscape and its native predator? Perhaps Yona and Tim view this bear as potential prey. Is the polar bear staring at them with curiosity or hunger? Is this Earthly contact a sign of hope, or dread? What is important is not answering these questions, but in registering their ambiguity. Their hesitant contact with the polar bear is telling with regard to the troubled human/nonhuman relationship that is wrought through rapid environmental change. As WWF's 2018 Living Planet Report suggests,

**[there has been a] 60% decline in the size of populations of mammals, birds, fish, reptiles, and amphibians†in just over 40 years ... The top threats to species identified in the report link directly to human activities, including habitat loss and degradation and the excessive use of wildlife such as overfishing and overhunting. (2018)**

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Polar bears have in many ways become one of the emblems of the Anthropocene, majestic creatures that are now rendered vulnerable by way of environmental change. This moment gestures towards the unsettling human/nonhuman paradigm of the contemporary moment by positioning technologically cloistered humans against a foreboding landscape and an environmentally situated nonhuman.

The narrative shifts its attention from a technological imagination of disaster, the train derailing, to an ecological imagination of disaster, their precarious placement in a harsh environment. Yona and Tim find themselves thrust into an unforgiving landscape that has been created and exacerbated through advanced technology, a situation no different from the harsh environmental conditions that cascade through the 21<sup>st</sup> century as a result of

continuous industrial acceleration. Indeed, this movement from a technological to an environmental imagination of disaster feels mimetic of the broader shift in cultural fears and anxieties that are announced by the Anthropocene. As Lawrence Buell argues, in the late 20<sup>th</sup> to early 21<sup>st</sup> century, 'the prospect of a sooner-or-later apocalypse by unintended environmental disaster came to seem likelier than apocalypse by deliberate nuclear machismo' (2005, 4). This moment of contact between Yona, Tim and the polar bear emblematises not only a broader shift in cultural fears of disaster, but also a correspondent shift in contemporary science fiction cinema's imagination of disaster. Moreover, the contemplative hesitancy that frames this gazing suggests a sense of reflection on the relationship between the two. This thesis goes on to argue that this contemplation of the human/nonhuman paradigm is a component part of this more ecologically attentive imagination of disaster that is found in 21<sup>st</sup> century science fiction films.

- 13 Also of interest is the time signature of the future Earth that is evoked in this scene, and the film at large. The train operates as a clear hallmark of an advanced future year, wherein the technology to have a self-sustaining and globe-spanning train exists. Yet the world outside evokes a sense of a deep-time Earth history in its Ice Age aesthetic. 650 million years ago the Earth is hypothesised to have resembled the snowball found in *Snowpiercer's* imagined future Earth, with ice sheets stretching from the equator to the poles. In distorting the registers of near-future and deep-past *Snowpiercer* aesthetically and thematically considers the conflated and collapsed time signatures of the Anthropocene. As Dipesh Chakrabarty would have it, 'anthropogenic explanations of climate change spell the collapse of the age-old humanist distinction between natural history and human history' (2009, 201). The ramifications of this collapse are far reaching in the humanities, but of pertinence to my project is the way that this collapse, or folding, of human timescales into deep geological timescales invites, perhaps even necessitates,

re-interpretation of our relationship with time, and indeed time's relationship with the planet through which we perceive its passing. Negotiating the huge timescales of geological and ecological change compared to the much smaller temporal durations of individual human lives and actions is a quotidian aspect of living amidst a rapidly warming climate. *Snowpiercer* hints at the kind of temporal displacement and derangement that occurs in the Anthropocene, wherein human timescales (a technologically dependent near-future) and geological timescales (deep-Earth history) collapse in on one another.

- 14 This collapsing of the technologically cloistered human into a deep geological past is aesthetically modulated through the sublime. In emphasising the astonishing immensity of the landscape against the meek stature of the human's who have just emerged from the train, *Snowpiercer* mirrors the tendency of 19<sup>th</sup> century Romantic artists to stage the sublime as a human encounter with an overwhelming display of nature. Casper David Friedrich's *Wanderer Above the Sea of Fog*, found below in Figure 2, is a good example of this. These closing moments of *Snowpiercer* echo this painting. The humans have their backs to the camera whilst staring in frozen wonder at the tremendous natural object before them. The sublime seems an appropriate aesthetic device to interrogate in the Anthropocene, which similarly stages an interaction of immense scale between the human and an environment, the environment in question being the planet itself. The evocation of the sublime here invites reading through the history of criticism the sublime has had from an environmental perspective. For instance, Jean-François Lyotard argues that the sublime 'becomes the user of nature. This "employment" is an abuse, a violence. It might be said that in the sublime feeling thinking becomes impatient, despairing, disinterested in attaining the ends of freedom by means of nature' (1994, 52). Others suggest that 'for all its problems' the sublime 'involve(s) what look to us like ecocentric principles' (Hitt: 1999,

607). In its use of the sublime to stage the human in relation to a climatically impacted Earth future, we see *Snowpiercer* entangling itself in the Anthropocene debate from an aesthetic standpoint, raising questions on how best to visually convey human/nonhuman contact.



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Figure 2 – Casper David Friedrich's *Wanderer Above the Sea of Fog*, 1827

Though a discrete and anomalously contemplative moment amidst the high cadence action and absurdist humour of the rest of the film, this scene microcosmically presents a great deal of the genre's representational mechanics in the 21<sup>st</sup> century. This sequence concisely frames a number of the arguments and theoretical devices I will use in this thesis to disclose science fiction cinema's relation to the ecological concerns of the Anthropocene. We see a shift from the technological to the ecological, which is an arc that grounds my observations in chapters two and three. *Snowpiercer's* conflated time signatures of science fictional futures and deep-geological pasts hint at the collapsed time signatures of the Anthropocene. Chapter four delves into this further, detailing how certain contemporary science fiction films reflect the senses of time that are found and felt in this era of climatic change. Furthermore, the evocation of the sublime aesthetic in this scene can be variously found across

all of my chapters, but is picked up on emphatically in the final chapter's exploration of sublime planetary imagery. This staging of the sublime in *Snowpiercer* suggests the genre's uses both for interrogating historical understandings of the sublime, as well as the sublime's potential for interrogating understandings of the Anthropocene. In exploring the resonances between the Anthropocene and science fiction cinema this thesis aims to demonstrate how the genre's representational proclivities are mediated and changed in this era, whilst interrogating how understanding of the Anthropocene concept is in turn mediated and changed through science fiction films.



# LITERATURE REVIEW

17 This thesis sits amongst a number of fields. The most obvious of these is film studies and more specifically science fiction film studies, since I will be dealing solely with films from this genre. As such I will consider this thesis' relation to the history of writing on science fiction film as a starting point. This project is aligned with the broad imperatives of ecocinema, or ecocriticism, which seeks to trace the ecological and environmental propensities, affects and meanings of a text. My analysis is consistently engaged with highlighting the ecological ideologies of these films, and thus is part of the wider project of analysing films from an ecocritical perspective. Ecocinema will as such be discussed in some detail. The third of the fields this thesis operates within is the burgeoning field of Anthropocene studies, and more broadly what has been dubbed the "Environmental Humanities". In bringing these three frameworks together this thesis produces something new. As this literature review will show, these three component parts often do not consider one another with the detail and consideration that I propose is necessary and productive. The contributions to knowledge delivered from this thesis come forth precisely through the interdisciplinary nature of the work. It explores the uses of the Anthropocene context to a study of science fiction cinema, as well as the uses of science fiction cinema to an ecocritical study of the Anthropocene.

What do science fiction films do, how have these operations changed over time, and why might they have changed? These are the fundamental questions that guide much writing on science fiction cinema, and my writing is no different. The majority of writing on science fiction cinema is dominated by one of two formations. The first of these takes the form of an overarching historiography of the genre, charting its developments and changes over the years whilst citing key texts. Often these will

provide a breakdown of the various ways in which the genre has been read as time has gone by. The second of these broad formalisations usually takes a theoretical platform and reads the genre through it. My own work will extend the logic of this second type of writing.

One of the most illuminating examples of the first type of science fiction film writing comes from Christine Cornea in *Science Fiction Cinema: Between Fantasy and Reality*. Cornea's book provides an effective and thorough history of the genre, from its inception with *Le Voyage Dans le Lune* (Méliès, 1902) through to more modern fare such as *The Matrix* (Wachowski and Wachowski, 1999). Cornea is compelled 'by an eagerness to understand the formation and reformation of this widely recognised genre over time' (2007, 11). Similar approaches to historicising the genre come from J.P. Telotte with the succinctly titled *Science Fiction Film* and Vivian Sobchak's *Screening*

- 18** *Space: The American Science Fiction Film*. Telotte's book lays out an introduction to science fiction, followed by a layout of critical contexts in which to view the sci-fi film, focusing on psychoanalysis, feminism and postmodernism in particular. Telotte states his goal with this was to 'summarize the main currents of thought on the genre and offer detailed commentaries

on some studies' (2001, 33).<sup>2</sup> Telotte's book is, like Cornea's, more of a historicised overview of the genre's formations, how we can define it using Todorov/Neale's genre theories and how it has been understood critically over time. While my work is guided by a very similar compulsion to Cornea and Telotte's own, it seeks to move away from broad historical tracings of the genre. Instead it will contribute to specific understandings of how science fiction cinema operates now, in specific relation to the heightened

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<sup>2</sup> Telotte is also known for his work on the figure of the robot within the genre. He extrapolates on this through *Replications: A Robotic History of the Science Fiction Film* (Telotte, 1995) as well as in *Robot Ecology and the Science Fiction Film* (Telotte, 2016).

ecological imperatives of the 21<sup>st</sup> century.

Sobchak's book, like Telotte and Cornea's, covers a lot of ground in its effort to provide a full view of the science fiction film, tracing the themes that run through it and the scholarship that surrounds it. Sobchak's fourth and final chapter tackles postmodernism and science fiction. In this she addresses *Blade Runner* (Scott, 1982) and how its 'symptomatic of the postmodern breakdown of temporal values' (1987, 273), and also writes on a 'nostalgia mode' (1987, 276) common to some science fiction cinema, using *Back to the Future* (Zemeckis, 1985) as a key example. Her writing here is reflective of the fact that postmodernism is the most pervasive lens through which the science fiction film has been discussed. As Telotte notes, postmodernism has been 'the dominant vantage point on the science fiction film' (2001, 54). As such, this ecologically focused analysis of the genre will offer an alternative to the most prominent way in which it has been read.

- 19 Postmodern explorations of science fiction films tend to have a distinctly anthropocentric bent to them, historically focusing on the representation of the cityscape dystopia or the human cyborg paradigm in particular.<sup>3</sup> The Anthropocene context is a time in which attention must be paid to that which lies beyond the human, and postmodern analyses are not particularly useful in facilitating this.

It is telling that neither Cornea, Telotte nor Sobchak's books detail any ecocritical analysis of the genre. This reflects the fact that, at present, ecocriticism is not considered one of the dominant modes of interpreting the science fiction film, since it is absent from these historical tracings. This is a significant hole in the literature, which this thesis aims to fill. By bringing science fiction cinema in line with contemporary ecocritical debates this thesis

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3 Examples of this include 'Ramble City: Postmodernism and "Blade Runner"' (Bruno, 1987), 'Darker Cities: Urban Dystopia and Science Fiction Cinema' (Milner, 2004) and *Terminal Identity: The Virtual Subject in Postmodern Science Fiction* (Bukatman, 1993) stand out as good examples of this type of work.

arrives at new ways of understanding the genre. Perhaps in future years historiographical approaches to science fiction will be more attentive to the role and importance of this approach, which may in fact become the new dominant vantage point for the genre. Mark Bould, in his book *Science Fiction* refreshingly argues for an envisioning of science fiction 'not as a sleek Monolith, pristine, transcendent and unassailable, but as a shape-shifting Thing, constantly becoming and without fixed form' (2012, 2). Unlike some of the other similarly titled pieces of work on science fiction cinema, Bould does not take efforts to historicise the genre in the same way they have, or give a birds eye view of the historical means through which the genre has been read critically. Instead his *modus operandi* is to provide 'new ways to think about sf and suggest new possibilities to explore' (2012, 3). This thesis is aligned with Bould's view on the genre and his broader impetus to write on it. It strives towards new means and possibilities of understanding science fiction by heralding the Anthropocene as  
20 the most appropriate theoretical context with which to do so.

While writing on science fiction cinema and the Anthropocene is beginning to emerge, the body of the academic writing on science fiction in relation to environmental and ecological themes pertains to science fiction literature. Three books stand out as of particular note here, Eric C. Otto's *Green Speculations: Science Fiction and Transformative Environmentalism*, Chris Pak's *Terraforming: Ecopolitical Transformations and Environmentalism in Science Fiction*, as well as Gerry Canavan and Kim Stanley Robinson's edited collection *Green Planets: Ecology and Science*

*Fiction*.<sup>4</sup> Otto's book assesses the 'intersections between transformative environmentalism and science fiction literature' (2012, 1). Otto argues that transformative environmental movements within science fiction literature 'offer theories

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4 'Science Fiction and the Timescales of the Anthropocene' (Heise, 2019) also stands out in this regard. Though it does contain occasional references to films throughout, the analytic focus is very much on novels.

about the ideological origins of and solutions to environmental degradation' (2012, 1). Where Otto's book looks at a wide spread of science fiction texts, Pak's book is emphatically concerned with science fiction stories of planetary change. Pak argues that 'Science-fictional (sf) stories of planetary adaptation – terraforming – construct imaginative spaces to explore society's orientation to ecological, environmental, and geopolitical issues and concerns' (2016, 1). Pak's book effectively discloses that 'Terraforming as a narrative, a motif, and a concept exemplifies the feedback between sf, science, and wider popular culture' (2016, 2). Canavan and Robinson's book makes similarly compelling arguments in relation to science fiction literature's pertinence to the Anthropocene:

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**nowhere is the science fictionalization of the present clearer than in the contemporary consideration of humanity's interaction with the environment, which frequently deploys the language and logic of SF to narrativize the dire implications of ecological science for the future. (2014, ix - x)**

Where these books richly detail an ecocritical consideration of science fiction literature, this thesis will do so in turn with science fiction cinema. While literature and film do different things, and have different capabilities, the impetus and beliefs behind my writing on science fiction cinema and these books on science fiction literature is very much aligned. In essence, from an ecocritical perspective science fiction cinema studies has some catching up to do with the writing surrounding science fiction literature, and this thesis aims to push the field further in this direction.

Where analysis of science fiction cinema in relation to the Anthropocene, and more broad environmental considerations, is

furtive<sup>5</sup> there is a rich wealth of writing on cinema itself from an ecological perspective. One of the first dedicated and sustained explorations of cinema's ecological potential came from David Ingram's *Green Screen: Environmentalism and Hollywood Cinema*, released at the turn of the millennium. Ingram's book is concerned with looking at Hollywood products which foreground environmental issues or, more simply, the environment in their narrative. His core argument is that 'Hollywood environmentalist movies are ideological agglomerations that draw on and perpetuate a range of contradictory discourses concerning the relationship between human beings and the environment' (2000, viii). Ingram's book can be seen as a starting line for the now rich and ever growing field of ecocinema studies, where a number of writers and select publications stand out as of pertinence both to the wider field, and more specifically to my project.

22 Of particular note are Sean Cubitt, Alexa Weik von Mossner, Pat Brereton, David Ingram, Adrian Ivakhiv, Anat Pick and Selmin Kara. Cubitt's simply titled *EcoMedia* 'wants to make a contribution to ecological politics by studying popular mediations of frequently voiced concerns over biosecurity, anthropomorphism, environmental ethics, over-exploitation of resources, ecoterrorism, genetic modification and global climate change' (2005, 1). Cubitt's book does so effectively by grounding his analysis in a diverse selection of film and television texts and the historical specificity of the events they reflect. Cubitt states that 'in their own way as complex as the language of scientific papers or policy documents, popular media think aloud and in public about who we are, where we are going, and what debts we owe to the world we live in' (2005, 1). I wholeheartedly agree with Cubitt's justification for utilising popular media as a tool of mass-mediation. My analysis of science fiction cinema will make a

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5 The recent 2019 articles 'Gendering the Anthropocene' (Jenner, 2019), and 'Screening Cosmos-politanism: The Anthropocenic politics of outspace media' (Boyle and Mrozowski, 2019), both in the *Science Fiction Film and Television* journal, hint towards the emergence of this niche.

similar demonstration of popular media's ability to speak out loud and in public about ecological concerns, debates and problems. This thesis' belief in the importance of popular media's awareness building is the core reason for predominantly analysing big budget science fiction films, or at least "well known" science fiction films. As a result, almost without exception, this thesis deals with Hollywood films.<sup>6</sup> The global reach of Hollywood science fiction cinema makes it particularly interesting to analyse from an ecocritical perspective in the Anthropocene context. This is a time where storytelling of an environmental nature are imperative to fostering better ways of living with Planet Earth. As Donna Haraway would have it,

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**it matters what stories we tell to tell other stories with; it matters what knots knot knots, what thoughts think thoughts, what descriptions describe descriptions, what ties tie ties. It matters what stories make worlds, what worlds make stories. (2016, 12)**

Thus, it is important to understand how these science fiction films are, and are not, responding to the eco-ideological specificities of a rapidly warming climate through the stories they tell, and the way those stories are told.

Cubitt also served as editor alongside Stephen Rust and Salma Monani on *Ecocinema Theory and Practice*. Stephen Rust's article in this book entitled 'Hollywood and Climate Change' focuses on *The Day After Tomorrow* (Emmerich, 2004) and *An Inconvenient Truth* (Guggenheim, 2006). It argues that these two films were in large part responsible for a mass cultural shift in perception/awareness towards climate concerns in the early 21<sup>st</sup>

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<sup>6</sup> I am certain that a fascinating and incisive lacuna revealed by this project is an ecocritical reading of global science fiction cinema in the Anthropocene, but this is ancillary to this particular project as it currently stands. Hopefully this work will spark more interest in the field, and in turn an exploration of non-Hollywood science fiction cinema in relation to the Anthropocene context will come forth.

century. He effectively demonstrates that 'climate change films... deserve sustained eco-critical analysis because over the coming decades the phenomenon is expected to exacerbate existing environmental problems and present new challenges' (2012, 192). Indeed, this is a good justification for studying 'climate change films'. However this thesis is less interested in purely analysing films that obviously pertain to climate change narratives, such as *The Day After Tomorrow*, as his article does. Instead my work argues that science fiction cinema is more subtly instilling and reflecting this 'mass cultural shift in perception/awareness towards climate concerns in the early 21<sup>st</sup> century' (2012, 192). We need to stretch out and see how climate change concerns and politics are weaving their way on screen into texts and practices that are not ostensibly about the environment to more fully assess the ubiquity of ecological concerns' placement within cinema.

- Indeed, as Robin L. Murray and Joseph K. Heumann note in
- 24 Ecology and Popular Film: Cinema on the Edge 'popular narrative movies respond to the culture in which they are embedded – they also contribute to that same culture, even in relation to the environment' (2009, 10). Cubitt echoes this position, suggesting that 'we need to understand the functioning of eco-criticism beyond the obviously eco-themed' (2012, 279). My work will seek to contribute to understanding popular media in this way. This will help to display how it is not just 'climate change films' that deserve sustained eco-critical analysis. By exploring how environmental themes are woven through texts that may not at face value appear ecologically themed, whilst also bringing these into dialogue with more ostensibly eco-oriented narratives, we begin to see the relations between science fiction cinema and the Anthropocene more fully. This allows one to see how ideological meaning pertaining to the environment is laced through a body of films that are at present underexplored from an ecological perspective. This further links my project to Haraway's impetus to understand what stories we tell, and what those stories mean.



By interrogating science fiction cinema from this ecocinematic perspective, this thesis facilitates better understandings of how they reflect and project environmental concerns. Paula Willoquet-Maricondi succinctly describes in cinema through the following terms,

**ecocriticism has no “field defining theoretical model” in place beyond its aim to promote ecological awareness, to bring ecological consciousness to the study of literary texts and other cultural productions, and to understand the place and function of humans in relation to the nonhuman world. (2010, 2)**

25 Willoquet-Maricondi further states that ‘ecocinema also encompasses those films that in a broader, more philosophical way compel us to reflect upon what it means to inhabit this planet’ (2010, 10). Anat Pick and Guinevere Narraway, in *Screening Nature: Cinema Beyond the Human*, unearth a similar compulsion in their writing on ecocinema’s propensities, ‘rather than closing in on nature as a separate or reified cinematic entity, we think of nature as an opening onto a myriad of concerns that have to do with everyday life’ (2013, 4). Science fiction seems to fit into this more developed definition of ecocinema, as per Willoquet-Maricondi in particular, with startling relevancy. Yet, in spite of this, the genre is peculiarly absent from her analysis. An endemic appeal and trope of the genre is in the exploration of human encounters with nonhumans, be they organic, synthetic or planetary. Just as the *Alien* films of the 1980s may not have self-evidently been about gender, they provided rich territory for feminist analysis.<sup>7</sup> In a similar vein, my thesis’ use of 21<sup>st</sup> century science fiction films, which may not be explicitly environmentalist in nature, are fertile ground for ecocritical thought through their espousal of human and nonhuman/non-Earth encounters. The

7. As per *The Monstrous Feminine* (Creed, 1993) or “Son of a Bitch”: *Feminism, Humanism and Science in Alien* (Kavanaugh, 1980) for instance.

chapters that follow will unfurl these resonances between science fiction cinema and ecocinematic discourse, with hopes to place the genre more firmly into the heart of ecocinema studies in the process.

If science fiction is mentioned in writing on ecocinema, it is very often in relation to the same two films, *Avatar* (Cameron, 2009) and *The Day After Tomorrow*. I contend that *The Day After Tomorrow*, rather than being a sci-fi film, is in fact a cli-fi film, part of a relatively new sub-strata of disaster films including *2012* (Emmerich, 2009), *Into the Storm* (Quale, 2014) and *Geostorm* (Devlin, 2017). My project will focus solely on films which are obviously recognisable as science fiction texts, exhibiting a multitude of the visual and thematic tropes of the genre, be it time travel, robots, aliens, future settings, spaceships etc. To this end, films such as *The Day After Tomorrow*, which are erroneously referred to as science fiction in much ecocinema writing, will be

26 excluded from my analysis because I not only believe them not to technically be science fiction, but also that they correspondingly do not exhibit the genre's full potential for ecocritical thought and analysis.

*Avatar* however is what we could most definitely dub science fiction. Adrian Ivakhiv writes extensively on this film in 'What Can a Film Do? Assessing *Avatar*'s Global Affects'. Ivakhiv argues that *Avatar*,

**elicited strong "eco-affects" among many fans, and that it generated a variety of widespread conversations on socio-ecological topics, but that its potentials for bringing about a changed ecological sensibility was hampered by its tight and unoriginal narrative structure. (2014, 160)**

He suggests that 'the spectacle of *Avatar* is what elicited the

greatest interest in the early stages of the film's reception' (2014, 164). I would take this a step further and propose that this spectacle is beholden to the genre which houses it, and it is in part the generic conventions of Avatar that facilitated both interest in this text, as well as helped enable the strong eco-affects it produced.

Claire Molloy also wrote on Avatar in her article 'Animals, avatars and the gendering of nature', where she disseminates the strengths and contradictions of Avatar's ecological signification. She writes that 'Avatar's environmental politics are explicit, extolling the moral significance of nature and stressing the spiritual aspects of ecological interdependence between the indigenous humanoids and Pandora's flora' (2013, 177).<sup>8</sup> The same feeling that it is the fantastical landscapes of the alien planet and culture on Pandora that elicited the eco-affects of the film comes from Molloy's article. Avatar is not a singular or isolated case of

27 science fiction exhibiting eco-affects, and as such my project seeks to unfurl the broader use of science fiction to ecocinematic thought and writing.<sup>9</sup> A more full exploration of the science fiction genre's capacity for ecocritical thinking is necessary to holistically comprehend the use of science

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8 Moreover, Molloy's article displays a series of contradictions in the film in relation to the environment. Molloy effectively unveils that nature is gendered in the film, 'the film's construction of nature-spaces and their meanings intersects with issues of gender and race, firstly because nature is conceived of as a feminised deity and secondly because the story is a variation on the narrative of the white Western make "going native" (2013, 184). The race and gender implications of the film are troubling. Slavoj iek is also attentive to Avatar's complex ideological contradictions. In an article for the New Statesman he argues that 'Beneath the idealism and political correctness of Avatar lie brutal racist undertones. The film teaches us that the only choice the aborigines have is to be saved by the human beings or to be destroyed by them. In other words, they can choose either to be the victim of imperialist reality, or to play their allotted role in the white man's fantasy' (2010). What this succinctly points towards is the films' often contradictory eco-ideology. My work similarly recognises the contradictory, often imperfect, eco-thematic explorations found in science fiction cinema.

9 Though, in spite of this, Avatar evidently has an enduring allure in the field, as suggested by the recent 'Staying with the Paradox of Avatar: Decolonising science/fiction' (Cetti, 2019).

fiction and (eco)cinema for comprehending the Anthropocene. For instance, recent films such as *Annihilation* (Garland, 2018) produce similarly stimulating ecological frameworks to *Avatar*. *Annihilation* is set in the present day where a strange alien zone spreads out inexorably from the point where a meteor landed on Earth. This zone, called 'The Shimmer', induces a transformational morphing of the genetic sequencing of previously discreet and segregated species. The result of this is wonderful and monstrous new creatures inhabiting this realm, which is both of Earth-like and manifestly alien in turn. *Annihilation* raises unique questions about human agency, environmental change and ecological systems through a distinctly science fictional lens. By analysing films such as this, which are as yet untapped resources for ecocritical thinking, my project will expose a much wider selection of contemporary science fiction films to ecocinematic study. In doing so it will unveil that *Avatar* is far from alone in its evocation of eco-affects, and that the eco-provocations Molloy and Ivakhiv trace in the film are in fact more broadly endemic to the genre which houses it.

28

The most sustained writing on science fiction cinema from an ecocritical perspective comes from Brereton, in his 2005 monograph entitled *Hollywood Utopia*, which has two chapters dedicated to such an exploration. Brereton's guiding argument is that 'within many blockbuster films, the evocation of nature and sublime spectacle helps to dramatise contemporary ecological issues and debates' (2005, 11). His last two chapters detail analysis of science fiction films, ranging from the B-movies of the 1950s through to more modern examples from the late 90s, by way of postmodernist fare such as *Blade Runner* and *The Fifth Element* (Besson, 1997). Brereton's thinking is in many ways similar to my own, positing that 'of all the conventional Hollywood genres, science fiction appears to be the most amenable to ecological and social questions – both formally and within a historical context' (2005, 141), a statement I agree with and frame

many of my arguments around. However, this is not to say that due to this amenity to ecological questions that science fiction films ubiquitously offer forward thinking perspectives around them. This thesis is attentive to this fact, and considers both the positive, negative and contradictory ecological meanings found in its chosen texts of study.

What is interesting about Brereton's writing is how inherently differently he writes on ecology, and science fiction's relationship with it, to how I do. Not to say that this makes either one of us "correct", merely that there is a shift in our perspective on ecology, perhaps this shift is Anthropocene-induced. He repeatedly cites nuclear apocalypse in line with ecological threat. He states: 'the break-up of post-war certainties augmented by the cultural effects of the atom bomb in particular helped to spark a critical ecological representation' (2005, 139). I contend that ecological fears are in many ways distinct from nuclear  
29 apocalypse fears, both in terms of how they present humanity as culpable agents of destruction, a position echoed by Chakrabarty (2009, 221), and the time signature of the anxieties they disclose. Moreover, as this thesis will show, science fiction films often seem to segregate the specificities of nuclear fears from the nuances of environmental collapse. As such the nuclear and the ecological crisis need to be contrasted to understand the changing shape of science fiction's engagement with them. My second chapter will explore the dialogue between nuclear and ecological apocalypse in particular. 10

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10 This is not to say that nuclear-apocalypse concerns do not bleed into those of the environment. Indeed, one of the proposed dates for the Anthropocene's commencement is the 1945 dropping of the atom bomb (Zalasiewicz et al, 2015). Moreover, the spectral deep-time lingering of radiation succinctly gestures to the expanded and often toxic temporal and spatial consequences of human/nonhuman entanglements in a post-nuclear world. The point here is that the nuclear is but one of a many possible ways of viewing, or historicising, the Anthropocene. The Industrial Revolution, the discovery of fire, the birth of agriculture as well as the post-1492 European colonisation of America work as other potential inception dates for this epoch. The 15<sup>th</sup>/16<sup>th</sup> century Anthropocene narrative has recently been found to have concretely contributed to climate change through the genocide of approximately 56 million people (Koch, Brierley, Maslin and Lewis: 2019). Each potential inception date provides a rather different view of this epoch, ranging from the techno-scientific to the colonial to the genocidal in their historical emphasis. This thesis will not be aligned with one immutable and fixed notion of

Brereton suggests that 'explicit threats to the earth's fragile eco-systems as a consequence of alien life-forces remain a constant thematic preoccupation throughout the series' history' (2005, 157). Here I would suggest that Brereton is confusing earth destruction by third parties with the gradual ecological destruction of anthropocentrically induced climate change. Yes, the planet being blown up by Klingons is technically an ecological threat, but one of a very different nature to climate change slowly altering the biospheric makeup of the planet. Aliens destroying planets seems more reflective of cold war anxieties, nuclear apocalypse concerns or even post 9/11 fears as opposed to one of primary ecological significance. This thesis seeks to be much clearer in demarcating how and why the Anthropocene has bled into contemporary science fiction cinema, and what is different about its appearance in the genre to the types of disaster it has historically been imagining. For instance, chapter two will disclose how *After Earth* (Shyamalan, 2013) resuscitates a series of environmentally devastating histories through its narrative. These openly and critically reflect upon the histories underpinning the Anthropocene, particularly in the film's evocation of colonial buffalo and whale slaughter.

Brereton's closing analysis on *Alien: Resurrection* (Jeunete, 1997) chimes much more neatly with my own writing on how science fiction relates itself to the ecology of the Earth. With regards to the closing shots of the film, which sees an Edenic return to Earth, he suggests:

**the overpowering pull of this harmonious eco-system, unlike the spectacular excess of preceding scenes, reinvigorates and reaffirms the potency of this science fiction primary eco-metaphor, which endorses the desire in the end to come 'home' to ecological sanctuary. (2005, 227)**

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the Anthropocene, but expose itself to the multiplicity of meaning evoked from a dialogic approach between these various Anthropocenes.

While the film's depiction of earth is of a utopian nature, which complicates or disrupts notions of a toxic-earth future that we have to grapple with in the 21<sup>st</sup> century, here we can see Brereton's analysis more keenly aligned with how science fiction envisions the earth as a tool for ecological analysis. I will take up Brereton's sophisticated thinking here and apply it to my final chapter on planetary imagery in the genre. While I may disagree with Brereton's writing on ecology at points, our belief in science fiction is very much aligned. As he has it in the more recent *Environmental Ethics and Film*:

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**while at first sight, fiction cinema seems to be a poor substitute for effective and direct engagement with a range of environmental challenges facing the modern world, nevertheless, its global reach in itself means Hollywood has an important role to play in promoting awareness around environmental ethics and helping to construct new modes of popular engagement through the visualisation of environments. (2016, 1-2)**

Indeed, this thesis reverberates with Brereton and Cubitt's belief in popular media's engagement with visualising and problematising environmental concerns. Brereton goes on to state that:

**global events like climate change do not occur in humanly perceptible scales or time frames, they consequently demand forms of representation that can capture massive, but at the same time relatively slow, ecological change. (2016, 36)**

My fourth chapter in particular argues that science fiction cinema is a key stakeholder in framing the sense of time locked to the Anthropocene. Through a temporal analysis of *Interstellar* (Nolan,

2014) and *Arrival* (Villeneuve, 2016) it will pointedly contribute to understandings of how cinema can grapple with the deep timeshapes of this era.

The intersection between the Anthropocene and cinema can be seen as a growing branch of writing on ecocinema. Kara has dubbed the study of the Anthropocene in cinema, or vice versa, as “anthropocenema” in ‘Anthropocenema: Cinema in the Age of Mass Extinctions’. Kara’s article focuses on an analysis of *Gravity* (Cuarón, 2013), *Snowpiercer*, *Tree of Life* (Malick, 2011) and *Beasts of the Southern Wild* (Zeitlin, 2012) to proliferate ideas surrounding this ‘neologism to think about cinema in the age of the Anthropocene’ (2016, 9).<sup>11</sup> Her analysis of *Gravity* focuses on its depiction of space debris/waste, uses of primordial imagery and how they invite ecocritical thinking:

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**the debris chain reaction that sets in motion  
*Gravity*’s survival narrative is symptomatic  
of the broader threat that human activities  
pose to life on Earth as well as in outer space.  
(2016, 8)**

Kara’s analysis is sophisticated and demonstrates nuanced insights into specific elements of certain films, such as the ‘primordigital’ aesthetic of *Tree of Life* and *Beasts of the Southern Wild* (2016, 9). However, this focus perhaps results in catered selection of texts and a reduced scope of investigation, for instance there is no discussion of the clear eco-gazing going on in *Gravity*, wherein the background to the film is Planet Earth itself. This indicates that anthropocenema is fertile and boundless territory for analysis, and that there are many different ways of reading such films from an ecocritical perspective.

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<sup>11</sup> While technically ‘the age of the Anthropocene’ is potentially hundreds, or thousands, of years I believe Kara here means cinema made in the wake of the Anthropocene concept in the year 2000.



The closer one considers it, the harder it is to find distinction between Kara's consideration of Anthropocenema and the broader workings of science fiction cinema itself. Where else would you find 'deep pasts, vast futures, and previously unmappable topographies' that 'project visions of humanity under constant threat by factors of its own making' (2016, 4)? Anil Narine, in charting a definition of 'Eco-Trauma' cinema, similarly posits a definition that could equally be attributed to science fiction. She suggests that one formation of eco-trauma narratives include 'stories that depict the aftermath of ecological catastrophe, often focusing on human trauma and survival endeavours without necessarily dramatizing the initial "event"' (2015, 9). In spite of these clear resonances between various modes of understanding cinema's eco-affects and science fiction, neither Narine nor Kara acknowledge the genre's resonance and importance to their respective formations of eco-trauma cinema and Anthropocenema. This thesis seeks to right this oversight, demonstrating the structurally integral ties that bind the two.

The other most notable writers on the Anthropocene and cinema are Jennifer Fay, David Martin-Jones and Alexa Weik von Mossner.<sup>12</sup> Fay's *Inhospitable World: Cinema in the Time of the Anthropocene* is the most comprehensive and sustained consideration of cinema in the Anthropocene, and vice versa, to date. Fay very astutely argues that:

**the Anthropocene is to natural science what cinema, especially early cinema, has been to human culture. It makes the familiar world strange to us by transcribing the dimensionalities of experience into celluloid, transforming and temporally transporting humans and the natural world into an**

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12. Though, given how burgeoning the field is, new work is emerging regularly. A special section of the *Journal for Cinema and Media Studies* entitled 'IN FOCUS: Film and Media Studies in the Anthropocene' (Peterson and Uhlin, 2019) is one such example.

## **unhomely image. (2018, 3)**

Fay effectively discloses that the (early) estrangements of cinema are akin to the (early) estrangements of the climate crisis, be it McKibben's 'Eaarth' (2010), Crutzen and Stoermer's 'Anthropocene' (2000), Haraway's 'Cthulucene' (2016) or Jason W. Moore's 'Capitalocene' (2015). By way of some very compelling argumentation, Fay displays the urgent need for using cinema as a tool for analysing the Anthropocene,

**not only is cinema like the Anthropocene in its uncanny aesthetic effects, but also, insofar as cinema has encouraged the production of artificial worlds and simulated, wholly anthropogenic weather, it is the aesthetic practice of the Anthropocene. Or, to put it more forcefully, cinema helps us to see and experience the Anthropocene as an aesthetic practice. (2018, 4)**

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My analysis is enmeshed with this urgent need to experience the Anthropocene somehow beyond data, graphs and news headlines. Science fiction cinema seems to me the best way to do this. As Fay goes on to argue,

**the Anthropocene confronts us with the fact that we need to learn how to live and die in an unpredictable and increasingly inhospitable world. Cinema has something to teach us about how and why we got here and how we envision our unthinkable future, as such. (2018, 11/12)**

Each of my chosen texts operate precisely around this envisioning of an unthinkable future, making it not only thinkable but transforming it into an aesthetic and experiential world. While Fay very effectively displays the ties between cinema's broader world building and the Anthropocene's world-shaping

changes, this thesis will more specifically unearth science fiction cinema's stakes in this thematic and aesthetic visualisation of the Anthropocene. She suggests that:

**to write about cinema in the epoch of the Anthropocene is to bring out new connections between these two terms or practices that change how we think about both of them.  
(2018, 5)**

I am in steadfast alignment with Fay's thinking here, and by writing about science fiction cinema in relation to this epoch I aim to change how we might consider them both.

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Martin-Jones' article 'Trolls, Tigers and Transmodern Ethical Encounters: A Cine-Ethics for the Anthropocene' utilises a Dusselian framework to unlock a more political dimension to the transmodern encounters enacted in two films, *Troll Hunter* (Øvredal, 2010) and *The Hunter* (Nettheim, 2011). It effectively demonstrates that 'both films (as is the case in the broader trend they illustrate) foreground ethical encounters between humanity and nature' (2016, 92). Martin-Jones discloses *The Hunter*'s 'final confrontation between hunter and tiger as one between humanity and the history of its exclusion of, or war with, nature' (2016, 94). The article's position is that these encounters encourage one to think about the binary split between humanity and nature, and the histories of colonisation that often sit behind humanity's altercations with the nonhuman natural environment. Much of my own writing in this thesis will be constructed around such thinking. Chapter three's exploration of human/nonhuman encounters in *Annihilation* chimes with Martin-Jones' writing in particular. This project of considering cinematic ethics is continued by Martin-Jones in *Cinema Against Doublethink: Ethical Encounters with the Lost Pasts of World History*, in which he very effectively argues that a world of cinemas brings us to 'a different ethical relationship with otherness' in requiring us to 'recognise

the histories of those excluded by global structural inequality, which by turns requires a provincialising of the relative centrality of normative ideas of world history' (2018, 57). While Martin-Jones' latest work is theoretically aligned with parts of this thesis, the emphasis on world history is divergent and the films studied are often very different. Indeed, unlike myself, Martin-Jones is actually quite indifferent about science fiction, instead suggesting 'how much more a world of cinemas can offer than just doom-laden science fiction films' (2018, 57). I demonstrate that science fiction, doom-laden or otherwise, actually has quite a lot to offer to a cinematic consideration of the Anthropocene, and that these claims about the genre cannot be backed up without further analysis. This thesis will facilitate precisely this, allowing for new ways of reading science fiction in relation to the environmental imperatives of the 21<sup>st</sup> century. In doing so it hopes to place science fiction film more firmly into the broader and evolving film studies conversation about how cinema can and does contribute

36 to our understanding and experience of the Anthropocene. It is herein that von Mossner's writing is of pertinence, as her work repeatedly deals with science fiction cinema in some detail.

Von Mossner wrote an article entitled 'Science Fiction and the risks of the Anthropocene: Anticipated transformations in Dale Pendell's *The Great Bay*'. This article focuses on Dale Pendell's novel *The Great Bay* (2010):

**[the narrative's] favoring (of) geological and climatic timescales over human ones runs the risk of losing readers' empathetic engagement with characters ... In its distant rendering of future ecological change and human anguish, *The Great Bay* is therefore a grave reminder not only of the incalculable risks of the Anthropocene but also of the basic tenets of realist storytelling. (2014, 205)**

Conversely, in my own writing, the geological and climatic

timescales of the Anthropocene are signposted as one of the most significant aspects and triumphs of the genre's cinematic output in the 21<sup>st</sup> century. From *Interstellar* and *Arrival*'s geological and nonhuman temporalities to *After Earth* and *Snowpiercer*'s distant future Earths, the timescapes of the Anthropocene provide rich and fertile ground for science fiction's generic idiosyncrasies. This also helps differentiate the propensities and capabilities of cinema compared to literature. Cinema's temporal anchoring provides incisive and unique ways of mediating the Anthropocene's temporality in ways that are perhaps harder for literature to facilitate.

Elsewhere von Mossner has noted the importance of science fiction as a framework for exploring climate change. Within 'Afraid of the Dark and Light: Visceralizing Ecocide in *The Road* and *Hell*' she notes that science fiction as a genre is in:

37        **a near-ideal position to explore perceived risks and anxieties regarding large-scale environmental change. Science fiction film, with its ability to visualize and visceralize speculative future worlds, is particularly powerful in this regard. (2012, 42)**

This is nicely put, and echoes Brereton's position, as well as my own. However, I would contend that the films selected here are more situated in the aforementioned niche of 'cli-fi' which has some distinct differences from more traditional science fiction in so much as it is explicitly and emphatically concerned with ecological crisis. "Hard" science fiction is omitted here, and in order to fully make claims for science fiction's speculative power for envisioning and imagining ecological disaster it is important to open analysis to a wide(r) variety of films. Von Mossner argues that 'unlike science fiction films whose imaginary alien ecologies are set on far away planets', *The Road* (Hillcoat, 2009) and *Hell* (Fehlbaum, 2011) instead create an 'eerie relationship between

real and imagined environmental crisis' (2012, 46) by being set on Planet Earth. This is a rather limiting view of the potentials of the genre to represent ecological themes. There is an uncanniness to *Interstellar's* ice and tsunami planets, as well as *Wall-E's* (Stanton, 2008) space station of mass consumerist waste, both clearly analogous to the ecological concerns of a contemporaneous Planet Earth.<sup>13</sup> Moreover, it seems to contradict the author's own aforementioned stance that 'cinematic environments do not have to be in any way authentic to affect us emotionally' (2017, 182). This thesis will much more brazenly wear science fiction on its sleeve, in the process more fully unveiling the genre's centrality to a study of the Anthropocene in cinema.

38 While Anthropocene cinema is a small field of study, at present, the broader consideration of the Anthropocene in the arts and humanities is much larger. The Anthropocene in fact seems to have become the dominant vantage point for ecocritical analysis in the 21<sup>st</sup> century. For instance, the influential *Environmental Humanities* journal is awash with articles discussing the Anthropocene concept, with 50% of the articles in 2019's volume 11, issue 1 centred on this topic, and many other recent issues displaying similar attention to it, such as the 2018 special edition entitled *Unexpected Encounters with Deep Time*. While ecocriticism has been around for a long time, the Anthropocene context seems to have placed a renewed emphasis on its

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13 Interestingly von Mossner actually writes on *Wall-E* within an edited collection called *Eco-Trauma* (Narine, 2014). Similarly, von Mossner's article on *Wall-E*, entitled 'Love in the Times of Ecocide: Environmental Trauma and Comic Relief in Andrew Stanton's *Wall-E*', makes no singular mention of it being a science fiction film, instead *Wall-E* is referred to as a film which turns 'eco-trauma into post-apocalyptic romantic comedy – a fact that makes its biting critique of American-style consumerism palatable for a mass audience' (2015, 166). Von Mossner seems much more comfortable in describing *Wall-E* as a 'post-apocalyptic romantic comedy' than as science fiction. Her piece argues that *Wall-E* is an alternative model of apocalypse narration compared to films like *The Road* or *2012*, 'in which the long-term effects of total global ecocide make for terrific comedy and biting satire' (2015, 164). This is an interesting point, however what is sadly ignored here is that it is this generic framework that both enables and enhances *Wall-E's* indictment of consumerist/capitalist society.

importance, as well as providing fertile ground for exploration. Chakrabarty's 2009 article 'The Climate of History: Four Theses' stands out as one of the most oft-cited articles in the field. Chakrabarty's article proposes that 'anthropogenic explanations of climate change spell the collapse of the age-old humanist distinction between natural history and human history' (2009, 201), and as such this calls for a mixing of seemingly 'immiscible chronologies of capital and species history. This combination, however, stretches, in quite fundamental ways, the very idea of historical understanding' (2009, 220). Through this, we see the Anthropocene as a locus of study that invites, perhaps even necessitates interdisciplinary work. My work falls in line with this necessity, bringing science fiction film, ecocinema and Anthropocene studies into conversation with one another.

39 What stands out as relevant to my project from Chakrabarty's writing is the various times in which he makes passing reference to the anxieties of the future induced through the Anthropocene. He succinctly states that 'it is not surprising then that the crisis of climate change should produce anxieties precisely around futures that we cannot visualize' (2009, 211), earlier positing that our 'present gives rise to concerns about our future' (2009, 197-198). Where I disagree with Chakrabarty here is that we can visualize these futures, we just require science fiction's speculative framework to do so. In the context of a time period wherein the distinction between deep time and human time has collapsed, a time wherein human beings have become a telluric force and a time wherein the planet in which we live on will rapidly become less and less habitable, science fiction cinema unveils itself of pertinence for visualising these 'futures that we cannot visualize' (2009, 211). Heise, though predominantly engaging with literature seems to agree with me on this, arguing that science fiction is 'in a privileged position to tell stories about climate change and the Anthropocene' (2019, 282). This thesis analyses how these stories are told, and assesses what they can tell us about science fiction,

the Anthropocene as well as the ties that bind them together.

One of the most comprehensive contributions to this field comes in the form of an edited collection by Christopher Hamilton, François Gemenne and Christophe Bonneuil. Entitled *The Anthropocene and the Global Environmental Crisis*, this book sees a series of insightful contributors tackling the complexities of the Anthropocene in a variety of enlightening fashions. In an introductory chapter Hamilton, Gemenne and Bonneuil posit that there are two core claims to the Anthropocene,

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**First, it claims that humans have become a telluric force, changing the functioning of the Earth as much as volcanism, tectonics, the cyclic fluctuations of solar activity or changes in the Earth's orbital movements around the Sun [and] the second claim...is that the human inhabitants of our planet will face, in a time lapse of just a few decades, global environmental shifts of an unprecedented scale and speed. (2015, 3-4)**

Echoing Chakrabarty, these writers posit that 'the timescale of the Anthropocene goes far beyond what the human experience is able to comprehend' (2015, 10). Through the Anthropocene's creation of uncertain futures, I will demonstrate that science fiction's spatial and temporal estrangements make it of key pertinence to comprehending the seeming incomprehensibility of the epoch's implied future trajectories. Science fiction liberates us from present time and place and can place us within approximations, however fanciful, of Anthropocene-inflected futures as well as spectral deep time histories. It permits us to peer over the brink of the present whilst plunging into the past. The introductory analysis of *Snowpiercer* is but one example of this, sublimely framing an uncertain future where two divergent senses of time collide.



There is an entry from Chakrabarty in this collection of essays, in which he extends the logic of his writing found in 'Four Theses'. Chakrabarty's core argument in this article, entitled 'The Anthropocene and the Convergence of Histories', is that scales of time are the biggest problem of the Anthropocene. He states that 'anthropocene warming thus produces problems that we ponder on very different and incompatible scales of time' (2015, 45). If time is one of the foundational problems of understanding the Anthropocene, then I will demonstrate that cinema, and more specifically science fiction cinema, are key mediators for unlocking the Anthropocene's temporal problem. Cinema's temporal foundations provide for incisive and nuanced ways of experiencing and accessing divergent temporal flows, which, this thesis argues, reflect the Anthropocene's derangement of temporal scale and flow. Chapter four's investigation of glacial temporal structures in *Interstellar* and *Arrival*, through the aesthetic theoretical frameworks of writers such as Joanna

- 41 Zylinska and Lutz Koepnick, facilitates this in particular. These films allow for ways of experiencing various types of Anthropocenic time, which confoundingly elude our grasp outside of cinematic mediation.

Michael Northcott's 'Eschatology in the Anthropocene: From the chronos of deep time to the kairos of the age of humans' provides a particularly illuminating reading of the Anthropocene's temporal grounding. Northcott opens his article with a brief history of Hutton's formulation of the deep time concept. He states that 'not only did Hutton's deep time chronology displace divinity from Earth history beyond its primeval beginning; it also displaced humanity' (2015, 101). This helps foreground that the concept of human time and deep time merging predates Chakrabarty's articles, as well as the very idea of the Anthropocene, with Hutton's concept of deep time arriving in the late eighteenth century. This epoch does not necessarily announce something entirely new in terms of temporality, but instead provides a more

urgent need to consider the escalated oozing together of deep time (Earth) and the day-to-day (human). Northcott goes on to propose that:

**the claim that the industrial revolution commenced a new geological epoch is closer to the literary genre of science fiction than of natural scientific writing...the Anthropocene narrative is an 'archaeology of the future'.  
(2015, 105)**

42 This is emblematic of the incomprehensibility of the Anthropocene. Its ramifications and historical heft seeming more in tune with a science fiction narrative than one based in reality – a concept I touched on briefly in my introduction. While Northcott refers here to science fiction literature as opposed to cinema, the conventions of both are one and the same. It is casual references to the genre in writing around the Anthropocene such as this that further tugs back the veil on science fiction's pertinence to this epoch. This thesis seeks to take cursory references to the genre more seriously, and fully investigate what it is about science fiction that is of such allure to considering Anthropocene narratives and anxieties.

Heather Swanson, Anna Tsing and Nils Bubandt interestingly take up the framework of science fiction as a tool for considering the Anthropocene in their article 'Less Than One But More Than Many: Anthropocene as Science Fiction and Scholarship-in-the-Making'. They open this article stating that that 'viewing the Anthropocene as science fiction is useful in building a review of the field of scholarship that the term is currently bringing into being' (2015, 149). They rightfully posit that 'the Anthropocene ... asks us to take the view from afar and look at the earth as if we were explorers from the far distant future' (2015, 149). I am in agreement, and my writing echoes and affirms this sense that to think on the Anthropocene is to think through a science fictional

frame. However, I feel that the centrality of science fiction to their opening, and title, entirely loses its weight, introspection and purpose as the article progresses. This is indicative of a trend that runs through much writing on the Anthropocene, as also found in the Northcott piece above. Academics seem to find science fiction a useful device for cursorily introducing the Anthropocene concept. Bruno Latour (2015, 145), Timothy Morton (2013, 5 / 36 / 80) and Haraway (2017, 325) can all also be seen to do this in turn. It seems to dismiss the genre as in some way simple, or unworthy of proper attention. A much more in depth investigation into this pervasively noted entanglement between science fiction and the Anthropocene is needed to make good on these writers' offhanded claims. This is where my thesis interjects. Science fiction is used here as much more than an introductory framing device. It is held up instead as a unique window into the ecocritical intricacies of this era.

- 43 It seems worth noting at this point that while this thesis ubiquitously uses the term 'The Anthropocene' to describe our current environmental condition, it writes in continuum with those writers who are critical of the term. Foremost amongst these are Moore and Haraway. Moore's book *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* is primarily concerned with:

**how the mosaic of relations that we call capitalism work through nature; and how nature works through that more limited zone, capitalism. This double movement – of capitalism through nature, of nature through capitalism. (2015, 1)**

He posits that ' "The economy" and "the environment" are not independent of each other. Capitalism is not an economic system; it is not a social system; it is a way of organizing nature' (2015, 2). Following this logic of thought, Moore's book perceptively opens up the question, 'Are we really living in the

Anthropocene...or are we living in the Capitalocene, the historical era shaped by relations privileging the endless accumulation of capital?' (2015, 173). It is a pertinent question. The 'anthropos' of the Anthropocene cannot account for the yawning gap between the rich and the poor, coloniser and colonised or the nuanced specificities of people and place's contributions to, and impact by, climate change. Very often it is those who contribute towards climate change the least who are in fact impacted by it the most, as eco-documentaries such as Anote's Ark (Rytz, 2018) make staggeringly clear. Thinking in terms of 'capital' helps in this sense, though aren't communist countries just as complicit in environmentally damaging behaviours? Capitalocene clearly has its own shortcomings, but what is useful about Moore's alternative conception is the insistence that 'Anthropocene' is an imperfect way of describing our current situation from a historical, ethical and material perspective.

- 44 Haraway, like Moore, also refutes Anthropocene in favour of 'Chthulucene'.

**Chthulucene is a simple word. It is a compound of two Greek roots (khthŭn and kainos) that together name a kind of timeplace for learning to stay with the trouble of living and dying in response-ability on a damaged earth. (2016, 2)**

Haraway proposes this term in opposition to the 'exterminating forces' that ground the Anthropocene and Capitalocene alike:

**the scandals of times called the Anthropocene and the Capitalocene are the latest and most dangerous of these exterminating forces. Living-with and dying-with each other potentially in the Chthulucene can be a fierce reply to the dictates of both Anthropos and Capital. (2016, 2)**

The 'Chthulu' of Haraway's 'cene' emphasises 'Chthonic ones', who,

**are beings of the earth, both ancient and up-to-the minute. I imagine chthonic ones as replete with tentacles, feelers, digits, cords, whiptails, spider legs, and very unruly hair. Chthonic ones romp in multicritter humus but have no truck with sky-gazing Homo. (2016, 2)**

45 While Haraway's playful language can at points be frustrating and elusive, there is something undeniably captivating about the concept. It seems to emphasise how thinking should shift away from the human and towards a curiosity for the nonhuman. The Anthropocene, marked as the era of the human, is ironically also the time in which we must think beyond the human. A remarkably hot couple of days in the Australian summer of 2018 saw 1/3<sup>rd</sup> of the country's already faltering fruit bat population die of heat exhaustion in temperatures exceeding 42 degrees Celsius. The Western Sydney University approximated that 23,000 of the creatures perished just on the 26<sup>th</sup> and 27<sup>th</sup> of November alone, with the numbers perhaps being as high as 30,000 (Mao: 2019). The BBC article covering this event declares it to be 'the canary in the coal mine' (Mao: 2019) for climate change, which seems to disappointingly re-frame this tragedy around human exceptionalism, as if these deaths only matter because of what they point towards, which is our species' own climate-induced precarity. Haraway's conception of a Chthulucene gets us far closer to considering and re-framing the climate of the 21<sup>st</sup> century from a non-anthropocentric perspective than the term 'Anthropocene', or news articles such as those referenced above, allow for. This thesis' third chapter in particular pays close and careful attention to a post-anthropocentric lens, aligned firmly with Haraway's Chthonic re-envisioning of how best to live 'in disturbing times, mixed-up times, troubling and turbid times' (2016, 1).

All of these shortcomings in mind, why use the term 'Anthropocene' then? While 'Anthropocene' may have some issues, so too do Haraway and Moore's alternatives. The term 'Anthropocene' has become the most ubiquitous name through which people, academic and otherwise, refer to the ecological milieu of the 21<sup>st</sup> century, and as such this thesis does so in turn. As Clark would have it,

**Its force is mainly as a loose, shorthand term for all the new contexts and demands – cultural, ethical, aesthetic, philosophical and political – of environmental issues that are truly planetary in scale, notably climate change, ocean acidification, effects of overpopulation, deforestation, soilerosion, overfishing and the general and accelerating degradation of ecosystems. (2010, 2)**

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I find Clark's description of the term's force convincing. This thesis deploys it similarly, but often allows for more introspective pause to consider what sort of Anthropocene certain science fiction films are pointing towards. In doing so I write in continuum with those who are critical of the term's implications, but write in solidarity with the monumental weight of the term itself. Human and nonhuman life alike finds itself embroiled in rapid, anthropocentrally induced, ecological and environmental change. What name we use to describe it is in some manners unimportant, so long as it is considered and deployed in a critical, un-prejudicial and attentive fashion.

In sum, the history of writing on science fiction film does not seem to consider ecocriticism as of importance to academic understandings of the genre. Similarly, the history of writing on ecocinema does not appropriately consider science fiction film of importance to it, bar a few anomalous examples detailed above. This thesis exists precisely because these gaps are currently so

capacious. It seeks to bring science fiction into conversation with ecocinema, and ecocinema into conversation with science fiction. In doing so it unveils various science fiction films entangled with the environmental and ecological concerns of the Anthropocene context. As the concept of the Anthropocene has been taken up in the arts and humanities many noted scholars fall back on science fictional referents to describe it. Yet, these mentions of the genre often remain cursory and off-handed. This thesis will display that the links that bind the two are much more viscous than the thin consideration they're otherwise given. By bridging gaps in the literature of science fiction film studies, ecocinema studies and Anthropocene studies (or, more broadly, the environmental humanities) it seeks to make contributions that are useful to each, whilst demonstrating the benefit of bringing them together.

# METHODOLOGY

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As briefly touched upon earlier, the broad methodology I will be adopting will be a formal textual analysis of contemporary science fiction films. This will allow for an understanding of how not just the genre of science fiction, but also the medium of cinema itself is giving voice to the Anthropocene. By paying close and careful attention to cinematography, framing, mise-en-scène, editing, sound and so on, it will more broadly consider the ways in which cinema itself has distinct capabilities for mediating and visualising this era. It does however suggest that science fiction “unlocks” a good number of these propensities. This project uses philosophical and critical theory as a sort of toolkit to facilitate its film analysis. As such, the formal analysis will proceed in part through a hermeneutics, using a number of different philosophical and (eco)critical theories as a means of investigating the relationship between the Anthropocene and science fiction cinema. While each chapter utilises a unique theoretical or philosophical framework, they are all broadly informed by what Richard Grusin dubs The Nonhuman Turn in his eponymously titled edited collection. Grusin’s collection brings together a selection of critical and philosophical approaches that each in their own ways reimagines the nonhuman inhabitants of the planet as vibrant matter endowed with agency, breaking apart Enlightenment-era distinctions between a supposedly active human subject and nonhuman objects perceived to be passive. These approaches pinpoint ‘animals, affectivity, bodies, organic and geospatial systems, materiality, [and] technologies’ (2015, vii) as the totemic platforms for this nonhuman turn. This thesis often finds itself similarly engaged with questioning these lines of human subjectivity and nonhuman objectivity through this toolkit that Grusin lays out. Chapters three and four are of particular resonance in this regard, using monstrous bodies and foreign



planets as staging posts for disentangling human exceptionalism, a project concomitantly linked to reading human/nonhuman encounters in the Anthropocene context. They do this through a consideration of cinema's temporality and representation of posthuman, or ecomonstrous, bodies. In doing so they introduce new ways of mediating human/nonhuman encounters through science fiction cinema.

This nonhuman turn in the arts and humanities has a much longer lineage than Grusin's 2015 book however. Haraway's 1984 'A Cyborg Manifesto' is one such example of this lineage, and Haraway remains one of the leading scholars in the field. Haraway's more recent *Staying With The Trouble* oscillates around many of the philosophical questions that this thesis considers through science fiction. In this book Haraway is also attentive to the power of science fiction in these 'troubling and turbid times' (2016, 1) ahead of us, commenting that,

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**an ubiquitous figure in this book is sf: science fiction, speculative fabulation, string figures, speculative feminism, science fact, so far. This reiterated list whirls and loops throughout the coming pages, in words and in visual pictures, braiding me and my readers into beings and patterns at stake. Science fact and speculative fabulation need each other, and both need speculative feminism. (2016, 2-3)**

This array of different "sf" for me points towards the ancillary uses of science fiction in the Anthropocene era, a platform inviting investigation through science fact, speculative feminism and so on.

While Haraway's comments here seems further reflective of the aforementioned academic tendency to cite science fiction as an introductory framing device in ecocritical writing, Haraway does often use the genre as a grounding way of considering our

current situation. This is illuminated in particular through the documentary *Donna Haraway: Storytelling for Earthly Survival* (Terranova, 2016), where she passionately argues that science fiction is theory in the context of living on a damaged planet. In *Staying with the Trouble* she suggests that humans may look back on the early 21<sup>st</sup> century as “The Great Dithering”:

**a time of ineffective and widespread anxiety about environmental destruction, unmistakable evidence of accelerating mass extinctions, violent climate change, social disintegration, widening wars, ongoing human population increase due to the large numbers of already-born youngsters (even though birth rates most places had fallen below replacement rate), and vast migrations of human and nonhuman refugees without refuges. (2016, 144-145)**

- 50 Haraway leverages a science fictional distancing from the present moment to consider it from afar, characterising this era through a lack of action on pressing environmental concerns. Methodologically my thesis operates similarly to Haraway’s conception of “The Great Dithering”. By analysing science fiction’s spatially and temporally estranged narratives through the ecocritical philosophies and imperatives of our times novel ways of comprehending the Anthropocene, and the genre that houses it, begin to unfurl. It reveals how science fiction and the Anthropocene are entwined in their ecological estrangements.

Just as Haraway’s thinking echoes out recursively through my thesis, so too does the writing of a number of other authors, namely Morton and Stacy Alaimo. Both Morton and Alaimo have conceptualised theories that are used as methodological frameworks across my thesis. Morton theorises the notion of “hyperobjects” in his appropriately titled book *Hyperobjects: Philosophy and Ecology After the End of the World*. Hyperobjects are things,

**that are massively distributed in time and space relative to humans. A hyperobject could be a black hole. A hyperobject could be the Lago Agrio oil field in Ecuador, or the Florida Everglades. A hyperobject could be the biosphere, or the Solar System. (2013, 1)**

While some may quite rightfully call into question the utility of a category that can contain a solar system as well as the Florida Everglades, there is something enthralling about hyperobjects as a tool for ecocritical thinking. Global warming is posited by Morton as a hyper object par excellence, this seems emblematised by the notion that ‘they involve profoundly different temporalities than the human-scale ones we are used to’ (2013, 1). Morton argues that hyperobjects unsettle our sense of self:

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**these entities (hyperobjects) cause us to reflect on our very place on Earth and in the cosmos. Perhaps this is the most fundamental issue – hyperobjects seem to force something on us, something that affects some core ideas of what it means to exist, what Earth is, what society is. (2013, 15)**

Questions such as this are the fulcrum upon which science fiction narratives have seesawed since its very inception. Now, in the context of the Anthropocene, itself most certainly a hyperobject, science fiction reveals its unique uses for disseminating the effects of hyperobjectivity. Black holes, devastating environmental damage, our solar system and the cosmos are presented to us neatly packaged on our cinema and television screens. Chapters four and five in particular consider the deployment of hyperobjects as a means of conveying ecological meaning and affect. Hyperobjects become seemingly more accessible in the context of science fiction. While day-to-day we may only be able to experience slithers of a hyperobject at any

given moment, through science fiction cinema the hyperobjective scale of the Anthropocene feels more fully fleshed out and accessible.

Alaimo's writing is aligned with a broader niche in Anthropocene studies, which is dubbed Anthropocene Feminism in Richard Grusin's edited collection of the same title. Alaimo pointedly asks, 'Who is the "anthro" of the "Anthropocene"? In its ostensible universality does the prefix suggest a subject position that anyone could inhabit?' (2017, 89). Her writing points out that

**feminist theory, long critical of "man", the disembodied, rational subject, and material feminisms, which stress inter- or intra-actions between humans and the wider physical worlds, provide alternative to accounts that reiterate man as a bounded being endowed with unilateral agency. (2017, 89)**

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Alaimo's core thesis is 'that we think the Anthropocene subject as immersed and enmeshed in the world' (2017, 103). This is a position that she elsewhere refers to as 'trans-corporeality':

**imagining human corporeality as trans-corporeality, in which the human is always inter-meshed with the more-than-human world, underlines the extent to which the substance of the human is ultimately inseparable from "the environment". (2010, 2)**

This framework is useful on a number of different levels. Its feminist leanings provide a refreshing alternative to what Grusin refers to as 'the too often unquestioned masculinist and technonormative approach[es] to the Anthropocene taken by technoscientists, artists, humanists, or social scientists' (2017, x). Alaimo's Anthropocene feminism instead highlights 'the ways in

which feminism and queer theory might offer alternatives to these approaches' (2017, x). Alaimo's conception of an Anthropocene subject as immersed and enmeshed with the world is of use to all of the chapters that follow, which each in their own way investigate the slippery boundaries between human bodies and their surrounding environments. While this thesis does not emphatically engage in feminist analysis per se, with the exception of the final chapter's ecofeminist analysis, it writes in consistent alignment with the principles of Anthropocene feminism. Pervasively critical of patriarchal approaches and assumptions about ecology, embodiment and power structures.

As suggested in my opening piece of analysis, the deployment of the sublime aesthetic is relatively pervasive across this thesis' chosen films of study. Considered exploration of its use in the genre is presented fully in the final chapter through the locus of planetary imagery. Christopher Hitt's article 'Towards an

53 Ecological Sublime' is of great instruction to my methodological approach in exploring the sublime. Hitt's essay looks at historical formations of understanding the literary sublime, and how these may be reconsidered to the formulation of an ecological sublime – stating that 'the concept of the sublime offers a unique opportunity for the realization of a new, more responsible perspective on our relationship with the natural environment' (1999, 605). Historically the sublime has been criticised for its total bifurcation of the human from nature, or more broadly how it is founded as 'an expression of asymmetrical power relationships: between human and nature, self and other, reader and text, male and female, conqueror and oppressed' (1999, 603). For there to be an ecological sublime, it is key to move away from this subject/object relationship between human/nature, because, as Hitt notes, 'the natural sublime, for all its problems, involves what look to us like ecocentric principles' (1999, 607).

Hitt's movement towards an ecological sublime here is of precise

relevance to my project. In the context of the Anthropocene, a binary relationship between the human and an “othered” nature is distorted. Historical conceptions of the sublime, as per Burke and Kant, are re-modulated by science fiction cinema in manners akin to Hitt’s movement towards an ecological sublime. The sublime is inherently about an ‘overwhelming confrontation with a natural object’ (1999, 605), one in which we see ourselves as inferior to nature and thus the image is sublime, as we are awestruck – tangled in a sense of what Burke termed ‘delightful horror... the most genuine effect and truest test of the sublime’ (1998, 24). Rather frighteningly, the natural object that we are now tangled up in an overwhelming confrontation with is Earth itself. In the case of the Anthropocene, encounters with nature produce seemingly the opposite effect with regards to the sublime – weather systems are now understood as tethered helplessly to our waste and emissions. The sublime’s history of imagining overwhelming natural objects is transformed in this era. We are

54 telluric forces, Anthropocene subjects immersed and enmeshed in the world, as Alaimo would have it (2017, 13). As such, the subject/object power relations of the sublime breakdown under the weight of this newfound geological agency. In the light of this shifted perception, one can see not only the use of the sublime in the Anthropocene as an aesthetically contextualising tool, but also the Anthropocene’s transformation of the sublime’s perceived relations between the human and the nonhuman world. This thesis unveils the sublime’s appearance in the genre’s use of documentary footage, planetary imagery and ecomonstrous encounters, allowing for new reading strategies for what the sublime can, and does, do.

In sum, from a methodological perspective this thesis is aligned with the critical and philosophical umbrella of the “Nonhuman Turn”. Leveraging the (eco)critical perspectives and theoretical frameworks of writers like Alaimo, Haraway and Morton it aims to unveil science fiction cinema’s relevance to the cultural shifts

brought about by the Anthropocene. The proceeding chapters will reveal a series of trends and occurrences in 21<sup>st</sup> century science fiction films, each of which pertain to the troubling and turbid times of a rapidly warming climate.

# CHAPTER OVERVIEW

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The first part of this thesis, comprising chapters two and three, is entitled 'From the Technological to the Ecological'. Both of these chapters display a movement in the genre from technological concern to ecological concern. Chapter two re-evaluates Susan Sontag's claims made in her seminal piece, 'The Imagination of Disaster'. In this Sontag argues that science fiction films are about disaster, specifically that of nuclear threat. A comparative analysis between the original Death Star from 1977's *Star Wars: A New Hope* (Lucas, 1977) and the "new" Death Stars in *Star Wars: The Force Awakens* (Abrams, 2015) and *Rogue One: A Star Wars Story* (Edwards, 2016) will be used to unveil a shift from a technologically grounded weapon, to an ecologically grounded weapon. This change, I argue, is emblematic of a wider shift in the genre wherein the environmental and ecological concerns of the Anthropocene begin to bleed into science fiction cinema's disaster imaginary. This changed imagination of disaster is disclosed through a close textual analysis of *After Earth*, which is used as a centrifugal example of a series of films that similarly orient themselves around the complexities of living and dying in the Anthropocene. *Mad Max: Fury Road* (Miller, 2015), *Dawn of the Planet of the Apes* (Reeves, 2014), *Snowpiercer* and *Interstellar* are among these texts. *After Earth* can be seen to stage its imagination of disaster around humanity's placement in an extreme Earth environment, a situation not dissimilar to our own. *After Earth* utilises deep-time, Earth history and unruly environments as the cornerstones of its disaster imaginary, all of which resound with the material and philosophical pressures of a warming climate. While not all science fiction films are engaged in this shift in representation, this chapter argues that the number of films it occurs across is representative of a changed focus in much 21<sup>st</sup> century science fiction towards ecological concerns.



Chapter three similarly argues that a representational shift from the technological to the ecological occurs, though in a much more anomalous fashion than its imagination of disaster. This chapter concentrates on the figure of the posthuman. It considers its historical representation in the genre as well as its uses for the ecological imperatives of our times. It demarcates two broad posthuman forms in the genre: one technological, the other ecological. Using *The Terminator* (Cameron, 1984) and *The Thing* (Carpenter, 1982) as respectively representative examples of these two types of posthumanism. It unveils the anthropocentric proclivities of both, unfit for the critical need to think “beyond” the human in the Anthropocene context. I argue that *Annihilation* reconciles the shortcomings of dominant posthuman imaginaries in the genre, using this text to point towards the slippery boundary between the human and the nonhuman when both are placed under alien environmental conditions. Through the writing of Alaimo, Rosi Braidotti, Cary Wolfe and Joanna Zylińska

57 this chapter argues that *Annihilation* presents posthuman forms of pertinence to the pressures of the Anthropocene. It unearths a series of nonhuman, or what will be referred to as ‘ecomonstrous’, perspectives as a means of disassembling the anthropocentric proclivities of science fiction cinema’s historical posthuman figures. In doing so *Annihilation* operates as a unique text, gesturing towards the ‘trans-corporeal’ (Alaimo: 2010, 2) nature of human/nonhuman relations in, and out of, the Anthropocene context.

The last part of this thesis, comprising chapters four and five, is entitled ‘Temporal and Planetary Imaginaries’. Each chapter uses 21<sup>st</sup> century science fiction films to reveal a transformation in the representational mechanics of the 20<sup>th</sup> century’s temporal and planetary infrastructures. Both chapters contend that these representational changes are concomitant with the various ecological pressures and demands of the Anthropocene context. If Part One traced a movement from the technological

to the ecological, this second section traces a movement from modernity to the Anthropocene. They do not suggest that the Anthropocene and modernity are necessarily separate entities, but do establish some clear differences between them. Chapter four is concerned with time, and chapter five is concerned with planets. Chapter four considers the temporal infrastructure of the Anthropocene, and argues that science fiction cinema is particularly well equipped as a device for mediating the epoch's collapsed timeshape. Mary Ann Doane's writing in *The Emergence of Cinematic Time* is used as a framing device for understanding cinema's relationship with time, and more specifically the temporality of modernity. Doane argued that cinema of the early 20<sup>th</sup> century reflected the temporal changes of modernity (2002, 32). I will argue that certain science fiction films of the early 21<sup>st</sup> century reflect the temporal collapses of the Anthropocene.

58 Using *Interstellar* and *Arrival* (Villeneuve, 2016) as case studies this chapter will consider the ways in which deep time, human time and various other types of time interact with one another. Where *Interstellar* lends time a geological quality, *Arrival* presents time through a nonhuman alien lens. In doing so these films provide platforms for considering time from other-than-human-or-Earthbound perspectives. They emphasise the crisis point of the human jumbled up with temporalities foreign to their own. In doing so these films reflect new senses of time found and felt in the Anthropocene. Following Chakrabarty's logic, if the distinction between human history and geological history has collapsed (2009, 201) then so too has the distinction between human time and nonhuman time. This chapter unveils a collapsed time signature in these films, arguing that such a formation helps us to better experience the temporal infrastructure of the 21<sup>st</sup> century. The fifth and final chapter ecocritically investigates the representational logic of picturing planets. It opens with a historically contextualised analysis of what are perhaps modernity's most iconic images (Clark: 2015, 30): NASA's Apollo Programme photographs of Planet Earth. This chapter considers

the sublime aesthetic's operation in planetary imagery, whether imaged by NASA or by science fiction. Through a comparative analysis of the sublime planetary imagery found in *Another Earth* (Cahill, 2011), *Melancholia* (von Trier, 2011) and *Gravity* this chapter unearths that the sublime's recurrence in 21<sup>st</sup> century science fiction contains not just ecocentric principles, but also more specifically ecofeminist principles. *Gravity* is focused on in particular in this chapter. By reading the evolving relationship between its characters and the planet through Eugene Thacker's conceptions of the world-for-us, the world-in-itself and the world-without-us (2011, 6) this chapter unveils a constellation of eco-perspectives converging around images of Planet Earth. *Gravity*'s ecofeminist re-modulation of the sublime allows new ways of understanding the various contradictions and intricacies at play in planetary imagery's operation in the Anthropocene. It helps consider what sort of planetary perspective is arrived at through the various environmental and ecological demands wrought

59 through anthropocentrically induced climate change.

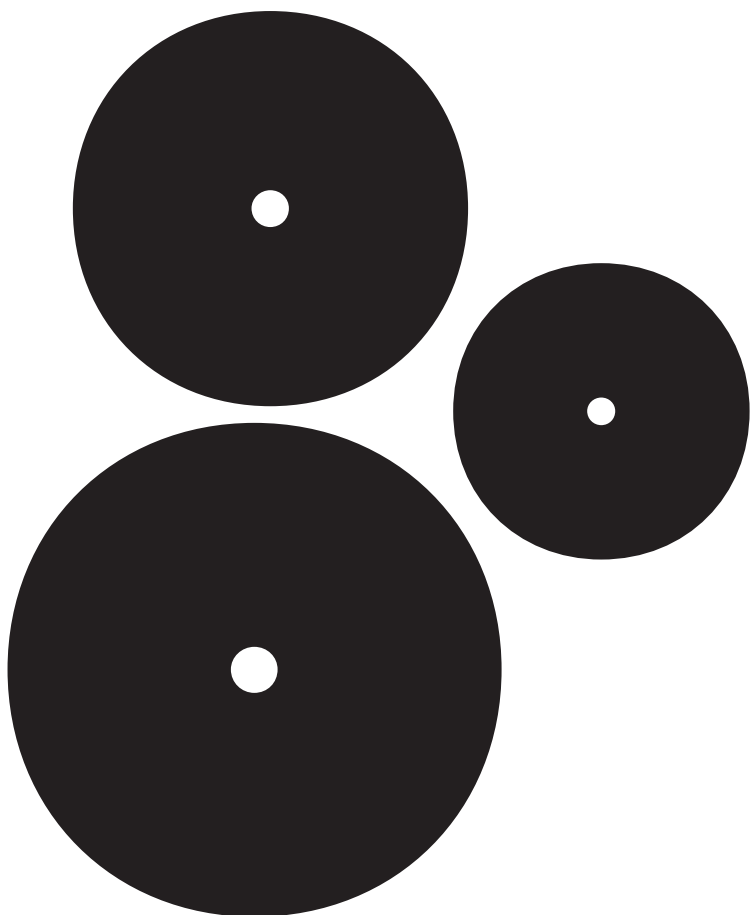
This thesis is one of the first and most sustained critical reflections on the ties between science fiction cinema and the Anthropocene. It does not contend that these films offer flawless views of the conditions that produced, and are produced by, this epoch. Indeed, in the last two chapters in particular I am often critical of the problematic colonial and gender dynamics of the chosen texts. The point here is neither to revere nor condemn the films, but to signpost the ways in which they relate to the ethical, material and philosophical imperatives of our times. In moments of bombastic action and calm reflection alike the films selected for analysis convey an open and emphatic concern with environmental and ecological issues. As we navigate the difficulties of living on a dying planet, it is my hope that the thoughts offered herein will invite more future writing and consideration of science fiction's placement in, and pertinence to, the environmental humanities. As a number of writers have

already noted, there is something science fictional about the Anthropocene (Swanson, Bubandt and Tsing; Northcott; von Mossner; Morton; Haraway; Latour; Canavan and Robinson). It requires a sense of temporal and spatial extraction that is difficult to accomplish outside of the genre, it is as if we need science fiction to see and experience it. It should perhaps come as no surprise then that science fiction produced in the 21<sup>st</sup> century often reflects the ecological imperatives and pressures of this epoch. Conversely, what does come as a surprise is the lack of consideration given to science fiction cinema in ecocinematic writing or the more specific field of Anthropocenema (Kara: 2016, 9). This thesis contends that in order to effectively understand cinema's relation to the Anthropocene science fiction has to be a central part of the conversation. Moreover, it suggests that science fiction should be more closely considered in ecocritical writing, both inside and outside of film studies. The off-handed nature with which many writers deploy science fiction films

60 as quick referents is useful for this thesis' research goals, but in other ways rather irksome. By closely considering science fiction through the Anthropocene, and the Anthropocene through science fiction, this thesis critically reflects on the ties that bind them together. Disasters are imagined differently, human bodies find themselves imbricated with strange nonhuman environments, cinematic time registers begin to collapse and the sublime aesthetic undergoes ecologically oriented transformations. By way of this set of interdependently considered observations, this thesis unveils not just what happens to science fiction in the Anthropocene context, but how science fiction provides new frameworks for analysing the Anthropocene itself.

PART ONE

**FROM THE  
TECHNOLOGICAL TO  
THE ECOLOGICAL**



## CHAPTER 2

# CHANGING IMAGINATIONS OF DISASTER : DIFFERENT DEATH STARS AND DEVASTATED EARTHS



This chapter argues that science fiction cinema of the 21<sup>st</sup> century has seen representational shifts that are oriented around the Anthropocene context. This investigation will proceed through the lens of one of the most influential pieces of writing on science fiction films, Susan Sontag's 1965 article 'The Imagination of Disaster'. The analysis will be split in two parts. The first part will detail a comparative examination of the various manifestations of the "Death Star" from the original *Star Wars* (Lucas, 1977) to its recent sequel and prequel, respectively, *Star Wars: The Force Awakens* (Abrams, 2015) and *Rogue One: A Star Wars Story* (Edwards, 2016). This will demonstrate how contemporary science fiction cinema's imagination of disaster is changing in the 21<sup>st</sup> century. Where 1977's *Death Star* spoke to nuclear threat anxieties, there is a marked ecological shift in the destructive capabilities of *The Force Awakens'* Star Killer Base and 2016's *Death Star* in *Rogue One*. The second part of this chapter will detail an analysis of *After Earth* (Shyamalan, 2013), with reference to other films that operate similarly, as a means of pointing towards what science fiction cinema's imagination of disaster might look like in the context of the Anthropocene. Using the writing of Eugene Thacker, Michel Serres and Jason W. Moore, it will examine how the film's exploration of humanity both inside and outside of nature reflects ecocriticism in the Anthropocene's own negotiation of how best to frame the human in relation to the environment.

'Science fiction films are not about science. They are about disaster' (1965, 44), or so Sontag tells us in 'The Imagination of Disaster', positing that 'these films reflect world wide anxieties, and they serve to allay them' (1965, 42). Written in 1965, Sontag's thinking with regard to science fiction's representation of 'world wide anxieties' is a position that much subsequent writing on the genre is similarly located around. For instance, Christine Cornea's *Science Fiction Cinema* is concerned with 'the specific ways in which science fiction has engaged with the reality of the

contemporaneous world' (2007, 11). My work here is also guided by a desire to read the ways in which the genre engages with the context of the contemporaneous, and the specific contemporary backdrop through which it will be doing so is that of the Anthropocene. In this rapidly warming climate it is of fundamental importance to re-assess science fiction cinema's imagination(s) of disaster. Do science fiction films respond to the ecological crises of the contemporary moment? And if so, how? This chapter investigates these questions through Sontag's lens of disaster.

Sontag did not simply state that science fiction films are about disaster, she more specifically posited that science fiction films are engaged with imagining nuclear disaster and rendering the fears of a nuclear war. In relation to these nuclear apocalypse anxieties, Sontag envisioned:

64      **a historically specifiable twist which intensifies the anxiety, or better, the trauma suffered by everyone in the middle of the 20<sup>th</sup> century when it became clear that from now on to the end of human history, every person would spend his individual life not only under the threat of individual death, which is certain, but of something almost unsupportable psychologically – collective incineration and extinction which could come any time, virtually without warning. (1965, 48)**

In other words, Sontag saw the looming nuclear threat as a turning point around which disaster and apocalypse fears became intensified, and one which science fiction could be seen to speak to. Jeffrey Womack echoes these claims, suggesting that 'the genre's commercial success directly resulted from its appropriation of nuclear warfare themes and imagery, such as desert landscapes and nuclear blasts' (2013, 70) and that 'its vocabulary of disaster had taken on new relevance for audiences in an atomic world' (2013, 74).



I would contend that in the early 21<sup>st</sup> century anxieties surrounding the environment are greater than, or at the very least equal to, cultural concerns of the atom bomb. Lawrence Buell echoes my position, asking,

**why do discourses of environment seem more crucial today than they did...in the 1940s? The most obvious answer is that during the last third of the twentieth century "the environment" became front-page news. (2005, 4)**

65 Leading on from Buell's thinking we get a sense that environmental concerns have usurped, or at any rate matched, those of nuclear threat in the tail end of the twentieth century and onwards. As such it seems important to re-assess and re-read Sontag's claims in the context of this shift from nuclear fears to environmental fears. It follows that the genre's 'vocabulary of disaster' (Womack: 2013, 74) might have changed in the 21<sup>st</sup> century Anthropocene era as a means of absorbing and speaking to this 'new relevance' (Womack: 2013, 74).

Moreover, it seems that the fears of a nuclear bomb induced apocalypse are of a fundamentally different shape and form to the fears induced by the Anthropocene context. If nuclear threat portends 'collective incineration and extinction which could come any time, virtually without warning' (Sontag: 1965, 48), then global warming suggests something quite different. The senses of culpability and timescale attached to nuclear war versus environmental collapse are antithetical, thus they invite quite different forms of representation. The sense of duration tied to the explosion of a nuclear bomb is fundamentally very small, near instantaneous. Indeed, the complete process of a nuclear explosion is less than a microsecond. Additionally, the culpability and sense of agency tied to nuclear threat lies very much with the powers that be, tied to who ordains if, when and

where the red button is pressed. As individuals detached from the power to make or meaningfully influence such decisions, we are somewhat powerless in the face of nuclear threat. As my analysis will show, the Death Star destroying Alderaan in the original Star Wars is emblematic of the ways in which science fiction speaks to these images and anxieties of immediate destruction and foreign agency. The aliens blowing up The White House in the iconic sequence from Independence Day (Emmerich, 1996) operates similarly in this regard, as do the nuclear bombs literally dropping on Sarah Connor in Terminator 2: Judgment Day (Cameron, 1991), seen below in Figure 3. Whether it be an actual nuclear bomb or not, each emphasises an immediacy of destruction and its perpetration through a foreign, often alien, agent.



Figure 3 – Sarah Connor's skeleton in the wake of a nuclear bomb's explosion in Terminator 2: Judgment Day.

The environmental collapse heralded by the Anthropocene epoch feels rather different. Chakrabarty, in 'The Climate of History: Four Theses', is of the opinion that:

**the anxiety global warming gives rise to is reminiscent of the days when many feared a global nuclear war. But there is a very important difference. A nuclear war would have been a conscious decision on the part of the powers that be. (2009, 221)**

By contrast, particularly in the Western world, there is a sense of culpability and individualised agency at play in relation to climate

change. Indeed, every on the go coffee cup and rotation of our car keys in the ignition contributes towards climate change in a hauntingly meaningful sense, we are aware of the environmental effects these processes have, but cannot necessarily access them first hand due to the spatial and temporal distances they cascade across. As David Archer and Victor Brovkin evidence, roughly 10% of the carbon released by humans today will still be in the atmosphere over 100,000 years from now (2008, 283). Chakrabarty misses this key and important difference between nuclear anxieties and climate change anxieties, and that difference is a matter of timescale. In the Anthropocene we have been made aware of our occupation of vast geological time periods, referred to as “deep time”. Planetary warming is set on a collision course that spells out an increasingly less and less habitable climate and biosphere, not just for us humans, but also for the majority of all organic life on the planet. If nuclear bombs are instantaneous<sup>14</sup> and leave individuals powerless, then climate change facilitates precisely the opposite estrangement. As E.A. Kaplan states in *Climate Trauma*, ‘although fantasies of Armageddon and the apocalypse go far back in biblical history, the form and scale of the concern is new’ (2016, 10).

We now need to assess whether contemporary science fiction cinema can present the sense of disaster tied to the Anthropocene’s eco-apocalypse narrative as it did, and often still does, for the atom bomb’s techno-apocalyptic milieu. However, while Sontag’s argument, as continued by Cornea (2007, 11) and a number of other writers on the genre, such as J.P. Telotte (2001, 33), is useful, it needs to be approached with some caution. While Sontag’s writing holds up impressively to a large diversity of science fiction films, by the very nature of having been written in 1965, it is somewhat un-representative of how the genre has

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<sup>14</sup> While of course the deep time lingering of a bomb’s radioactive energy chimes with the dwarfing timescales of anthropocentrically induced climate change, a topic I will return to later in the chapter, the explosion itself more pointedly facilitates total and immediate destruction.

transformed over the years that have followed. Statements such as 'it is in the imagery of destruction that the core of a good science fiction film lies' (1965, 44) and 'there is absolutely no social criticism, of even the most implicit kind, in science fiction films' (1965, 48) do not hold up when read in the light of the lively social criticism found in science fiction films produced after her writing, and the multiplicity of ways in which they operate. This said, *Metropolis* (Lang, 1927) is social commentary in cinema par excellence, and Sontag must have been aware of it. Sontag also repeatedly refers to science fiction as 'naïve' (1965, 42) and a 'debased commercial art product' (1965, 48), which is emblematic of the way in which the genre has often been marginalised as an academic locus of study – though fortunately much has changed in this regard. More specifically, it is safe to say that not all science fiction films are 'about disaster' (1965, 44), as Sontag would have it. The genre has evolved, adapted and diversified over the years and now can be seen to operate in much more

**68** nuanced manners, disenfranchised from comprehension as a purely commercial form concerned specifically and emphatically with imagining disaster. Films such as *Eternal Sunshine of the Spotless Mind* (Gondry, 2004) and *Primer* (Carruth, 2004) operate as good examples of the genre's tropes and narrative propensities being utilised in manners beyond the grand scale disaster imaginary that Sontag is concerned with.<sup>15</sup>

Furthermore, while it is clear that not all science fiction films are about disaster, it is also worth noting that not all of those which are about disaster, or those which trade off an imaginary of disaster in some form, are concerned with the nuclear or technological threats which Sontag posited them as being. Of importance for the claims and goals of this chapter is the fact science fiction has long had the ability to cloister and espouse

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<sup>15</sup> Though there are also clear examples of science fiction films from the 1960s, around the time of Sontag's writing, that were not concerned with disaster in the same way she envisioned. The French films *Alphaville* (Godard, 1965) and *Je T'aime, Je T'aime* (Resnais, 1968) stand particularly here.

ecocritical thinking of pertinence to our relationship with the environment, and indeed the environmental crisis. Seminal texts such as *Soylent Green* (Fleischer, 1973) and *Silent Running* (Trumbull, 1972), the former a tale of overpopulation and “greenhouse effect” global warming, the latter set in an Earth future wherein all plant life is extinct, clearly speak to anxieties and awareness of the dangers of climate change. However, texts with explicit eco-themes and visuals such as these are few and far between in the 20<sup>th</sup> century. This thesis argues that there is a clearly demonstrable trend in contemporary science fiction films of the early 21<sup>st</sup> century wherein environmental crisis narratives, themes and aesthetics become more ubiquitous. As Timothy Clark would have it,

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**the Anthropocene blurs and even scrambles some crucial categories by which people have made sense of the world and their lives. It puts in crisis the lines between culture and nature, fact and value, and between the human and the geological or meteorological. (2015, 9)**

It is through this heightened sense of crisis ushered in by the Anthropocene concept, and its ability to throw our comprehension of the world into doubt, that contemporary science fiction’s imaginations of disaster tend to situate themselves. In this chapter I will demonstrate that the inherent propensities science fiction cinema contains for stimulating ecocritical thinking have been incubated by the warming climate, and that science fiction’s interest with imagining environmental disaster has seen marked growth in the 21<sup>st</sup> century.

To facilitate this investigation I will proceed with a comparative analysis of the original *Star Wars* to its contemporary sequel and prequel, respectively, *Star Wars: The Force Awakens* and *Rogue One: A Star Wars Story*, focusing singularly on the representations of the “Death Star” and “Star Killer Base” in these three films.

This opening comparative analysis is particularly interested in demarcating how legacy representations of nuclear anxieties within the genre, emblematised singularly here through the Death Star in the original Star Wars, are transformed in their 21<sup>st</sup> century reincarnations. On the one hand these sequels/prequels are beholden to the plot structure and logic found in the original 1977 Star Wars text. Yet they are produced in a very different time period and thus, following Sontag's logic, are narratively more inclined to reflect the cultural milieu under which they are produced. Across this spectrum of representational obligations I will demonstrate that old forms of representation are being resuscitated with significant modifications, and that these modifications are organised around the ecological concerns of the Anthropocene. Through this analysis of one of science fiction cinema's most iconic images we see a negotiated imagination of disaster at play in the genre. Leading on from this will be a more theoretical analysis of *After Earth*, with reference to other films that operate similarly. *After Earth* is taken as a totemic film that hints towards what science fiction's new imagination of disaster might be in the Anthropocene.

At face value *Star Wars* and *After Earth* might seem like odd bedfellows, and indeed in many ways they certainly are. *Star Wars* is a behemoth of a franchise with a seemingly relentless thrust towards further cultural, critical and financial success with each new entry, which spans from 1977 to the present moment. *After Earth* does not have such a pedigree to speak of, in fact, quite the opposite. *After Earth* was described by Will Smith as the 'most painful failure' of his career (2015), and holds an 11% rating on Rotten Tomatoes. By contrast *The Force Awakens* holds a 93% Rotten Tomatoes rating and grossed approximately 1.8 billion dollars more than *After Earth* worldwide. Yet, in spite of its critical and financial shortcomings, *After Earth* emerges as a text of renewed cultural significance when considered through an ecocritical framework. Similarly, *Star Wars* also assumes new

significance when read through the disaster narrative of the Anthropocene. Donna Haraway argues that in the trouble and the rubble of these times ahead of us we need to make 'oddkin; that is, we require each other in unexpected collaborations and combinations, in hot compost piles' (2016, 4). In bringing together the hitherto unlikely combination of Star Wars and After Earth, this chapter leverages an act of oddkin making to unveil some mutually aligned processes and mutations that occur in the compost piling of the two.<sup>16</sup> In spite of their outward differences both offer similar imaginings of disaster. Through these films this chapter reveals how science fiction cinema is changing, and argues that these changes are eco-oriented. In doing so it places science fiction cinema into the heart of contemporary ecocritical debates, unveiling these films as key stakeholders in imaging, and imagining, the Anthropocene.

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16 Moreover, this analysis of Star Wars from an ecological perspective is in itself seemingly unlikely. There is a wealth of academic writing on Star Wars, but none

of it, that I can find, takes an ecocritical lens. The Star Wars canon has been analysed and understood in terms of race (Nama, 2008; Wetmore Jr., 2005), gender (Tasker, 2019; Cocca, 2016; Harrison, 2018), fandom (Brooker, 2002; Shefrin, 2004; Hills, 2003) and merchandising (Brown, 2018; Kapell and Lawrence, 2006) in particular. Hopefully this thesis, as well as some of the ancillary outputs around it (Neilson, 2019; Neilson, 2017), will be amongst a new influx of writing on Star Wars from an ecocritical perspective.

# STAR WARS: FROM THE DEATH STAR-TO-STAR KILLER BASE AND BACK AGAIN

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"I think it is time we demonstrated the full power of this station. Set your course for Alderaan". Grand Moff Tarkin (Peter Cushing) snarls this order at his subordinates as Princess Leia (Carrie Fisher) is brought in before him for the full power of The Empire's terrifying new weapon, the Death Star, to be put to the test. This aptly named device is a planet shaped battle station that lurks in the cosmos of Star Wars' galaxy far, far away. The Death Star harbours a highly destructive laser that has the ability to destroy an entire planet in one hit. In an iconic sequence in 1977's *Star Wars* we see Grand Moff Tarkin demonstrate its power by destroying Princess Leia's home planet of Alderaan. When Tarkin gives the command to fire on Alderaan a flurry of activity occurs as levers are pulled and buttons prodded to "commence primary ignition". A stream of lasers coalesce outside the Death Star before singularly advancing towards the target planet. Upon impact Alderaan explodes immediately, a fiery cloud violently erupting from its core to emphasise the complete and utter destruction exacted upon the planet by this technological behemoth. The immediacy of the destruction, alongside its perpetration by a military agent, is redolent of the machinations of a nuclear strike, as discussed earlier. The incredibly short timescale of this event is emphasised in the cut away to those on board the *Millennium Falcon*, wherein Obi Wan Kenobi (Alec Guinness) staggers and has to sit down, "I felt a great disturbance in the force. As if millions of voices cried out in terror and were suddenly silenced. Something terrible has happened." Sontag's writing on science fiction cinema's preoccupation with



representing nuclear disaster is writ large here. The collective and immediate incineration one gets in a nuclear strike finds form eloquently in the Death Star.

The first two Star Wars films to have been made since Disney's 2012 purchase of Lucasfilm both contain Death Stars. However, these Death Stars of the 21<sup>st</sup> century can be seen to operate rather differently from the original Death Star of 1977. The Force Awakens, in a brazenly self-referential scene, sees The Resistance discussing how to tackle The First Order's "new" deadly weapon, called "Star Killer Base". "It's another Death Star" one of the Resistance members announces, "I wish that were the case, Major", Po Dameron (Oscar Isaac) retorts, "This was the Death Star..." at this point Dameron fires up a hologram display of the Death Star, "...and this is Star Killer Base." The hologram image of the Death Star becomes smaller as the much larger size and scope of Star Killer Base comes to everyone's attention, as seen below in Figure 4. Han Solo (Harrison Ford) jibes slightly later into the conversation, "Okay, how do we blow it up? There's always a way to do that!" My analysis is curiously enmeshed in this self-referential conversation of difference and repetition occurring between the top brass members of the Resistance. On the one hand, as Han Solo would have it, there is always a way to blow these things up. On the other hand, in spite of the surface similarities, Star Killer Base is a uniquely placed object for assessing science fiction cinema's shifting imagination of disaster.



"Death Star" and The First Order's "Star Killer Base" in Star Wars: The Force Awakens.

- First and foremost to the changes between the two is the fact that Star Killer Base is a planet with a weapon in it, as opposed to the Death Star, which was a giant weapon shaped like a planet.
- 74 Star Killer Base has its own atmosphere and eco-system(s): we see its forests, tundras and canyons at different points in the film, which emphasise that this is a planet harbouring life and diverse environments. Not only this, but its weapon is solar powered. Star Killer Base absorbs energy from a nearby star to charge its weapon – spitting this energy back out at one, or several, targets. Much emphasis is given within the diegesis to highlighting the means by which Star Killer Base has to charge up, a process that takes significantly longer than the Death Star's commencement of primary ignition. While there is still very much a sense of technological rooting behind the device, with the familiar shots of buttons being prodded and levers being pulled, its environmental specificities are very much layered on top of this. If the Death Star spoke of a technology of purely destructive force in 1977, this 2015 equivalent uses speciously renewable technologies to facilitate its destructive capabilities.

When the weapon fires for the first time the film cuts to a low-angle shot from the surface of Star Killer Base, displaying a forest

of icy trees bending back and shedding their snow from the force of the blast. This is followed by a shot from behind General Hux (Domhnall Gleeson), seen in Figure 5, wherein we see the assembled storm troopers in front of him as the camera tilts up to the sky, revealing a vast red swathe of energy emanating from the ground. It seems significant that the initial emphasis is on the impact this laser firing has on the environment of the planet itself. The stress here is very much on environments and weather. This is reinforced further when the laser eventually hits its destination planet. There are several POV shots from its inhabitants, and it does not appear as a laser coming down on them but rather a gradually blinding increase in light intensity. Unlike the original Death Star's laser, this attack appears more like strange and dangerous weather than strange and dangerous technology.

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Figure 5 – Star Wars: The Force Awakens' General Hux looks on at Star Killer Base's laser firing behind assembled storm troopers.

The sequence cuts away from these intimate POV shots to long shots from outer space, revealing the various planets as the lasers gradually approach them. When they hit, it appears more akin to a meteor strike than the nuclear bomb we saw in the original. There is a clear point of impact where the laser strikes and a cloud of fire and ash surges from it. Seemingly like a volcano the individual planets erupt with tectonic ferocity, the ground splitting up into layers of crust with a bubbling ocean of lava underneath. The

white and neon flashes that occur when the Death Star destroys Alderaan, and indeed when it is itself destroyed, are a far cry from the geological and environmental aesthetics of Star Killer Base's destructive propensities. Thacker suggests that in the 21<sup>st</sup> century 'the world is increasingly unthinkable – a world of planetary disasters, emerging pandemics, tectonic shifts, strange weather, oil-drenched seascapes, and the furtive, always looming threat of extinction' (2011, 1). Star Killer Base's destructive power emblematises a good number of these looming ecological assemblages of our unthinkable world, with planetary disasters, tectonic shifts, strange weather and the threat of extinction front and centre of its core functionality.

76 Prior to these solar beams hitting their targets, much emphasis is given to the sense of witnessing this event. This is initially evidenced with a shot-reverse-shot of Hux staring on at the beam of energy emanating from Star Killer Base. It is further reinforced as the beams arc through space with a medium shot from behind Kylo Ren (Adam Driver) as he and those aboard his Star Destroyer gaze on in silenced awe at the scene unfolding before them, watching the red laser arc somnambulant through the cosmos. From here the film cuts to Finn (John Boyega) and Han Solo by Moz Kanata's (Lupita Nyong'o) tavern, both watching the sky in disbelief as they see the laser approaching a nearby planet. This whole sequence of events, from Star Killer Base firing to hitting its targets, occurs over the course of one minute and twenty seconds, this sits in stark contrast to the couple of seconds it took between the Death Star's laser commencing primary ignition to Alderaan being incinerated. Here there is a pause for thought and reflection on what is occurring, a sense of being in the event as it unfolds, as opposed to purely being granted a sense of retrospective shock, as per the Death Star.

What we see here is an engagement with the more drawn out timescale of the disaster event of the Anthropocene that we exist

within, all be it one that exists on a much slower and drawn out scale of time. As Chakrabarty would have it, ‘the very language through which we speak of the climate crisis is shot through with this problem of human and in- or non-human scales of time’ (2009, 44). In the context of the vast timescales that the geological and environmental changes of planetary systems occur across, we quite literally have the time to bear witness to and think on the environmental consequences of our past, present and future actions as they spectrally accumulate before us. Here the processes of witnessing undertaken by General Hux, Kylo Ren, Finn and Han Solo echo that of the audience as we are provided a pause for thought to witness and ruminate on this unfolding disaster. While the one minute and twenty seconds afforded the disaster in this sequence is not even close to the tens of thousands of years we have to grapple with in the deep time imbrication of the Anthropocene, it is a clear step towards it, especially when compared to the near instantaneousness of

77 the nuclear destruction emblemized by the original Death Star. Hamilton, Bonneuil and Gemenne argue that ‘the timescale of the Anthropocene goes far beyond what the human experience is able to comprehend’ (2015, 10), and indeed it is a timescale that is thus rather difficult for cinema to grapple with in turn. My fourth chapter will return to this issue of cinema’s grappling with the seemingly incomprehensibility of Anthropocene time in much more detail.

Further to this, Star Killer Base’s own destruction seems to echo its destructive capabilities. When the space station’s “thermal oscillator” has been destroyed the entire surface of the planet creaks as if in a disastrous seismic event. Huge canyons open in the ground, emanating gigantic plumes of fire and lava that hazardously leap from them, destroying escaping TIE Fighters in the process. “Supreme Leader. The fuel cells are ruptured... the collapse of the planet has begun”, Hux relays to Supreme Leader Snoke (Andy Serkis) via intercom. This sense of collapse

seems key in terms of further differentiating the destruction of the original Death Star from that of Star Killer Base, the destruction of Star Killer Base is not only more geological than the destruction of the Death Star but also far more gradual. Kylo Ren's battle with Rey (Daisy Ridley) has time to reach its conclusion before they are dramatically separated by a gaping chasm in the ground. There is still plenty of time for key members of The First Order to evacuate once the collapse of the planet has commenced. No such luxury was afforded Grand Moff Tarkin or the millions of other Imperial troops aboard the Death Star. Evidently the same logic of a drawn-out timescale and an environmentally framed aesthetic of devastation apply as much to Star Killer Base's destruction as it does its own destructive capacities.

78 If we think back to the Resistance's conversation about the similarities and differences between the Death Star and Star Killer Base, and re-assess it in the light of this analysis, what we see in *Star Wars: The Force Awakens* is a function of narrative repetition layered with representational difference. *Star Wars: The Force Awakens* uses "another Death Star" to facilitate the same narrative crescendo and establish the might of The First Order in a manner that is identical to its predecessor, the 1977 original. The means by which it reaches these ends is however very different, and seems contextualised and concomitant with the heightened stress on ecological thought and threat in the context of a rapidly warming climate. What was once an image of technological mastery and supreme destructive capability is now environmentally galvanized. Star Killer Base is solar powered, it is a planet with its own atmosphere and ecosystem(s), there is a sense of timescale attached to its processes of destruction (a sense of being in the event), when it strikes it does not appear as a bomb exploding but as a weather system enclosing or a volcano erupting, and when it is itself destroyed it does so through a hyperbolised geological calamity, a collapse. What we see here is contemporary science fiction cinema altering its imaginations

of disaster in manners that speak in line with the Anthropocene context, its emphasis on timescale and environmental collapse at the forefront of these shifts.

Similar processes of ecologically contextualised representational difference occur within 2016's *Rogue One: A Star Wars Story*.

What makes this particularly interesting is that in *Rogue One* it is not "another Death Star", as per *The Force Awakens*, it is, in the framework of the plot, the very same Death Star that audiences saw for the first time in 1977. Given that within the narrative this Death Star is disclosed as being one and the same as that seen in the original film, ostensibly you'd expect there to be absolute continuity in representation. In terms of the shape, form and scale of the Death Star itself, it is precisely the same: it looks the same and broadly speaking it does the same things. However, the representations of its destructive capabilities are quite different. There is one sequence in particular where this becomes

79 apparent. The Death Star's laser fires on Jedha City, and makes immediate impact on its mark. A medium shot from outside Jedha City reveals a huge and blinding flash of light emerge from the point of impact, with a seeming mushroom cloud effect emanating from the centre of the blast. At first one would think this clearly speaks in line with nuclear imagery, and indeed such readings would not be without their merits, but this blast swiftly transforms into something quite different. The dirt appears to rise up from the ground as if mountains are uprooting, forming a huge relentless cloud which spreads like a pyroclastic flow. Forks of lightning are seen to streak across this muddy cloud of destruction as it approaches Jedha City. In images redolent of Pompeii's destruction by Mount Vesuvius, ancient statues begin to crumble as if in an earthquake and inhabitants of the city are seen to desperately flee (Figure 6). The volcanic and seismic imagery that this sequence hints at is presented wholesale with a cut to a medium tilt shot from outer space, unveiling a gigantic cloud of ash and cinder emanating from the point of impact spewing

rock and fire out into the void of space. The initial atomic blast we are offered mutates into an Anthropocene-inflected behemoth, enveloping the city of Jedha through a kaleidoscopic stitching of dangerous weather which includes volcanoes, earthquakes, mudslides, sandstorms and thunderstorms. While *Rogue One* cannot escape that there is a technological underpinning to its Death Star, as per the original film, there is a clear feeling of the narrative eschewing this fact once the destruction commences, with the neon green of the laser quickly forgotten for the earthly hues of the storm. The nuclear and technologically destructive capabilities of 1977's Death Star are now lent an environmental façade. Here, again, the *Star Wars* franchise makes a revenant of the Death Star, retroactively fitting it towards inherently more environmental imaginations of disaster.

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Figure 6 – An inhabitant of Jedha City looks on as the laser's cloud of destruction advances on them in *Rogue One: A Star Wars Story*.

The temporal stretching and geological emphasis of *Rogue One* and *The Force Awakens*' Death Stars seem concomitant with the shape and form of the Anthropocene context's disaster narrative, which occurs across vast time scales and upon the Earth's ecological, and geological, equilibrium. However, in spite of this clear shift in representation, these Death Stars are still concerned with wholesale destruction in a manner akin to a nuclear device, while the means may be different the ends are very much the



same. In this movement from a nuclear bomb to an approximation of an eco-bomb there is a sense of mediation at play in Star Wars' various Death Stars. This tightrope walk of representational obligation speaks neatly in line with what Colin B. Harvey would refer to as the vertical memory of transmedia, wherein 'transmedia storytelling projects...are defined by memory' (2015, 183). These latest entrants to the Star Wars saga are seemingly caught in a finger trap of representational obligation between the franchise memory of the original Death Star, and a disaster imaginary suitable for the Anthropocene. In the process we are proffered a negotiated imagination of disaster, rather than something entirely new.

Other franchises can be seen to negotiate their transmedia memory against their imagination of disaster in startlingly similar ways. *Independence Day: Resurgence* (Emmerich, 2016), for instance, follows the same pattern of representational difference as *Star Wars: The Force Awakens* and *Rogue One: A Star Wars Story*. As briefly discussed earlier in this chapter, 1996's *Independence Day* contains a sequence wherein an attacking alien force use a laser to blow up The White House. Its 2016 sequel uses this alien technology rather differently. While the aliens still use this technology as a weapon, the narrative crux of the film is that they have improved their technology in the 20 years that have passed and are now using this plasma laser to drill into the Earth, wishing to access our planet's molten core to power their ships and further advance their technology. These aliens are conveyed as interstellar miners industrially farming other planets for energy, as opposed to being ambiguous foreign aggressors as in the 1996 original. This is very similar to *Star Killer Base's* consumption of energy from other planets, and the geological emphasis behind this new alien laser clearly echoes the geological destruction enacted by the Death Stars in *The Force Awakens* and *Rogue One*. Furthermore, the drilling process in *Independence Day: Resurgence* takes a long time, nearly half of

the film's running duration in fact. This is a significant difference from the immediacy of the laser's destructive capabilities in the original film. Again, we see the same functions of extended duration and geologically destructive weaponry coming to the fore in science fiction cinema's disaster imaginary. Through this example from the Independence Day films we see that it is not just Star Wars that evokes these changes in its disaster imaginary. Star Wars has been used as a representational example of a wider trend.<sup>17</sup>

Indeed, through an examination of Star Wars' various Death Stars the wider picture of the representational shifts occurring in contemporary science fiction films start to emerge. It is herein that *After Earth* is of relevance as an emblematic example of these wider trends occurring across the genre. This film demonstrates an emphatic concern with ecological disaster and the excavation of environmentally momentous  
82 histories, unlocking new ways of comprehending the genre's representational mechanics in the climate of the 21<sup>st</sup> century. *After Earth* will be analysed with reference to other contemporary science fiction films to demonstrate that these shifts are not operating in isolation.

This analysis will be used to display how contemporary science fiction cinema's new imagination of disaster foregrounds environmental concerns of pertinence to the Anthropocene context. Of particular importance to highlight here is that the

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<sup>17</sup> *Godzilla: King of Monsters* (Dougherty, 2019) works similarly in this regard. The original *Godzilla* (Honda, 1954) has been read by Chon Noriega as 'a self-conscious attempt to deal with nuclear history' (1987, 63), with *Godzilla* itself a creature that is both born, and representative, of the atom bomb. In *Godzilla: King of Monsters* the same could be argued of climate catastrophe. The monsters of *King of Monsters*, with the exception of *Godzilla* itself, shed their nuclear heritage and assume environmentally situated histories. For instance, Rodan emerges from the bowels of a smouldering volcano and King Ghidorah often appears in the form of a dangerous tropical storm. The narrative openly suggests that these 'titans' are an ecological fail safe baked into the Earth's geology, designed to neutralise humanity's threat to the global ecosystem. Again, the technological gives way to the ecological in this 21<sup>st</sup> century sequel/reboot of an established franchise.

Anthropocene context is one that is not only debated externally (i.e. whether we actually are in the Anthropocene or not) but one that is rife with internal debates on how we comprehend and navigate its implications. The way that one writer may approach the debate is very different from how another would seek to approach the same problems. For instance, French philosopher Serres' *The Natural Contract* grasps the environmental crisis context quite differently to the way that Moore's *Capitalism in the Web of Life* does. Dipesh Chakrabarty is interested in how our conception and understanding of history morphs in the context of the Anthropocene, whereas Bruno Latour is interested in how the concept of agency shifts through this epoch, arguing that:

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**the point of living in the epoch of the Anthropocene is that all agents share the same shape-changing destiny, a destiny that cannot be followed, documented, told, and represented by using any of the older traits associated with subjectivity or objectivity. (2014, 16)**

The point here is that the Anthropocene upends and starkly calls into question many of the fundamental ways in which we understand the world, and as such the ways in which the Anthropocene itself gets conceptualised and understood are multiple and sometimes contradictory. The following analysis will frame its investigation of the genre's imaginations of disaster not through a singular, static and immutable idea of the Anthropocene but by being attendant to these various Anthropocenes that exist and continue to be negotiated through the sciences, humanities and public domains.

While there are various different ways of grappling with and understanding the Anthropocene context, there is a recurrent thought running through much writing on it. Clive Hamilton, Christophe Bonneuil and François Gemenne succinctly state that,

**The Anthropocene represents a threshold marking a sharp change in the relationship of humans to the natural world. It captures the step-change in the quality of the relationship of the human species to the natural world represented by the 'impossible' fact that humans have become a 'force of nature' and the reality that human action and Earth dynamics have converged and can no longer be seen as belonging to distinct incommensurable domains. (2015, 3)**

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Through this we see that humanity's relationship with, or relations to, the natural world are central to a consideration of the Anthropocene. This is a kernel of thought that is similarly central to ecocritical writing. As Willoquet-Maricondi argues, 'to understand the place and function of humans in relation to the nonhuman world' (2010, 2) is a defining characteristic of ecocritical analysis. So, how we configure ourselves as a part of and apart from nature is one of the most pressing concerns of the Anthropocene, and one of the fundamental touchstones for staging environmental critique. After Earth's imagination of disaster similarly seems concerned with this relationship. It can be seen to stage humans both in opposition to and as a part of nature within its disaster imaginary. This contradictory conflation of binary opposition and collapsed distinction between humanity and nature feels concomitant with the shifting means through which ecocritical thought negotiates its own methods of reading humanity's relationship with the ostensibly 'nonhuman' natural environment. Through title sequence documentary footage, depictions of strange weather and encounters with nonhuman life, After Earth and its likeminded contemporaries present a series of disastrous entanglements and disconnections between humanity and nature. By way of this crisis point of the human/nonhuman relationship we find the genre beating to an ecocritical rhythm that chimes with the ecological imperatives of our times.

# AFTER EARTH: AN IMAGINATION OF DISASTER FOR THE ANTHROPOCENE

After Earth is set 1,000 years in the future. The opening scene reveals that the 21<sup>st</sup> century bore witness to the tipping point of an environmental crisis, which forced humanity to evacuate Earth. The denizens of this future colonise a new planet, called Nova Prime. General Cypher Raige (Will Smith), humanity's most decorated soldier, and his son, Kitai (Jaden Smith) are headed on a voyage through space until calamity strikes and their ship hits an asteroid shower. Their ship crash-lands on Planet Earth with

- 85 Cypher and Kitai as the sole survivors of the crash, alongside a restrained deadly alien, called an "Ursa" that broke free on impact. Cypher is badly injured, with a broken leg, but Kitai is unscathed. In order to send a message back to Nova Prime, Kitai has to trek across the hostile territory of Earth in order to reach the tail section of their ship to launch a rescue beacon. Planet Earth, in the film's future, has been labelled as a quarantine class-1 planet, a result of the dangerous atmosphere and highly evolved creatures it now harbours. Kitai's placement on Earth, back in an abandoned nature, is at the core of the films' disaster imaginary. Kitai's journey across Earth operates as a crisis point that corroborates the difficulty of how we perceive our relationship with nature in the context of the Anthropocene. Thacker's writing on 'the world in which we live as a non-human world, a world outside' (2011, 2) is writ large and hyperbolised in After Earth's narrative, wherein Earth is quite literally a world without humans.

After Earth opens with a series of quick cut flash-forwards to the moment of Cypher and Kitai's ship crashing and then settles on

a medium shot of Kitai lying in a foetal position on the Earth's surface, surrounded by lush green foliage. This image juxtaposes the calming green hues of the flora he is nestled in against the manic breathing he performs in his white synthetic suit. On the one hand we are presented with an image of nature as a maternal support, with his foetal position suggesting a return to a Gaia like force of nature. On the other hand we see nature as oppressor, as per Kitai's struggle for breath and his costume's stark contrast to the surrounding environment. In this opening image we immediately gain a sense of the film's conflation of Kitai both in and out of nature, which opens itself to him yet suffocates him in turn. This internalizing and externalizing of Kitai from nature is a kernel through which much of the film's imagination of disaster revolves. One of the most obvious ways in which it presents this is through its title sequence's deployment of documentary news footage.

- 86** Following on from this opening segment, the film suddenly cuts to black, and Kitai's voiceover begins, "I have heard stories of Earth...a paradise, until we destroyed it." The film then cuts to archive and documentary footage of de-forestation, bellowing steam mills, flooded streets and rioting crowds. Given that these images immediately follow Kitai's voiceover, positing that we destroyed Earth, one takes these images of industrial upheaval and extreme weather as a visual shortcut for the environmental crisis underpinning the Anthropocene context. Clark, commenting on the difficulty of writing on climate change and the Anthropocene, suggests that it is because there 'is no "it", only a kind of dissolution into innumerable issues' (2015, 10). The innumerable issues of this era, of which mass-industrial processes, climate change, extreme weather and civil unrest are all part and parcel, are presented to us viscerally in these opening images of disaster in *After Earth*. It is of particular interest and pertinence that the film presents us with these images of the environmental crisis through news footage, imbuing the text with

a sense of documentary realism that is often absent in the genre given the inherently (science) fictional nature of its narratives. By endowing the ostensibly quite far-fetched narrative trajectory with familiar documentary images, the film bridges an otherwise yawning gap between reality and fiction. The contemporaneous footage of climate change causes and consequences is layered atop the narrative's propulsion 1,000 years into the climate change impacted Earth future. After Earth is not alone in this regard. Numerous other contemporary science fiction films not only immediately call out an the environmental crisis within their title sequences, but often do so via documentary, or documentary-style, news footage. *Snowpiercer's* (Bong, 2013) use of radio newscasts is one such example, as are *Interstellar* (Nolan, 2014) and *Dawn of the Planet of the Apes'* (Reeves, 2014) use of documentary news clips in their title sequences. What we see here is science fiction's imagination of disaster borrowing almost directly from the concomitant environmental disaster of the early 21<sup>st</sup> century. The suggestion being that the disaster imagined on screen is uncomfortably close to the disaster gestating off-screen.

These title sequences have a tendency of making broad-brush strokes in their depiction of humanity as a unitary block of culpability, as seen in *After Earth's* statement that "we destroyed it". *Dawn of the Planet of the Apes'* depiction of humanity from an Olympian viewpoint, a seeming homogenous organism on a petri dish Atlas of the Earth, speaks to this in particular. This image of humanity as a thick globe-spanning slab is redolent of Serres' writing, 'from now on there will be lakes of humanity, physical actors in the physical system of the Earth' (1990, 18). The 'dense tectonic plates of humanity' (1990, 16) that Serres evokes certainly seems emblematised in these title sequences, especially in *Dawn of the Planet of the Apes* wherein humanity truly does appear as a lake or a shifting tectonic plate on the planet. While considering humanity as a mass block of culpability for climate change lacks considered ethical expediency, a subject that my

final chapter touches on in particular, such imagery succinctly harnesses Serres' thinking of humanity as a telluric force. There is a contradiction at play here in Serres' writing though, and it is a contradiction, or perhaps a difficulty, that is at the heart of ecocriticism.

Serres encourages reading humanity and nature as one and the same, he argues:

**the hard, hot architecture of megalopolises is equal to many a desert, to groups of springs, wells, lakes ... or to an ocean, or a rigid and mobile tectonic plate. At last we exist on a natural scale. (1990, 19)**

88 Earlier commenting that 'Man is a stockpile, the strongest and most connected of nature. He is being-everywhere and bound' (1990, 18). Yet, Serres also writes that now the world is 'conquered, the world is finally conquering us' (1990, 12), through climate change. He states,

**earth, waters, and climate, the mute world, the voiceless things once placed as décor surrounding the usual spectacle, all those things that never interested anyone, from now on thrust themselves brutally and without warning into our schemes and manoeuvres. (1990, 3)**

Across this trapeze act in Serres' writing of humanity on the one hand being 'the strongest and most connected of nature' (1990, 18), and on the other being conquered by the world through 'earth, waters, and climate' (1990, 3) lies the difficulty of thinking humanity both in and out of nature. A philosophical conundrum endemic to co-existing with a damaged planet. Indicatively, the role of earth, waters and climate are central to After Earth's imagination of disaster. Through Kitai's interactions with them



this negotiation of humanity as a part of, and apart from, nature comes into view more clearly. One of the most prominent means by which the role of earth, waters and climate is explored in the film is through the weather, which Serres himself highlights as of relevance to the environmental crisis, 'today our expertise and worries turn towards the weather, because our industrious know-how is acting, perhaps catastrophically, on global nature' (1990 27).



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Figure 7 – Kitai looks out on the verdant landscape around him in the opening scenes of *After Earth*.

While *After Earth*'s mise-en-scène portrays Earth as a green and tropical paradise (Figure 7), it is also a habitat that exhibits strange and dangerous weather. Humanity's environmental degradation haunts the biosphere of Earth's future in a spectral manner, as it will do 1,000 years from now in the Earth's real future, and as it does today in the present moment. Upon crashing on the planet and taking time to re-group, Cypher is very dramatic in conveying to Kitai the dangers and routines necessary for survival on Earth. Air filtration satchels are required to breathe, and the atmospheric conditions shift rapidly. As Cypher relays,

**The temperatures on this planet fluctuate dangerously Kitai, and most of the planet freezes over completely at night. But there are hot spots, geo-thermal nodes between here and the tail that will keep you warm during the freeze over. You must reach one of these**

## **hotspots each evening before nightfall. Is that understood?**

These thermal shifts are a permanent threat to survival on Earth, and as such Kitai regularly has to dash to find these pockets of warmth to protect himself from the rapid freeze-over.

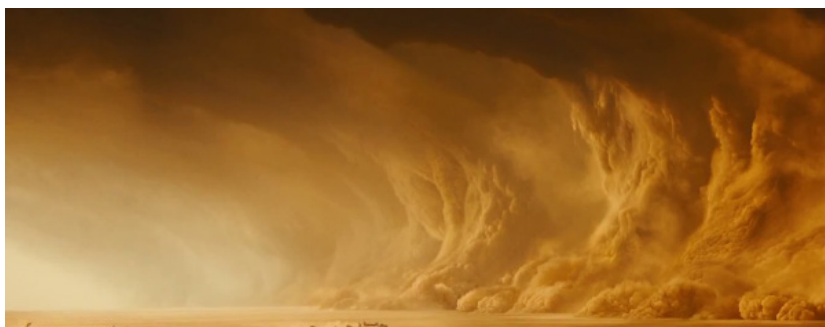
What is particularly interesting about these temperature-dropping sequences is the way that the environment itself responds to the threat. Huge fern leaves fold in on themselves in preparation for the encroaching frost and creatures scurry away in anticipation. There is a sense of unity to the Earth system, as if it breathes collectively in sync with the geo-thermal shifts. This is a far cry from the marked panic seen on Kitai as he runs to find an area of warmth to survive the temporary dramatic shift in temperature. This strange weather then is not simply a compressed hyperbolic reflection of global warming induced weather changes, but an invitation to ruminate more broadly upon humanity's relationship with the environment. Earth's plant and animal life have adapted to the consequences of humanity's environmental degradation, and we see a world thriving without us. Humanity however feels very much like an alien in this environment, which is aesthetically and thematically underscored through Kitai's perilous placement within it.

After Earth's strange weather establishes a future Earth that is no longer suitable for human habitation. What this serves to highlight is both a sense of unity between humanity and nature, with the strange weather being an clear mark of the human activity that preceded it 1,000 years prior, but also rather more viscerally the segregation of humanity from nature through this hostile weather. After Earth's disaster imaginary, as seen in this weather, succinctly showcases Serres' assertion that 'conquered, the world is finally conquering us' (1990, 12). In so doing this film's imagination of disaster shores up the fundamental contradiction

of the Anthropocene context's conflation of the humanity/nature paradigm. The strange weather is a marked result of human activity, highlighting the symbiotic entanglement of the human figure with a purportedly nonhuman environment, but it is weather that ostracises the human from existing in that environment. As such, somewhat contradictorily, we see that *After Earth* displays the human as simultaneously segregated from and entwined with nature in turn.

Strange weather is not a phenomenon unique to *After Earth*. The opening sequence from *Interstellar*, which recounts the dustbowl-inflected "blight" of the Earth's future, speaks to this. The ice-age future of *Snowpiercer* also clearly resonates with my thinking here on science fiction's depiction of strange weather as a trope endemic to conveying the disaster anxieties of the 21<sup>st</sup> century's own strange weather. Other films such as *Mad Max: Fury Road* (Miller, 2015), *Wall-E* (Stanton, 2008), *Bad Land: Road to Fury* (Paltrow, 2014), *Alien: Covenant* (Scott, 2017), and even slightly more ludicrous examples such as *Sharknado* (Ferrante, 2013), operate similarly in their emphasis on peculiar climates. There is a bombastic sequence in *Mad Max: Fury Road* where a car chase drives into the belly of a sand storm that is of particular interest to my thinking here. This sequence opens with a wide-angle zoom out of a string of cars chasing a truck into a storm. The camera's extraction from the cars engaged in the chase emphasises their infinitesimally small size in comparison to the huge weather system that they are about to drive into (Figure 8). Upon entering the storm, the deep orange colour tones that have been prevalent throughout the film, and particularly emphasised in the establishing shot of the sandstorm, give way to strobe flashes of white, blue and red. As Nux's (Nicholas Hoult) car penetrates further into the chaos it becomes clear that this is not a contained weather system, but a kaleidoscopic array of dangerous weathers. To the left of his car lurks a pulsating and huge tornado effervescent with menacing forks of lightning. In

an almost balletic sequence we see one of Imperator Furiosa's (Charlize Theron) pursuers get barged into the tornado, the car full of "War Boys" gets swept up into the swirling mass and their car ignites. Bodies float as silhouettes, some disappearing into the tornado, others smashing into their burning car and one getting spat out towards Nux's car. At this point Nux exclaims with fevered enthusiasm "Oh what a day! What a lovely day!" before opening his nitrous oxide tank and ploughing on towards Furiosa's truck.



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Figure 8 – A string of cars charges into the depths of a sandstorm in *Mad Max: Fury Road*.

This sequence of strange weather is an interesting proposition when read in line with the prior entries in the series. Traditionally the *Mad Max* films, *Mad Max* (Miller, 1979), *Mad Max 2: The Road Warrior* (Miller, 1982) and *Mad Max 3: Beyond Thunderdome* (Miller, 1985), have been understood as having their narratives set in a post-apocalyptic future, one that is presumed to be the result of a nuclear war. This is a position held by Jeffrey Womack, for instance, who argues that 'the overwhelming presence of deserts in contemporary science fiction films makes the most sense when considered in light of their establishment as dystopian images in post-nuclear-holocaust films' (2013, 82). This assertion is complicated when read through an ecocritical frame, as the desert landscape of these films, particularly the latest entry, could now be read as emblematic of climate change induced

desertification, a vision of a world ravaged by the full force of global warming. This said, the vast desert landscapes of each of these films are certainly evocative of the lifeless degradation one would expect from a global-scale nuclear fall out, and in the context of the time they were made it makes sense that this is how they were perceived. *Mad Max: Fury Road* does not eschew the desert landscape imagery of its predecessors, and more than this it actively emphasises the physical mutations of its villains and indigenous creatures, referencing the metamorphoses that can be born of exposure to nuclear radiation. The opening sequence of the film sees a two-headed lizard scurrying along the surface of the sand before getting squashed under the boot of Max. The hideous boils and extravagant breathing apparatus adorned by the film's antagonist Immortan Joe (Hugh Keays-Byrne) further emphasise this sense of a world impacted by nuclear fallout. *Mad Max: Fury Road* is a convergence point where older forms of representation from its predecessors, which speak, or at least were read to speak, towards nuclear apocalypse fears, start to bleed in with the concerns of the Anthropocene present. Here, strange weather and strange lizards operate as totems for the environmental crisis and the nuclear apocalypse respectively. Just as *Star Wars* negotiates its imagination of disaster between technological and environmental concerns, *Mad Max: Fury Road* does so in turn.

The strange weather in *After Earth* works to shore up the problem in ecocritical thought, as per Serres, surrounding how we configure, or think through, humanity's relationship with the environment. The strange weather in *Mad Max: Fury Road* also does this, but it serves additional purposes. It also provides a fulcrum to read the difficulty of asserting the origins of the Anthropocene itself. There has been much debate as to which date the Anthropocene began, namely whether it was the start of the industrial revolution or the moment the first nuclear bomb dropped in 1945. Others, such as M. Balter, would suggest

that the Anthropocene epoch commenced from the birth of agriculture, circa 11,000 B.C (2013). A decision, at the time of this being written, has yet to be made in this regard. Either way, these searches for a starting point may be misplaced. To conceive of the Anthropocene should instead signify not one fixed and absolute concept, but one that is multiple and has no clear inception date. Furthermore, each one of these proposed commencements would provide very different inflections on the implications of this epoch. In the context of these 'Anthropocenes', Mad Max: Fury Road's barren deserts, sand storms and two-headed lizards all operate in unison to shore up and highlight how science fiction's imagination of disaster can be seen to negotiate the Anthropocene's amorphousness.

94 While scientists and scholars negotiate the nuclear and environmental histories of this epoch, Fury Road collapses them. While my opening analysis suggested that nuclear fears and environmental fears are antithetical, Mad Max: Fury Road helps us see a more nuanced and complex relationship between the two. Indeed, the eerie endurance of nuclear radiation certainly sits in line with the sort of deep time thinking and imbrication that humanity has to deal with in the Anthropocene, as Karen Barad argues 'radioactivity inhabits time-beings and resynchronizes and reconfigures temporalities/spacetime-matterings' (2017, G109). In layering strange weather and strange bodies into the same apocalyptic milieu, Fury Road oscillates between the Anthropocene's own negotiated and contested comprehensions. Where After Earth adheres strictly to an ecological view, Fury Road is attentive to the lingering radioactivity of science fiction's past and the contemporary world's present. In doing so it negotiates its imagination of disaster around various Anthropocenes, aligning itself to both the 1945 and industrial visions of this epoch's inception.

These disastrous encounters with strange Earth environments

and treacherous weather are fundamentally of a temporal nature, wherein the denizens of Earth are forced into an encounter with their deceased ancestor's enduring ecological entanglement. This invites one to consider and ruminate on the deep time scale imbrication of the apocalypse narrative that the various conceptualisations of the Anthropocene usher in. This invitation for us to consider the time scales of climatic change is not locked purely to After Earth's weather systems. The film can be seen to quite directly speak to the dizzying multiplicity of pasts locked to the Anthropocene, evoking our collective 'geostory', as Latour phrases it (2014, 3), by staging encounters with Earth's indigenous creatures. Latour posits that 'the problem for all of us in philosophy, science, or literature becomes: how do we tell such a story?' (2014, 3). What is this geostory? For one thing, it is a very complicated story to tell. By the very nature of existing on the same planet, the tadpole in the pond is as caught up in the geostory of the Anthropocene as Al Gore is.

- 95 When one starts to think about history in the Anthropocene, beyond the Chakrabartian sense of human history + geological history = Anthropocene (2009, 201), we get an impression of a vast Russian doll narrative revealing yet another agent, such as deforestation, globalisation, plastics production, steam-engines, consumerism, volcanoes, mining, nuclear bombs, the O-zone, agriculture, desertification, colonisation, the gap between the rich and the poor, capitalism and the expansion/regression of ancient civilisations, to name but a few, as tangled up in the thickly weaved web of climate change. Each step towards further specificity merely shedding another layer and unveiling another participant and/or victim embroiled in a vast and seemingly impenetrable tale.

What we see in After Earth, through Kitai and Cypher's interaction with Earth's creatures, is an attempt to weave the complexity of this geostory into its narrative, pointing to the multiplicity of pasts that accumulate to produce the conditions of the Anthropocene. More specifically, After Earth can be seen to

use this geostory as a means of engaging with ecocriticism, providing a platform to reflect on how we configure the human as variously in and out of nature. When Kitai begins his journey to the crashed tail end of the ship he has to climb a huge cliff face to progress, upon cresting this cliff there is a dramatic moment where the camera sweeps around him in a medium-long shot which gradually reveals more and more of Earth's rich wildlife. Birds flock in the sky above him, trees bustle with life across the horizon and a huge herd of buffalo are revealed to be roaming the grasslands to Kitai's left (Figure 9). The use of buffalo here is particularly instructive. During the colonisation of America white settlers slaughtered an almost unbelievable amount of these animals for sport. As Scott Taylor details, '10 to 15 million buffalo on the Great Plains were killed in a punctuated slaughter in a little more than 10 years' (2007, i). Prior to their arrival the buffalo herds were sprawling, their numbers stable and sitting in harmony with the sustainable hunts carried out on them by the indigenous peoples of America, who pursued them for meat and furs. In the 16<sup>th</sup> century there are estimated to have been around 30 million buffalo in America, by the late 1880s fewer than a couple of hundred plains buffalo remained. Taylor goes on to ruminate that 'while the 19th century is surely one of the most inspirational periods in American history, it also bears witness to a less flattering record with regard to the environment' (2007, 1). The evocation of the tragic slaughter of the Great Plain's buffalo conjures the processes of environmentally devastating interchanges between people and place in American history, as well as in human history at large.



Figure 9 – Kitai gazes upon a herd of buffalo and flock of birds in *After Earth*.



This is a history of near-genocidal betrayals against native peoples, falsified land ownership, excessive mining and a general malaise of pillaging, be it against the land, its creatures or its native inhabitants. Andrew C. Isenberg echoes Scott Taylor's position within *The Destruction of the Bison: An Environmental History 1750-1920*, positing that:

**a host of economic, cultural, and ecological factors herded the bison towards their near-extinction...Those encounters were both a process of intercultural and ecological exchange and an interaction between people and a place, the nonhuman natural environment. (2001, 1)**

97 The slaughter of the buffalo, and the tale of the colonisation of America that sits behind it, is in many senses a microcosm of the Anthropocene itself. It is emblematic of capitalist, colonial and industrial processes' damaging environmental altercations with the nonhuman natural environment. Herein *After Earth* resuscitates a historical past, leveraging it to interrogate the human figures relation to the nonhuman environment in the bygone past and the speculative future alike. The buffalo here operate as one layer of the figurative Russian doll discussed earlier, disclosing more and more detail to the history of environmental degradation carried out by humanity thousands of years into the narrative's past, and a mere couple of hundred into our own.

*After Earth's* resuscitation of a thriving herd of bison sits as an indictment on humanity's past environmental devastation. On the other hand it suggests that the damage of this slaughter can be repaired, albeit through the wholesale removal of humans from the Earth's eco-system. This is a somewhat controversial stance when read through an ecocritical lens. *After Earth* posits that the bifurcation of humanity and nature, an outsidings of humanity

from Earth in this instance, is necessary for other forms of life to flourish. This sits contrary to the leanings of much ecocritical thinking and philosophy, such as Stacy Alaimo's position that 'the substance of the human is ultimately inseparable from "the environment"' (2010, 2). This image of the buffalo herd seems to affirm and deny Serres' notion of humanity at war with nature. On the one hand this image evokes the history of Europeans' unprecedented slaughter of buffalo, on the other hand we see Kitai looking in contemplative awe at this image of sublime natural beauty. Cypher's speeches on the dangers of Earth's creatures start to come unstuck upon Kitai's very first interaction with them, the implicit meaning being that the most dangerous creatures on Earth are in fact the two humans who have just crash-landed there.

98 This placement of humanity outside of nature, and evocation of the Anthropocene's myriad-layered history of human atrocity, is reinforced in a slightly later sequence in the film. A flashback reveals Cypher on a futuristic form of video call with his daughter, Senshi (Zoë Kravitz). She holds up a copy of Melville's *Moby Dick*. "It's a real book, from a museum. It's *Moby Dick* ... did they really kill these whales?" she asks. "We, Senshi. For their oil, and they almost disappeared. Just before the age of carbon fuels", replies Cypher. There is a pregnant pause after this dialogue exchange, inviting one to think about the environmental histories this short exchange recalls. Instructively, the closing image of Kitai and Cypher leaving Earth witnesses their rescue ship swooping off out of the atmosphere from a low-angle, the bottom of the frame reveals the ocean with a herd of whales spouting off in unison as an almost celebratory trumpeting for the humans' departure. Not only is this a clear call back to Cypher's flashback conversation with his daughter, but it also adds additional thematic resonance to the importance of this geostory to the film's imagination of disaster. Where *Star Wars*' new Death Stars aesthetically contextualise their disaster imaginaries around the

Anthropocene, *After Earth* can be seen to ground its disaster imaginary here around the devastating histories locked to it. The disaster imaginary of this film is not simply situated in the present moment encounters between Kitai and the environment, but with human history at large. *After Earth*'s dive into a deep future is also an excavation into a past topographically layered with disastrous altercations between human culture and nonhuman nature.

99 *After Earth* is not alone in the resonances and echoes it opens up between its narrative's alien/native encounters and Earth history's own alien/native encounters. *Dawn of the Planet of the Apes* similarly stages its narrative around contact between humans and nonhumans, but in manners that more openly reflect on the ethical gap between coloniser and colonised. In the film technologically dependent humans need to use an abandoned hydroelectric dam that sits in the genetically advanced apes' territory, just outside the city of San Francisco. The narrative presents this as a point of frontier tension between the two parties, much like the historical frontier tension between white settlers and native peoples in American history. The opening scene of the film sees the apes hunting for deer with spears they've fashioned out of wood. The hunt is called short when humans appear, clad in brimmed cowboy hats and adorned with frontiersman-esque backpacks complete with shovels and camping equipment. The most prejudiced of the humans shoots one of the apes with his revolver, resulting in a tense standoff between the small band of humans and the incensed inhabitants of the forest. The Cowboys vs. Indians aesthetic and thematic logic of this scene echoes out across the rest of the text through a series of frontier crossings and resource/land grabs incurred by city dwelling humans upon the environmentally situated apes. All of this resonates strongly with the histories of colonial oppression and frontier advancement perpetrated in American history, as per the government's illegal breaking with the sanctions imposed by 1868's the Treaty of Fort Laramie against the Sioux Nations

of Indians, for instance. Moreover, the incurring war in the narrative over the water resource in the forest has retrospectively haunting resonance with the 2017 confrontation between Native Americans and the USA government over the Dakota Access Pipeline. In essence, these confrontations between the human and the nonhuman emphatically evoke a sense of colonial history. Moreover, these histories are inextricably tethered to the broader narrative of environmental degradation and environmental injustice that percolate through the Anthropocene. Just as these environmental and colonial histories echo out day to day, as per the shocking treatment of the peaceful protesters in North Dakota, they do so in their own way through science fiction cinema's disaster imaginary.

100 The means by which these films evoke environmental histories is reflective of Moore's writing in *Capitalism and the Web of Life*. Moore argues that "'The economy" and "the environment" are not independent of each other. Capitalism is not an economic system; it is not a social system; it is a way of organizing nature' (2015, 2). Moore sees the economy, the environment, and humanity as all interdependent aspects of the web of life that cannot be fully understood through Cartesian dualism. In *After Earth's* conjuring of whale hunting and buffalo slaughter this notion of capitalism as an organisation of nature is an expedient concept. It is one that certainly has relevance to the means by which capitalist modes of production consume nature, and the way that ecocritical thought would rebuke such an unsustainable and hubristically anthropocentric system of organisation. Moore insists that:

**the two acting units – humanity/environments  
– are not independent but interpenetrated at  
every level, from the body to the biosphere...  
it means that relations that seemingly occur  
purely between humans – say, culture,  
or political power – are already "natural**

**relations", and they are always bundled with the rest of nature, flowing inside, outside, and through human bodies and histories. (2015, 28)**

101 This seems important in particular for *After Earth* and the way that we see both a history of this bundling and a rebuke to it in turn. Clear juxtaposition is set up between its recalled histories and the narrative present's interactions between Kitai and a human-less planet. The biosphere's relation to Kitai's body is not presented as a flow, but as an obstacle to be overcome, both in the air that he breathes and the temperature shifts he narrowly escapes. Yet this ecological incompatibility is the direct result of an entangled bundling between the human and the nonhuman, be this the buffalo, the whales or the Earth's atmospheric conditions. As such, the notion that human histories and bodies are 'bundled' with the rest of nature is an apt kernel for thinking through the disaster imagined in *After Earth*. The film implies that humanity-in-nature, with the human and nonhuman world interpenetrated deeply at every level, is a disaster. Humanity-out-of nature is configured as the only source of salvation for the nonhuman world and the planet they live on.

Whereas the images of buffalo and whales ruminate on the history of humanity in nature from a historically and spatially contextualised distance, there is a later scene which more directly stages a confrontation between Kitai and Earth's nonhuman inhabitants. Kitai, upon recognizing that he only has two air filtration capsules remaining commits to sky-jumping a good portion of the remaining distance to the tail end of their crashed ship. A gigantic black-feathered bird pursues him mid-jump, at which point he is knocked unconscious and taken hostage by the creature. He awakes at the top of a huge tree in its nest, to find it under attack by a pack of large sabretooth-esque predatory cats that he has to defend himself from (Figure 10). A sense of understanding develops between him and the gigantic

bird when he fights off one of the attacking cats in defense of the bird's hatching chicks. There is a creature feature sensibility to this sequence of events, redolent of legacy films such as *The Land That Time Forgot* (Connor, 1974) and *One Million Years B.C.* (Harryhausen and Chaffey, 1966) in its evocation of beasts lost to the sands of time, namely the dinosaurs and gigantic creatures of deep Earth history. The primordial imagery used in this sequence sits neatly in line with Selmin Kara's writing on the 'primordigital' aesthetic of *Tree of Life* (Malick, 2011) and *Beasts of the Southern Wild* (Zeitlin, 2012) (2016, 9) in relation to what she dubs 'Anthropocenema...a neologism to think about cinema in the age of the Anthropocene' (2016, 9). After *Earth* similarly uses digital technologies to create an image of an Earth inhabited by revenant creatures, be they primordial beasts like the gigantic bird and the large cats of this scene, or the near-extinct whales and buffalo that parenthesise Cypher and Kitai's time on Earth.

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Figure 10 – A sabre-toothed cat snarls at Kitai, off-screen, in *After Earth*.

Interestingly, Kara, in hinting at the future propensities of Anthropocenema, suggests that 'perhaps, the next leap for Anthropocenema will be to stretch its already expanded temporal and spatial boundaries even further, and to project visions of this world entirely-without-humans' (2016, 30).<sup>18</sup> After *Earth* can be seen to do precisely this here, as can other films such

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<sup>18</sup> This seems perhaps an odd statement, as science fiction films have been doing this for decades.

as Wall-E. What this suggests to me is that the genre's spatio-temporal foundations reflect the expanded temporal and spatial thinking the Anthropocene necessitates. As stated in my introduction, Kara's description of Anthropocenema at times is difficult to separate from definitions of science fiction cinema. The intricacies of this aside however, there is more at play in this sequence than these giant creatures suggesting a primordial aesthetic, thus somewhat problematically allowing us to label the film as 'Anthropocenema' (2016, 30). The use of large creatures in this sequence more pertinently seems to recall the history of humanity vs. nature, or more specifically humanity vs. monster, in science fiction cinema itself, particularly in relation to films such as *Godzilla* and *Them!* (Douglas, 1954).

103 Within *Them!* nuclear tests in the New Mexico desert result in the ants which inhabit it evolving into gigantic man-eating monsters. A clear dialogue is set up here between the monsters themselves and the monstrous technology that produced them. Similarly, the original *Godzilla*, and its plethora of sequels, have been historically read as representative of nuclear anxieties. Noriega's aforementioned writing is very instructive in this regard. Writing on some of Japan's monsters, Noriega effectively argues that 'Godzilla vs. Mothra (Okawara, 1964) brings the nuclear dialectic into open conflict: Godzilla (the bomb) versus Mothra (Christianity)' (1987, 70), with both monsters held as totemic representation of different fears in Japanese society. What then are the monsters of *After Earth*? In the context of the film's repeated espousal of the environmental degradation committed by humanity, it is fair to say that these creatures are as much a product of, and representation of, the environmental crisis as *Godzilla* is a product of, and representation of, the nuclear bomb.

Much like the Death Star, the shift from *Godzilla/Them!* to *After Earth* demarcates the movement from a technological monster

(Nuclear) to an ecological monster (Anthropocene).<sup>19</sup> Noriega takes his logic further by revealing its nationally inflected idiosyncrasies, effectively demonstrating that in American monster films,

**the complete Otherness of these monsters is emphasized by their impersonal names: "Them" and "It." The monsters are hated, feared, and eventually destroyed through force, often a variation of the technology that created them. (1987, 67)**

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This is a contrast to how monsters are configured in Japan, wherein they are friend as well as foe, as emblematised by Godzilla. In American cinema, Noriega argues, these monsters are purely there to be despised and destroyed, purely represented as 'Other'. After Earth's presentation of the Other in relation to Earth's creatures sits as an intervention here. In After Earth it is often the human who is in fact presented as Other through the narrative's oscillatory insiding and outsidings of humanity from nature.

Indeed, in the means by which the film recalls the history of environmental devastation committed by humanity, and establishes its future Earth setting as one entirely absent of humans, there is a strong impression of humanity, as opposed to Earth's monstrous creatures, as the Other. This positioning of the human as Other is not just an interesting reversal of the way in which American films historically tend to position the monster, but is a reversal which is very appropriate to ecocritical thinking in the Anthropocene. This aligns my thinking here with the writing of David Martin-Jones, who uses Enrique Dussel to highlight a 'cine-ethics appropriate for the Anthropocene' (2016, 63) in *The Hunter* (Nettheim, 2012) and *Trollhunter's* (Øvredal, 2011) staging

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<sup>19</sup> In the chapter that follows this idea of the 'ecomonster' will be explored to investigate the slippery boundary between the human and the nonhuman in science fiction narratives.



of human/nonhuman encounters. By viewing humanity outside of nature, *After Earth* is able to highlight the stark damage and consequences that human activity has had, and will continue to have, on the environment. Here, by positioning humanity as Other in relation to nature and the Earth itself, we see this reading and positioning reinforced. It seems of particular pertinence in this regard that the gigantic bird ends up saving Kitai's life in expense of its own when it rescues him from a geo-thermal shift in temperature and nests over him for the night, freezing to death in the process. Any monstrosity, or Otherness, of this creature collapses through this act of sacrificial altruism. Instead, humanity and nature coalesce and we get an anomalous impression of Kitai firmly embedded with nature in this sequence. However, it is an action that in fact affirms the film's position that collapsed distinction between humanity and nature is one that profits the former and destroys the latter. Through this assimilation the bird (nature) dies and Kitai (humanity) thrives. The bundling of the two

**105** benefits the human at the expenditure of the nonhuman.

*After Earth's* imagination of disaster has little of the explosive impact and dynamism of *Star Wars'* various Death Stars. The disaster imagined in *After Earth* is often one landed at from a quiet sense of slow rumination, a process in itself that seems appropriate for the enlarged timescale of geological change. The film makes one consider the disastrous bundling, to use Moore's language, of humanity and nature by excavating topographical histories of human/nonhuman entanglement and altercation. Through its own bundled layering of environmental disasters in the narrative present, such as Kitai's altercations with the atmosphere, as well as the narrative past, such as the evocation of colonial buffalo slaughter, *After Earth* oscillates between a view of humanity as a part of nature, and humanity as apart from nature. The human is simultaneously independent, an alien figure to Earth, and interpenetrated at every level, an ancestrally entangled spectre. It is a position that encourages one to accept

and recognise the history of, and future propensity for, ecological devastation perpetrated through humanity's placement in the web of life. In so doing we see science fiction cinema's disaster imaginary, in this film as well as those referenced through the analysis, not just aesthetically orienting itself around the Anthropocene, like the Death Star, but embroiled ethically and philosophically with the challenges this epoch faces us with.

# CONCLUSION: BEYOND AFTER EARTH

Just as *After Earth*'s imagination of disaster negotiates the figure of the human in relation to nature so too does much ecocritical thought, as seen in the above use of Serres, Moore and Thacker. These names are but a small number of writers considering this question of how the human relates to that which has historically been considered separate from us, variously described in this chapter and elsewhere in this thesis as "nature", "environment", the "nonhuman" and "more-than-human". Alaimo, Timothy Morton and Haraway's work on symbiotic entanglement in *Bodily Natures*, *Humankind* and *Staying with the Trouble*, respectively, are of further interest in this regard, and it is herein that productive lacunae are revealed from this analysis. For instance, how do their interventions in this field relate to contemporary science fiction films? While *After Earth* presents a unified vision of a human body, other contemporary texts, such as *Annihilation* (Garland, 2018), present a more porous vision of the human form. In the chapter that follows *Annihilation* will be used to explore this related aspect of human/nonhuman relations, unveiling a similar shift from the technological to the ecological in science fiction's posthuman imaginary. *Annihilation* rebukes *After Earth*'s suggestion of humanity outside of nature as an appropriate stance for thinking human/nonhuman encounters in the Anthropocene. Instead it is much more concerned with collapsing the distinction between the two component parts of the paradigm.

This analysis has also suggested that a good number of other contemporary science fiction films' disaster imaginaries operate similarly to *After Earth*. *Interstellar*, *Dawn of the Planet of the Apes*, *Snowpiercer* and *Mad Max: Fury Road* all have similarities

in their imagination of disaster. Each of these films variously use documentary footage, strange weather and human/nonhuman encounters to evoke disasters of resonance to the consequences of, and histories tethered to, a warming climate. After Earth has been used here to gesture towards wider changes and shifts in representation occurring across the genre, suggesting what its imagination of the disaster looks and feels like in the 21<sup>st</sup> century. While this analysis has centred on three tropes (documentary footage, strange weather and human/nonhuman contact) as emblematic of this new disaster imaginary, there are almost certainly other occurrences and trends ancillary to this. For instance, the emphasis on subsistence farming techniques found in *The Martian* (Scott, 2015), *IO: Last on Earth* (Helpert, 2019), *The Survivalist* (Fingleton and Shackleton, 2015) and *Badland: Road to Fury* suggests another eco-facet to science fiction's imagination of disaster in the Anthropocene. This chapter by no means claims that all contemporary science fiction films are

**108** concerned with the Anthropocene, nor does it seek to claim that the films explored herein offer a flawless view of the epoch. Quite the contrary, as my analysis evidences there is no universal agreement on what the Anthropocene is, does or means. Instead, the purpose has been to point towards a trend by way of these chosen examples, which can all be banded together through their shared imagination of disaster. After Earth and Star Wars' new Death Stars variously unveil deep time, Earth history and unruly environments as the touchstones of their disaster imaginary. This succinctly and critically reflects upon the Anthropocene's own disaster narrative, which occurs across long stretches of time and upon the nonhuman natural environment. Sontag's claims hold true. These are not films about science, they are about disaster. More specifically, they are about the disaster of the Anthropocene.

## CHAPTER 3

# **NONHUMAN PERSPECTIVES: ANNIHILATION, ECOMONSTROSITY AND THE POSTHUMAN**



This chapter argues that *Annihilation* (Garland, 2018) offers a re-imagining of the posthuman in science fiction cinema. It is a posthuman formulation that encapsulates the troubled human/nonhuman paradigm wrought through the Anthropocene context. Through an introductory analysis of *The Terminator* (Cameron, 1984), *Terminator 2: Judgment Day* (Cameron, 1991) and *The Thing* (Carpenter, 1982) this chapter argues that historical posthuman imaginings in the genre, be they metallic or fleshy, offer a set of anthropocentric perspectives that value the sanctity of the distinctly human form. *Annihilation* sits as an intervention in this historical tendency. *Annihilation*'s representation of chimeric species reflects critically on the interdependent tangles between different forms of life that are borne through extreme environmental pressures, as per our warming climate. In doing so this film feels grounded by, and reflective of, the posthuman philosophies found in the work of theorists such as Stacy Alaimo, Rosi Braidotti, Cary Wolfe and Donna Haraway. These

110 writers' work will be used to untangle *Annihilation*'s relation to the pressures placed on human/nonhuman relations in the 21<sup>st</sup> century. Through its presentation of what are referred to as 'ecomonsters' this chapter unveils that just as the genre has a new imagination of disaster in the Anthropocene, there may be a new posthuman emerging in turn.

Where Susan Sontag saw disaster as the most notable aspect of the science fiction film, others place a similar emphasis on the importance of the posthuman. *Blade Runner* (Scott, 1982) is perhaps the most cited of these in relation to the genre's representation of cyborgs, mentioned frequently in relation to postmodernism and posthumanism.<sup>20</sup> However, the genre's

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20 'Ramble City: Postmodernism and *Blade Runner*' (Bruno, 1987) and *Terminal Identity: The Virtual Subject in Postmodern Science Fiction* (Bukatman, 1993) are two such examples of postmodern writing. In terms of posthumanism, Haraway's seminal 'A Cyborg Manifesto' references the film, arguing that 'there is no fundamental, ontological separation in our formal knowledge of machine and organism, of technical and organic. The replicant Rachel in the Ridley Scott film *Blade Runner* stands as the image of a cyborg culture's fear, love and confusion' ([1984] 2017, 325).

conjuring of posthuman forms has a much longer lineage than 1982. More than five decades prior to *Blade Runner*'s release Fritz Lang pictured an automaton disguised as a human being in *Metropolis* (Lang, 1927). The cross-fade editing deployed in this film, where a human's face and a machine's face sit atop one another, effectively established a blurry boundary, distorting that which constitutes the realm of the human to that of the machine, or nonhuman. This kernel of thought provoked by Lang's visuals, inviting us to consider what is and is not human in relation to technology, has gathered steam through the 20<sup>th</sup> and 21<sup>st</sup> century as technology has developed rapidly. Indeed, the movement from the steam-age industrial visions of Lang's *Metropolis* to the digital technology that pervades *Blade Runner*'s dystopian city speaks further to the science fiction films' entanglement with the technological milieu of their production.

111 Technological advancements have placed new pressures on defining what precisely the human is, was or can be. As David A. Mindell's *Between Human and Machine* argues, in the 20<sup>th</sup> century, 'people were entering into new, intimate couplings with machines, with dramatic effects' (2002, 2). Sherryl Vint's writing on technology and subjectivity in *Bodies of Tomorrow* echoes Mindell's, arguing that:

**technology is rapidly making the concept of the 'natural' human obsolete. We have now entered the realm of the posthuman, the debate over the identities and values of what will come after the human. (2007, 7)**

These technological advancements oscillate from the profound, such as developments in genetic code alteration, to the rather more eerily humdrum, such as the need to tick a CAPTCHA box to prove that 'I am not a robot' while surfing the web. Both leave one with a distinctly science fictional aftertaste, a sense of sharing the space of the world with the machine, a peculiar sensation of living

in a future that is happening now. Alongside Blade Runner, the Terminator films seem another obvious correlative for considering the human's imbrication with, and battle against, technology. It seems no coincidence that news articles on advancements in AI technology are awash with images of the red-eyed steely-grinned T-800 (Figure 11).<sup>21</sup> Such images not only speak to the uncanny allure and inherent dread of such technological advancements, but further suggest that science fiction cinema remains our grounding referent for considering the posthuman.

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Figure 11 – The T-800 in Terminator 2: Judgment Day surveys the battleground for humans.

A glance at the history of science fiction cinema's posthuman forms would suggest that the genre is emphatically concerned with a techno-scientific figure, which speaks both to humanity's imbrication with technology as well as technology's potential usurpation of the human species. Katherine Hayles underscores two broad narrative trajectories for the human/robot paradigm,

**humans may enter into symbiotic relationships with intelligent machines (already the case, for example, in computer-assisted surgery); they may be displaced by intelligent machines (already in effect, for example, at Japanese**

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<sup>21</sup> As found in Cadwalladr's 2014 piece in The Guardian entitled 'Are the robots about to rise? Google's new director of engineering thinks so ' (2014)



**and American assembly plants that use robotic arms for labor). (1999, 284)**

Broadly speaking science fiction's techno-scientific posthuman narratives conform to these two differentiated arcs of symbiosis or displacement. The first situates the posthuman as a territory where the human and its technology meet and exchange borders, distorting the individual categories of human and machine. Aside from *Blade Runner* this can also be seen in *Ghost in the Shell* (Oshii, 1995), *Robocop* (Verhoeven, 1988), *Pacific Rim* (Del Toro, 2013), *Cyborg* (Pyun, 1989), *Transcendence* (Pfister, 2014), *Blade Runner 2049* (Villeneuve, 2017), and *Elysium* (Blomkamp, 2013) to name but a few. The second sees such robot/human hybridity rejected in favour of a war between the two distinct parts. This can be seen in films like *I, Robot* (Proyas, 2004), *Westworld* (Crichton, 1973), *Oblivion* (Kosinski, 2013), *Hardware* (Stanley, 1990), *Avengers: Age of Ultron* (Whedon, 2015), as well as many others. The Terminator franchise stands out as a particularly useful set of films in this regard, as the series neatly harnesses both of these narrative arcs, with its Terminators variously operating across both registers. As such, in the interest of brevity, this chapter will use *The Terminator* and *The Terminator 2: Judgment Day* as the paradigmatic exemplars of the technological posthuman figure in science fiction cinema.<sup>22</sup> "When the dust settles, the only thing living in this world will be metal", declares Ultron in the second instalment of the *Avengers* franchise. To look at this list of posthuman science fiction films one might think that Ultron was right. All that there is here is metal, with these films fairly ubiquitously emphasising the metallic sheen and the leaden thud of the posthuman form. However, this is not quite the case. There is a less technologically grounded branch of posthumanism, one that is arrived at through a more attentively considered ecocritical frame of reference. It

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22 Others similarly situate these films as the exemplary embodiment of science fiction's posthuman forms, such as Scott McCracken in *Cyborg Fictions: the Cultural Logic of Posthumanism* (1997, 288).

emphasises an enlarged distribution of agency amongst various forms of life and, to that end, it pays a greater deal of attention to the ostensibly nonhuman natural world. As Braidotti puts it,

**an altogether different and powerful source of inspiration for contemporary re-configurations of critical posthumanism is ecology and environmentalism. They rest on an enlarged sense of inter-connection between self and others, including the nonhuman or 'earth' others. This practice of relating to others requires and is enhanced by the rejection of self-centred individualism. (2013, 47-48)**

114 In the context of a rapidly warming climate and the anthropocentrically induced extermination of 60% of the planet's animal populations,<sup>23</sup> such a re-calibration of posthuman thought is of the utmost relevance and importance in the early 21<sup>st</sup> century.

The 'post' of this ecological posthuman assumes a different quality to that of the technological posthuman. It is a 'post' that is not necessarily about an advanced or changed human, but about critically thinking beyond the human through the nonhuman natural world. While it is to an extent obvious how technology permeates our quotidian practices and bodies, it is perhaps less obvious how and where nonhuman creatures and environments spill into the realm of the human. Though it is often less tangible, it is certainly no less real or prevalent. For instance, I cannot readily experience how humanity's accumulative carbon emissions have contributed to warming waters, which, for instance, are killing off sand eels in the North Sea, which, in turn, are causing puffins and guillemots on the Scottish coast to starve. My difficulty in accessing such potentially localised effects to petro-

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<sup>23</sup> This data is taken from the WWF's 2018 Living Planet Report (2018).

cultural dynamics, beyond simply reading about it, makes them much harder to comprehend and routinely consider. The very difficulty of this is precisely what makes it so important to the environmental pressures and demands of the Anthropocene. As Alaimo would have it,

**bodies extend into places and places deeply affect bodies. To dramatize oneself in place ... is to critique the rational, disembodied Western subject's presumption of mastery or at least objectivity that is, supposedly, granted by detachment from the world. (2016, 5)**

115 Such a view of this 'trans-corporeal subjectivity' (2016, 5) re-attaches the human to the nonhuman world. Indeed, when switching on my boiler can implicate me in the extermination of endangered avian life in the North Sea, I become just as posthuman and cyborgised as the human/machine hybridity detailed above. Crucially however, the type of cyborg I become feels rather different. It is not a mechanised cyborg, but a composite of human/earth-other. Moreover, this human/earth-other, when read through the disaster narrative of climate change, assumes a distinctly less triumphant tone than that of its technological counterpart. Just as the ecological posthuman form is less visible day-to-day, it is correspondently less immediately observable in the genre when compared to its technological counterpart. Though sequestered, there are still a few discernible examples of what could be dubbed ecological posthumans in the genre. The Thing will be used as a relatively anomalous example of this more ecologically oriented posthumanism, which foregrounds the human body bundled up with various other forms of life.<sup>24</sup>

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24 The Thing is not necessarily entirely unique in this regard, a handful of other films, such as *Invasion of the Body Snatchers* (Kaufman, 1978), *Avatar* (Cameron, 2009), *Evolution* (Had ihalilovi , 2016), *The Fly* (Cronenberg, 1986), *Alien: Resurrection* (Jeunet, 1997) and *Upstream Color* (Carruth, 2013), often orbit around

By way of a juxtapositional analysis between *The Terminator* and *The Thing*, this chapter demarcates what happens, or perhaps what might happen, to science fiction cinema's posthuman imaginary under the weight of the Anthropocene epoch's ecological and environmental ramifications. A close textual analysis of *Annihilation* will be used to more fully unearth how this develops in the genre. Where *The Thing* problematically frames a form of ecological posthumanism, *Annihilation* recuperates and gives more considered attention to the environmental principles that permeate these human/nonhuman bodies. In *Terminal Identity* Bukatman effectively argues that science fiction repeatedly narrates 'a new subject that can somehow directly interface with – and master – the cybernetic technologies of the Information Age' (1993, 1). This chapter extrapolates such thinking away from the Information Age and into the era of the Anthropocene.<sup>25</sup> It argues that *Annihilation* presents a

**116** posthuman subject for the genre that is interfaced not with technology, but with the nonhuman entanglements that ground human subjectivity in the shadow of our newfound geological agency. *Annihilation* announces a rejuvenated posthuman imaginary for the genre, one inextricably linked to the demands of envisioning human subjectivity in the context of overwhelming environmental change. Chapter two argued that there is a new imagination of disaster in the Anthropocene. This chapter argues that there is a new posthuman bubbling to the surface in turn.

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some of the same ecologically contextualised posthuman embodiments that will be discussed in relation to *The Thing*.

<sup>25</sup> This is not to say that the beginning of one necessitates the end of the other. Indeed, the Information Age is no doubt escalating and ongoing. The point here is that, while the Information Age is bundled in with the Anthropocene epoch, both evoke different modes of thinking in relation to human subjectivity.

# THE TERMINATOR AND THE THING: TECHNOLOGICAL AND ECOLOGICAL POSTHUMAN FORMS

117 The Terminator and The Terminator 2: Judgment Day open with the same narrative-framing device. In both films we do not know which of the two persons sent back in time are either the robot sent to kill, or the human sent to save, Sarah Connor (Linda Hamilton) and John Connor (Edward Furlong) respectively. The narrative tension in the film's opening seems succinctly emblematic of the material tension between the human and the machine in the 20<sup>th</sup> and 21<sup>st</sup> century. As Haraway argues,

**by the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs. The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality. ([1984] 2017, 307)**

The cyborg's status as both an imaginative arrangement as well as something grounded in material reality finds voice eloquently in these films. The Terminator both operates as an exaggerated and imagined future being, but one whose very credibility is grounded upon the material reality of machine/human hybridity in the 20<sup>th</sup> century and onwards. Audiences would be less inclined to believe the indiscernible slippage between human and machine if that very ambiguity were not in some way discernible in their day-to-day lives. The twist in Terminator 2 that both of the characters

sent back in time are in fact robots enriches this obscurity. These are films predicated precisely around the slippery boundary between the human and the machine, primarily centred on the tricky task of determining who is human and who is not human.

In the context of this initially blurred boundary between the human and the machine, the ideals and anxieties of the technologically obscured human form are crystallised. Wolfe writes on this branch of technological posthumanism as “transhumanism”:

**Arguably the best-known inheritor of the “cyborg” strand of posthumanism is what is now being called “transhumanism” – a movement that is dedicated, as the journalist and writer Joel Garreau puts it, to “the enhancement of human intellectual, physical, and emotional capabilities, the elimination of disease and unnecessary suffering, and the dramatic extension of life span”. (2010, xiii)**

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The seemingly indefatigable minds and bodies of The Terminator’s various cyborgs stages an apocalyptically framed conclusion to this transhumanist project. Sequences showcasing hundreds of bullets bouncing off the T-800, or the ease with which these cyborgs can perfectly imitate any human voice, succinctly showcase the technologically advanced body as superior to that of the purely organic form. Wolfe goes on to argue against transhumanism, positing that it ‘should be seen as an intensification of humanism’ (2010, xv). I broadly agree with Wolfe in this regard. In its pursuit of a harder, better, faster, stronger body the transhumanist project is, somewhat ironically, very humanistic in its approach, perhaps realising Blade Runner’s Tyrell Company motto of being “more human than human”.<sup>26</sup>

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26 Although the posthuman theories of writers such as Wolfe are often critical of humanism, arguing that humanist ethics have led to disastrous consequences for the ways that we view and exploit the environment, I don’t want to suggest that

The Terminator films seem to reflect this intensification of humanist ideals that are inherent to the technologically advanced posthuman form. Its processes of vision neatly emblemise this. For instance, in *The Terminator*, once it has been established that Kyle Reese (Michael Biehn) is human and the unnamed T-800 (Arnold Schwarzenegger) is the machine, the film cuts to a POV shot from the machine's perspective as it hunts Kyle and Sarah through an alley. A grid-like array of continuous analytical data pours across the red-hued screen as it seeks out its targets. The machinic specificity of this seems to align its aesthetic register with what Joanna Zylińska refers to as "nonhuman vision":

**The term "nonhuman vision" perhaps most readily furnishes readers' imagination with images of CCTV cameras, Google Earth, satellites and drones....The role of such apparatus is thus to enhance limited and partial human vision. (2007, 13)**

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Indeed, at first glance this seems an aesthetic device used to ground the T-800's ontology as bound to the machine, defining it as other-than-human, or 'nonhuman', by way of its cybernetic perspective, which is an enhancement of the more limited capacity of human vision. Yet, the T-800's field of vision, wherein visual data is rapidly analysed and rationalised, seems to be a cybernetically contextualised extrapolation of humanity's processes of perception and rationality. This cyborg perspective in fact aligns the human and the machine, in a manner akin to Zylińska's observation of drone or satellite photographs' oscillation between other-than-human perspectives that are defined and facilitated precisely through the human observer (2017, 13).

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humanism is all bad. Humanist ethics are the basis for human rights and have been great drivers for social change. What I will suggest is that humanism leaves something crucial out of its worldview and mischaracterises the relationship

between humans and their environment. Posthumanism is beginning to recognize this, and ecological posthumanism in particular tries to establish a paradigm that does not assume that humans occupy a privileged place on the planet.

Where Zylinska is hopeful that such interventions, be they drones or satellites, might present a 'posthumanist framework' to 'help us develop a better vision for the human' (2017, 17), *The Terminator* more regressively frames these propensities. Rather than present something other-than-human, this machine instead presents an intensification of the human. The primary-directive driven shrewdness of this machine's perspective feels further reflective of the Enlightenment's reverence for human rationality, with this rationality presented here at a cybernetic limit. As Zylinska would have it, 'technologically enhanced vision is therefore still human, and most definitely humanist, in that it reinforces the visual mastery and material dominance of the observer' (2017, 13). Since a human made this machine, the traces of this heritage are clearly marked, and we literally see this through the machine's own eyes. The eyes/I of the Terminator are derived out of and through the human and thus frame its vision through a distinctly anthropocentric perspective by emphasising visual mastery and a dominant observer.

*Terminator 2's* opening sequence similarly showcases the T-800 searching a biker-gang style saloon for a human body type match. Once the match has been found the machine will dress itself with the human's clothes. The same grid-vision seen in *The Terminator* is used here, and it again serves the dual function of highlighting this character as a nonhuman, whilst simultaneously grounding its processing of data around intensified human processes of perception (Figure 12). Moreover, there is a sense that Schwarzenegger's Terminator is not "complete" until he/it is adorned with the iconographic sunglasses seen in the original feature. George Thorogood's "Bad To The Bone" entering the soundtrack at this point further emphasises that this robot's metallic specificity is perhaps only skin deep. The self-reflexive emphasis given to this moment, with a dramatic low-angle zoom in to a close-up, further enforces the ties between this machine and the human. There is a clear sense that we are not seeing



the “real” Terminator until it is dressed for the part, which is in a human’s clothes and sunglasses. Ultimately, while these films are keen to highlight moments of extreme robotic specificity, they struggle to present the machine as intrinsically separate from the human. Vint argues that:

**the natural body is maintained through a number of boundary lines’ and that, ‘these boundaries have always been unstable, and the recent abilities of technology to modify the body in radical ways make anxiety about these boundaries all the more apparent. (2007, 17)**

121 The Terminator similarly oscillates around this technology/body boundary, and the anxieties that surround it, but reconciles these anxieties through an anthropocentric approach in which the human grounds and defines what the machine does and how the machine does it. These machines exhibit traits and behaviours that often cannot be neatly separated into “human” or “machine”, since both categories are inherently entwined.



Figure 12 – The T-800 finds a human body type match in the opening scenes of Terminator 2: Judgment Day.

The historical lineage between the machine and the human is given instructive context in the closing sequences of both films, which respectively occur in an industrial factory and a steel mill. In The Terminator the T-800 is crushed to death by a hydraulic press, and in Terminator 2 both the T-1000 and T-800 are killed by submersion in molten steel. There is a sense of

these machines returning whence they came, with the human reconciling dominance over it by harking back to a time where the human's control over, and lack of assimilation with, such mechanic apparatus was comparatively unquestioned. The machines of these films can only be destroyed in the manner they were created, which in an inflated historical perspective takes us to the accelerated technological upheaval and production of the Industrial Revolution. The evocation of this era feels significant to this chapter, and the broader thesis. On the one hand this moment in time marked a step-change in humanity's imbrication with technology and on the other hand signified a hazardous turning point in humanity's consumption and use/abuse of natural resources, be that wood, metal, oil, coal, carbon, water or what have you. Eschewing this ecologically attentive understanding of the Industrial Revolution, which has been earmarked as a potential inception date for the Anthropocene itself, these films instead recall them in their finales to reconcile cultural fears

122 of machine/human hybridity. While Michael Northcott argues that 'the claim that the Industrial Revolution commenced a new geological epoch is closer to the literary genre of science fiction than of natural scientific writing...' (2015, 105), it is clear that here science fiction is disinterested in the geological or environmental implications of this past. Here we see this era divorced from ecological understanding and entrenched back into humanist ideals of domination over both nature and machines. The Terminator and Terminator 2 regressively re-frame this historical and material era of machinic production to fit a narrative of more staunchly anthropocentric tenor.

This intensification of the Enlightenment-era humanist project that is found in these machine-human assemblages assumes new pertinence and problems when aligned with the environmental and ecological pressures of the 21<sup>st</sup> century. Hayles argues that, in light of technological advances,

**humans can either go gently into that good night, joining the dinosaurs as a species that once ruled the earth but is now obsolete, or hang on for a while longer by becoming machines themselves. In either case...the age of the human is drawing to a close. (1999, 283)**

123

This seems emblematic of the posthuman hopes and fears that are crystallised in *The Terminator* and *Terminator 2*. However, the ‘age of the human’ Hayles references as drawing to a close by way of this technological endeavour is ultimately unconvincing. To consider the human as separate from the machine is not so simple a task, be that politically or ontologically (Haraway, 1984). As the *Terminator* films have shown us, the machines that may usurp us are ultimately quite similar to, and produced by, the human. Indeed, they are defined and grounded by human rationality and emerge from an industrial history. Instead such narratives foreground and suggest that, far from coming to an end, the age of the human is escalating in intensity.

While the Anthropocene epoch, etymologically speaking, is the age of the human, it is also the era in which we confront our entangled relationship with a multitude of other Earth-bound life, which finds itself in an anthropocentrically induced extinction scenario. Opening thought to that which exists beyond technology and “us” is assuredly more post-human an exercise than scrutinising the ways in which technology changes the notion of what “we”, as “humans”, are. Wolfe contends that the category of “the human” is ‘achieved by escaping or repressing not just its animal origins in nature, the biological, and the evolutionary, but more generally by transcending the bonds of materiality and embodiment altogether’ (2010, xv). The complete lack of nonhumans in these *Terminator* films, with the exception of a few dogs and a lizard, further highlights the clear repression of the nonhuman natural world locked to narratives of human/

machine hybridity. Jacob Wamberg and Mads Rosendahl Thomsen convincingly argue that such emphasis on an advanced posthuman form, inattentive to the agency of Earth-others, feels at odds with the environmental imperatives of our time:

**these desires for perfecting the old human trail have troublesome reminiscences of the fascist and communist visions of the New Human, a neo-classical autonomous body strengthened into superman. What these popular transhumanist visions miss is the radically collective aspect of the posthuman, the possibility of posthuman existence as porous swarm-being, as interface to near and remote parts of the Anthropocene world, as being interlaced with what was earlier bracketed out as environment. (155-156)**

124 The Terminator films are not particularly effective at conveying this de-centralized distribution of agency, and are emphatically disinterested in the role and agency of the environment, be it the geological ground, the earth surface or the oceans, as well as the plants and creatures that inhabit them. This seems reflective of the fact that these films' imaginations of disaster are filtered through the spectre of the bomb, and more broad technological fears. Indeed, Jerome F. Shapiro even uses The Terminator as a key exemplar of 'Atomic Bomb Cinema' in his book by the same title (2002). In line with my arguments in chapter two, it is clear that The Terminator films are representative of a more traditional, technological and Sontagian imagination of disaster.<sup>27</sup>

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<sup>27</sup> Historically, and quite understandably, the academic emphasis on The Terminator has not centred on the ecological context of the film. As per Shapiro's Atomic

Bomb Cinema most writing on the film, and the broader franchise, has centred on its human/technology paradigm, as well as its array of superhuman bodies. Good examples of this include Telotte's 'The Terminator, Terminator 2 and The Exposed Body' (1992), Yvonne Tasker's *Spectacular Bodies: Gender Genre and the Action Cinema* (1993) and Drew Ayers' 'Bodies, Bullets, and Bad guys: Elements of the Hardbody Film' (2008). My work also situates these films in this mould, and ecocritically engages with this academic backdrop to affirm the inadequacies of these films

Where a Cartesian-based humanism would seek to separate and venerate the human from other forms of life, as seen in The Terminator's distinct lack of non-anthropoids, ecological thinking would be critical of this. As such, a posthumanism attendant to the ecological pressures of the Anthropocene should be critical of this in turn. It is herein that The Thing operates as a useful counterpoint to The Terminator's technological posthumanism. Enlighteningly, the opening sequence of the film sees its main character, R.J. MacReady (Kurt Russell) playing a game of chess against a computer, called the "Chess Wizard". Upon losing the game, MacReady simply tips the remainder of his glass of bourbon into the computer's circuit board for it to unspectacularly fizzle out and die. MacReady's off-handed destruction of this machine operates as a pointedly prosaic alternative to the bombastic and narratively crucial destruction of the T-800 in The Terminator and Terminator 2. To be sure, this is not a film concerned with robots, cyborgs or androids. This is a

**125** film concerned with something altogether stranger and more ill defined.

The Thing is set in an Antarctic research outpost and sees the small group of men working there besieged by an alien life form, ominously and appropriately referred to as "the thing". This "thing" was excavated from a spaceship found embedded in thick ice by Norwegian scientists. Upon digging it out and warming it up disaster befalls the Norwegians, in events detailed in the more recently made prequel, confusingly entitled, The Thing (Heijningen Jr., 2011). Carpenter's 1982 The Thing opens with the two surviving Norwegians hunting down a husky dog across the blanket-white tundra. They fire at it from their helicopter and drop grenades around it, but to no avail. The dog finds an American outpost and darts towards it, giving a warm greeting to the men who step out to assess why a helicopter's circling their remote camp. After a communication breakdown, and confusion as to

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from a post-anthropocentric perspective.

the Norwegians' agitated state, the Americans kill the foreigners in self-defense after being fired upon. That night, with the new husky dog locked up in a pen alongside the Americans' huskies, something very unusual happens. The other dogs begin to whimper and bark, and the intruder hound starts to shake with alarming ferocity. Scarlet red tentacles whip out of the animal and they begin to lash around the necks of the dogs around it, dragging them towards its now heaving and metamorphosing fleshy mound of a body. This is the audience's introduction to the thing, an alien life form that engulfs and near perfectly imitates the organisms that it consumes and penetrates.

126 The lack of shape or aesthetic specificity to this thing, beyond its proclivity for the grotesque, is precisely what makes it such a useful platform for ecological posthumanism. While the machine in *The Terminator* has a clearly defined metallic form beneath its fleshy exterior, this creature has no clear or unified essence under its mask of human, or animal, skin. As it is caught mid-transformation we see a misshapen hound's head protrude from its fleshy mass, attached to a crooked neck, tentacles wriggling out from its underside, gigantic hook-like arms extending from it while a toothed flower blooms out of its belly. It is neither mammal, nor bird, nor lizard, nor plant, nor cephalopod, nor canine. It is, quite simply, a morphing thing whose sole defining trait is its "thingyness". Haraway notes:

**modernist versions of humanism and posthumanism alike have taproots in a series of what Bruno Latour calls the Great Divides between what counts as nature and as society, as nonhuman and as human. (2007, 9)**

A modernist vision of both human and posthuman life, wherein life is misleadingly divided into neat and separate little pigeonholes, is rejected by this creature, which so nebulously distorts species specificity. Kelly Hurley, writing on Ridley Scott's *Alien*, perceptively notes that:

**the Alien constitutes a collapsing of multiple and incompatible morphic possibilities into one amorphous embodiment – a logic of “identity” that serves as an alternative, or possibly an ontological challenge, to a human one predicated on a body that’s a discrete, bounded, and stable unit. (1995, 219)**

Where Hurley sees these as a site for turning thought to sexual difference, from an ecological perspective such amorphousness serves additional purposes. The Thing’s chimeric fluidity instead re-configures species specificity towards a view of life’s jumbled up entanglement.

When viewed on a deep timescale humans are as amorphously embodied as the thing or the Alien franchise’s various xenomorphs. We can even see this evolutionary lineage on human bodies today, the eerie endurance of our faintly webbed hands  
127 and feet, as well as the thin layer of water in our eyes attests to our heritage from the ocean. Our stunted coccyx bones haunt us with the forgotten memory of a tail. Any notion of the human subject as a discrete, bounded, unique or stable entity comes unstuck in the wake of Darwinism,<sup>28</sup> and is further shattered through the ecological entanglement that has been brought into stark focus in the Anthropocene. Paying attention to the chimeric forms found in *The Thing* may further fragment such a limited view of the human. Wolfe’s conception of posthumanism is useful in this regard, it:

**forces us to rethink our taken-for-granted modes of human experience, including the normal perceptual modes and affective states**

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28 As Alaimo notes, ‘Charles Darwin, exposing the human as a corporeal amalgamation of creatures both at hand and across vast temporal distances, may have given us our first glimpse of the “posthuman,” which would not imply something that follows the human, but instead, that the human has always already been precisely that which is jumbled with creatures that are both other than and yet the source of the species’ (2016, 115).

**of Homo sapiens itself, by recontextualizing them in terms of the entire sensorium of other living beings and their own autopoietic ways of “bringing forth a world” – ways that are, since we ourselves are human animals, part of the evolutionary history and behavioural and psychological repertoire of the human itself. (2009, xxv)**

The thing’s monstrous alterity gives flesh to this nebulous and ecologically grounded form of the posthuman, staging the human as simply one iteration of life amongst many others in the present, past and deep past.

Following this logic a little further, an ecologically attentive posthumanism would be keen to highlight the ties of shared evolutionary lineage and mutually nourishing life processes that occur between organisms in the web of life, whilst being alert to the vulnerability this mutuality might bring with it. While there is a school of thought that suggests life is borne of competition, vis-à-vis survival of the fittest, there is another which paints quite a different picture, wherein life’s ability to flourish is equally founded on mutuality. By way of an example, Deborah Bird Rose’s exploration of ‘embodied knots of multi-species time’ (2012, 136), using the symbiotic relationship between flying foxes and myrtaceous trees in Australia, is a compelling example of this. The Thing’s visions of amorphous fleshy protuberances suggest a contradictory body that is founded equally on competition and mutuality in turn. In sequences where the thing has cloned a human and been exposed, the human body is swiftly seen in-situ with a plethora of other species. This is however not a vision that suggests the pleasant and paradise-like mutuality of Rose’s flying fox and myrtaceous trees. One of the most memorable examples in this regard sees a severed human head sprout spider’s legs and antenna to scuttle off out of sight of MacReady and the remaining men (Figure 13). Prior to this the head slowly slithered off from an



operating table, tongue impossibly distended whilst slobbering around the human mouth, all the while screams of agony emanating from its septic maw. This is not a vision of flourishing life, this is a vision of multi-species mutuality borne of extreme competition amidst throngs of arcane torment. The absence of pleasure and the emphasis on pain in the thing's tangled multi-species knots in many senses makes it all the more appropriate a figure for considering humanity's entangled relationship with the more-than-human world. In the framework of climate change and modernity's consumerist exertion on the natural world, ecological entanglement in the 21<sup>st</sup> century is more often a painful and harrowing reality than it is a poetic and nourishing process. As Rose makes clear in her article, while the relationship between flying foxes and myraceous trees is a marvel for the imagination, it is also a disaster to behold in the contemporary moment, with both organisms situated as 'victims of a botanical holocaust in which up to 95% of some native forests have been lost (Eby 1995, 129 31)' (2012, 138) due to mass-industrial de-forestation. Moreover, as detailed in my introduction, as a result of anthropocentrically induced high temperatures Australia's flying fox population is being decimated by heat exhaustion (Mao: 2019).



Figure 13 – A still from *The Thing* where its eponymous monster has scampered under a desk to hide from MacReady's flamethrower.

Where Haraway might revel in the fact that 'human genomes can

be found in only about 10 percent of all the cells that occupy the mundane space I call my body' (2007, 3-4), *The Thing* situates this sort of imbrication as a sight of great abject terror. In conveying the thing's multi-species arrangements in such grotesque fashion(s), produced through such evidently painful processes, it locates its ecological posthuman aesthetic rather negatively within the text. This is not necessarily a problem. Indeed, as suggested above, visions of this ensnarled muddle of life suggest the darker consequences that this multi-species mutuality imposes on vulnerable and at present largely nonhuman species. The problem is that *The Thing*'s chimeric visions are firmly located as a site of Otherness, which in fact defines the thing as a singular entity in spite of its Janus-faced and seemingly plethoric multi-species specificity. Much emphasis in the narrative is given to determining who is and who is not human, and what is and what is not the thing. In a manner not too dissimilar from *The Terminator* and *Terminator 2*'s opening human/machine

**130** tensions, *The Thing* ultimately presents the sort of logic that humanist projects are built upon. One sequence in particular emblematises this, where MacReady has a number of the men he suspects to be the thing tied up to chairs as he runs blood tests on them. In applying a hot metal rod to samples of their blood he theorises that if they are, in fact, the thing then there will be a reaction. When Windows' (Thomas G. Waites) blood leaps out of the petri dish with a scream it is clear that he is not human. On torching Windows' clone with a flamethrower, a process of thing extermination seen in a number of prior scenes, it is clear the dichotomy that the film establishes between the human and the thing. These are distinct life forms in direct competition with one another, two very separate and differentiated forms of life locked in battle. A similar sequence in *The Terminator* sees Schwarzenegger's T-800 performing open surgery on his eye in front of the mirror. The machine cuts out and around the organic flesh to reveal the HAL-esque red eye underneath. Both sequences attempt to affirm their robots and aliens as distinct

from the human form through revealing what lies under the skin.

While *The Thing* certainly proffers visions of intermeshed species, it does so in a manner that valorises the sanctity of the distinctively human form which ultimately aligns itself with the anthropocentric posthumanism found in *The Terminator*. In spite of these shortcomings in *The Thing*'s ecological posthumanism, I still think that this film can tell us something about science fiction's posthuman(s) in the era of the Anthropocene, or at least gains new meaning through the Anthropocene context. The narrative's excavation of this peculiar entity from thick layers of ice suggests the kind of ecological monstrosity that lurks in the warming up of the frozen tundra. The narrative's extreme temperatures, be that the environment's harsh coldness or the human's impetus to "heat things up around here", lend added environmental context to the horrors that unfold. The process of alien excavation seen in the narrative is somewhat akin to

131 this chapter's means of excavating this film and hauling it back into dialogue with the contemporary moment. *The Thing*, like its exhumed alien, has sat somewhat dormant of late. In bringing it forth again *The Thing* finds itself entangled with the environmental specificities of the here and now, where, as Childs (Keith David) notes in the film's closing moments, "the temperature is up all over camp".

While, ultimately, *The Thing* and *The Terminator* rest on similarly anthropocentric foundations, it is clear that the means deployed to get to such ends are rather different: one is technological, the other is ecological. I contend that this ecological posthumanism shows more promise for harnessing and conveying the demands placed on posthuman thinking in the Anthropocene than its technological counterpart. Indeed, if 'step one of including nonhumans in political, psychic and philosophical space must... consist in a thorough deconstruction of the concept of "nature"' (Morton: 2017, 10), then the genre's posthuman forms must

pay closer attention to “nature”. While *The Thing* paid much attention to deconstructing correlationist visions of nature, particularly from a Darwinian perspective, it was unable to truly extract itself from anthropocentric representation. It is herein that *Annihilation* offers an alternative, one that brings more fully into view new ways of representing and thus reconceiving the posthuman. While science fiction’s posthuman has traditionally had quite a humanist inflection, in both its metallic and fleshy forms, *Annihilation* presents an intervention in this trend. Through the writing of philosophers such as Alaimo, Braidotti, Haraway, Harman, Morton and Zylinska the following analysis will use *Annihilation* to unveil a posthuman imagination in the genre that chimes with the trans-corporeal entanglements of the Anthropocene.

# ECOMONSTROUS ENCOUNTERS IN ANNIHILATION

133 Annihilation is adapted from the first of Jeff VanderMeer's Southern Reach trilogy (2014). The film is set a year in the wake of cellular biologist Lena's (Natalie Portman) mourning for her husband's presumed death on a military operation. One evening, still deep in the throngs of grief, her supposedly dead partner Kane (Oscar Isaac) suddenly appears at her house. He acts very strangely and it becomes clear that he is dangerously sick. Lena starts to rush him to hospital, at which point they get ambushed by a SWAT team, who abduct them to a secret government facility called "Area X". It is revealed to Lena that Kane was the sole survivor of a secret operation to investigate a mysterious extra terrestrial anomaly that crashed into a lighthouse on the US coast 3 years prior. A strange shimmering light emanates and rapidly spreads from the epicenter of this lighthouse. It is referred to as "The Shimmer". Lena joins a small, all female, team of scientists, including a psychologist, a physicist and a geo-morphologist, to enter and investigate this strange and nebulous realm (Figure 14). It is Lena's hope that she will find a cure for her husband in the heart of The Shimmer. However, much like in *The Thing*, all of these scientists get rather more than they bargained for in their passage through this alien territory.



Figure 14 – The team of scientists venture forth into The Shimmer in *Annihilation*.

134 *Annihilation* opens with a medium-shot of Lena sat on a chair in a medical gown. A room full of doctors in surgical masks are eerily observing her from next door. Benedict Wong's character, Lomax, stands perplexed before her in an NBC suit. "What did you eat? You had rations for 2 weeks, you were inside for nearly four months"... "I don't remember eating", she says. "How long did you think you were inside?" "Days...maybe weeks" "What happened to Josie Raddock?" "I dunno". As the interrogation unfolds she replies "I dunno" to a good number of his questions, until he wryly asks, "What do you know?" A close up of her face, which drops down mouth agape, unveils that clearly there is little she knows in relation to whatever events unfolded. At this point the film dissonantly cuts to a long shot of a meteor flying through space, hurtling towards Earth, until another edit cuts to a medium-long shot of a lighthouse by the sea, which the meteor crashes into soundlessly. This perplexing opening scene effectively establishes a warped anthropocentric view, wherein a human subject is being interrogated and revealed to be cognitively impotent. This lack of knowing is then emphatically tied up to the lighthouse and the meteor that crashes into it through the parallel editing. The destabilized view of the human subject introduced in this sequence is thus aligned with this extra-terrestrial event – furtively suggesting that the category of the human becomes unknowable, or unknowing, in the wake of this crash.

Lena, a psychologist called Dr. Ventress (Jennifer Jason Leigh), a parademic called Anya Thorensen (Gina Rodriguez), a physicist called Josie Radek (Tessa Thompson) and a geo-morphologist called Cass Sheppard (Tuva Novotny) are the team that head into The Shimmer in the wake of the unsuccessful, all-male, military operations preceding it. "The mission statement is to reach the supposed source of The Shimmer, the lighthouse, enter, acquire data and return" says Dr. Ventress. While each of the women have rather different personal mission statements, such as Lena's wish to try and save her husband's life, this simple premise is broadly how the narrative plays out. When we first see The Shimmer it is presented seemingly as a strange environmental, meteorological or atmospheric phenomenon. An eerie and chaotic soundtrack crackles as if an approaching thunderstorm looms as Lena steps outside Area X to gaze upon it. The sequence cuts to a long establishing shot of the field outside the base. A strange jellyfish like purple, turquoise and blue glow emanates from the

135 trees and the clouds above the canopy.<sup>29</sup> The human research base, juxtaposed in the reverse shot, looks very grey and drab in comparison. Indeed, the humans themselves also look rather drab in contrast as they approach The Shimmer's outer limits on the first day of their expedition. Their military grade uniforms offer a rather bleak colour palette in contrast to the vibrancy of The Shimmer's exterior, as well as a unity of colour that contrasts sharply with the amorphous spectrum of light emanating from The Shimmer. The strange environmental and geological context that we are introduced to The Shimmer through, both visually and sonically, emphasises the role and agency of this realm in contrast to the seemingly inert status of the humans and their military base. Where the environment feels dynamic, the human appears stagnant.

When the team passes through the spectral skin of The Shimmer's boundary the film cuts to a close up of Lena waking up in her

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<sup>29</sup>Again, we see the role of strange weather and unruly environments as a component part of contemporary science fiction cinema's imagination of disaster.

tent, presumably the next day. It transpires that none of them can remember anything that has happened from the moment they walked in, none of their equipment works and from their rations it would appear they've been in there for at least three or four days. The wildlife around them is revealed as a verdant paradise, profuse with foliage and the chirping of unseen avian life. The defunct status of their technological equipment, which ostensibly breaks down upon entry to The Shimmer, feels significant in the context of science fiction cinema's posthuman imaginary. Where industrial context and technological equipment are front and centre to the human's resumed domination over both The Terminator's robots and The Thing's alien, technology comes unstuck in The Shimmer. The human is forced to disentangle itself from reliance on technology, with the notable exception of their rifles, unraveling the human/machine hybridity that has historically grounded the genre's depiction of the posthuman. The ecologically grounded posthuman comes forth in Annihilation by way of neglect for the technologically contextualised posthuman. The team relies on pre-modern forms of navigation instead, using the sun to extrapolate their position relative to their target. Bearings gathered they proceed onwards to their destination, coming across a hut by a swamp. Josie emerges from the hut by the swamp's edge declaring that it is empty, at which point she is suddenly dragged into it by a hidden assailant. Lena rushes in to find her flailing about madly in the water, and they drag her out to run back onto the mainland.

Gathering their wits on the shore, the team see a gigantic albino alligator emerge from the hut, its hide peculiarly speckled with red birthmark-like spots. It unceremoniously splashes down into the water and snakes its way towards the women, menacingly advancing onto land whilst roaring at them on its approach. A shot-reverse-shot of Lena viciously shooting the creature in the face as it rushes towards her is juxtaposed with the creature's agog mouth, a seeming spiral of teeth descending into the



depths of its interior. Shortly after dispatching this alligator there is an enlightening shot, with the camera placed inside the jowls of the dead beast. The scientists slowly open the creature's jaw, revealing Ventress staring inquisitively into the open mouth, menacingly framed between its incisors (Figure 15). Lena enters the shot from screen right, and Cass the geo-morphologist on the left. "Look at the teeth, concentric rows. Something here is making giant waves in the gene pool", Lena says, with the concentric teeth suggesting the dental structure of a shark as opposed to that of an alligator. The film cuts back to the interior of the alligator's mouth as the jaw slowly closes on the continually puzzled and alarmed gazes of our protagonists.

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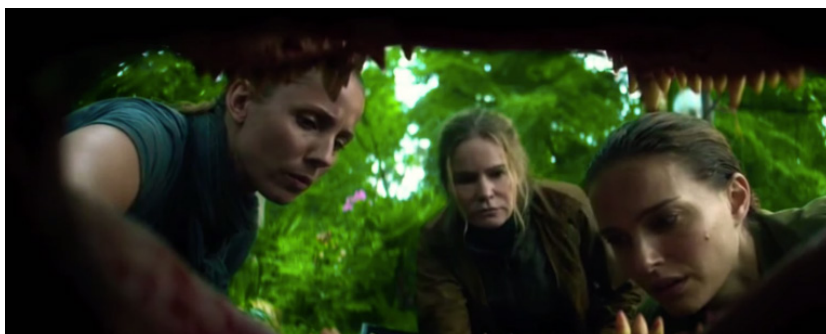


Figure 15 – Lena, Ventress and Cass gaze into the open mouth of the dead alligator in *Annihilation*.

There is a creature-feature sensibility to this sequence, not entirely unlike the cat-attack scene discussed in chapter two's analysis of *After Earth* (Shyamalan, 2013). Again, we see humanity's war with nature coming to the fore in science fiction's disaster imaginary. However, there is more at play here than what was seen in *After Earth*, and monster theory can help us see what is at stake here. Dictionary.com variously defines a monster as:

**1.) A legendary animal combining features of animal and human form or having the forms of**

**various animals in combination, as a centaur, griffin, or sphinx. 2.) Any creature so ugly or monstrous as to frighten people. 3.) Any animal or human grotesquely deviating from the normal shape, behavior, or character.**

138 This alligator conforms to all three of these possible interpretations, it is a chilling hybrid of part-shark, part-alligator, part-who-knows-what. This creature's monstrosity is instructive. As Line Henriksen, Morten Hillgard Büllow and Erika Kvistad argue, 'what is seen as monstrous in a specific, historical context shows the concerns and anxieties of that context' (2017, 4). The monstrosity of this creature seems locked emphatically to its peculiar multi-species hybridity, as emphasised in the shot of its hellish spiral gateway of a mouth, and its environmental milieu, that of *The Shimmer*. It thus follows that *The Shimmer's* monsters have something to say about anxieties surrounding multi-species entanglement and environmental pressures, both in and out of the film. Indeed, as the work of Heather Swanson et al. has shown in *Arts of Living on a Damaged Planet*, 'monsters ask us to consider the wonders and terrors of symbiotic entanglement in the Anthropocene' (2017, M2). This alligator gains added resonance from a deep-time ecological perspective by virtue of its alignment with expanded temporal scales, a creature that lurks in the waters of the present whilst skulking in a prehistoric past. This encounter places the human not only into contact with one of Earth's most ancient life forms, but with one undergoing rapid change by virtue of new environmental pressures. This is an 'ecomonster', a being whose monstrosity is grounded on environmental alterity and multi-species entanglement.

My use of the term 'ecomonster' here draws on the work of Daniel Otto Jack Petersen, who coined the term 'ecomonstrous' in 2015. Ecomonstrous is used by Petersen as a means of analysing 'how modes like the uncanny, grotesque, hybrid, or liminal evoke nonhuman alterity and thereby portray the environment

as the Other' (2016, 1). While Petersen's work is mainly bound up in literary analysis of Othered environments, this notion of the ecomonstrous here seems appropriate to turn back on the monster itself, as opposed to the environment it broods in. Petersen further describes the ecomonstrous as,

**first and foremost an encounter with the environment as aesthetically evoked in fiction through such monstrous modes...it brings about human proximation to the nonhuman, which is an opportunity for contact. As often as not...the ecomonstrous encounter induces wonder, curiosity, and even reverence in addition to more chilling or revolting sensations. (2016, 1)**

139 The POV shot from inside this (eco)monster's mouth evokes a good number of these sensations of wonder, curiosity and revulsion. It brings the scientists and the nonhuman world into curious contact with one another, but not in a manner that grants the scientists access to this creature's origins or ontology. Where the POV shots in *The Terminator* grant the audience a sense of understanding to its monster's nature, that of cybernetically advanced anthropoid, the POV shots here grant no such access or understanding. Instead they enrich the creature's obscurity. Where the 'nonhuman vision' that Zylinska references is arrived at through technological mediation and is ultimately humanist (2017, 13), the nonhuman perspective we are granted here is non-technological<sup>30</sup> and renders the humans ostracised and perplexed.

The unknowability of the beasts that inhabit this realm is aesthetically contextualised through this intriguing POV camera shot. Graham Harman states within *Towards Speculative Realism*:

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<sup>30</sup>At least within the diegesis of the text it is non-technological – ultimately, of course, the shot is captured through the technological apparatus of the camera and digital technologies, but this technological underpinning of the Alligator's non-human vision is de-emphasised massively compared to *The Terminator*.

140 Essays and Lectures that we are always ‘deployed amidst a specific geography of objects, each of them withdrawing from view into a dark primal integrity that neither our theories nor our practices can ever fully exhaust’ (2010, 51). The camera shot from inside the alligator’s mouth assumes a perspective from the monster’s very own dark primal interior, to which the scene returns as the mouth closes. The spiral of teeth seen in its gawking jaw during the attack sequence further point towards this seemingly endless concentric pit of monstrosity, which defines the creature’s ecologically monstrous and seemingly unknowable essence. Where *The Terminator* is knowable, the shark-alligator is unknowable. Moreover, it becomes recessively stranger the closer they come into contact with it. The film itself recedes into the monster’s own murky and unknowable interior, as our protagonists remain outside of this perplexing and epistemologically ebbing object. They are literally and figuratively “left in the dark” as the camera shot cryptically returns to the darkness of the alligator’s sealed mouth. Timothy Morton similarly argues that:

**life-forms recede into strangeness the more we think about them, and whenever they encounter one another—the strangeness is irreducible. Ecological philosophy that does not attend to this strangeness is not thinking coexistence deeply enough. (2011, 165)**

Annihilation can be seen to attend to the strangeness of coexistence through this ecomonstrous encounter. The camera enhances the irreducibility of this strangeness by adjourning to the darkness that introduced and menacingly frames this creature’s perspective.

Through this initial ecomonstrous encounter an aesthetic and thematic posthuman register is established in the film. The Shimmer is recognised as a realm where a unilateral ontology,

grounded on a notion of discretely segregated life, is called into question. Moreover, the film seems to align itself with the creatures that inhabit *The Shimmer* by way of these absorbing POV camera shots. As yet though, the humans of *Annihilation* would still appear to be excluded from this realm of embodied coexistence, apparently repeating similar mistakes as *The Thing*'s insistence on human exceptionalism. However, this unicity of the human form is complicated in a number of later sequences, the first of which sees the group arrive at an abandoned military outpost. They find a camera and SD card in a plastic wallet alongside a message cryptically stating "for those who follow". In a rather distressing scene we see handheld footage of the soldiers who'd previously been in *The Shimmer*, all appearing quite agitated as they huddle around a comrade sat topless on a chair. Kane, Lena's husband, looks to his friend in the chair and back into the camera. He draws a knife out and cuts open his fellow soldier's belly, peeling back a huge layer of skin. In a

- 141** Videodrome-esque (Cronenberg, 1983) window into this man's guts we are greeted to a tentacular vision of faceless eel-like creatures wriggling around impossibly in the man's torso. There is no sign of internal organs, only the constant squelching and writhing of these mysterious worms. Where we have seen the camera align itself with the dark interiority of the alligator-shark, we now are proffered visions into the human's own dark and no less chthonic interior. The horror of this image only escalates when Kane places his hand around one of these fleshy tubes in his friend's stomach. Apparently unphased by Kane's intervention it carries on with its diabolic wriggly business, as Kane gazes back into the camera in shock and awe.

In relation to my previous framing of the alligator's perspective around Zylinska's notion of nonhuman vision, it is telling that this view of the human's own ecomonstrosity is framed through the technologically specific medium of videocamera footage. If we return to Zylinska's proposal that 'technologically enhanced

vision is...most definitely humanist, in that it reinforces the visual mastery and material dominance of the observer' (2017, 13), we can see that Annihilation upsets this claim. The juxtaposition between the indexical "truth" of the found-footage and the horror-stricken wonder of Kane's expression as the skin of his comrade is pulled back denies, or distorts, any sense of visual mastery or material dominance in the observer – be that Kane, the scientists watching the footage or us, the audience, watching the film. This technologically mediated perspective seen in the found-footage, rather than affirm a humanist vision of dominance over that which is observed, consolidates the impression of the human being placed out of bounds. The act of recording does not afford them mastery or dominance, but merely serves to ostracise them further from themselves, upsetting and distorting the very category of the human in the process. The inaccessibility, or unknowability, of that which is observed thus assumes the visual mastery and material dominance of the scene. This is not to say

142 that I disagree with Zylinska's thesis, indeed our belief in the power of nonhuman vision seems very much aligned, but our subjects are simply rather different. As Zylinska herself posits,

**embracing nonhuman vision as both a concept and a mode of being in the world will allow humans to see beyond the humanist limitations of their current philosophies and worldviews. (2017, 15)**

We see this breaking of humanist limitations occurring here not in the nonhuman vision of photography, but via science fiction cinema's ecomonstrous perspectives. These instances of nonhuman vision, be they technologically mediated or not, unground the human's assumed dominance and understanding of its environment. Annihilation, by aligning vision to the ecomonster's perspective, as well as by precariously placing the human's perspective in relation to ecomonstrosity, takes us beyond humanist perspectives and worldviews.

This sequence becomes all the more interesting when brought back into dialogue with *The Thing* and *The Terminator*. In *The Terminator* much visual emphasis is given to the “reveal” of what lies under Schwarzenegger’s skin. In the sequence where the machine cuts out its ostensibly human eye, the vivisection is utilised to produce certainty as to what our human protagonists are dealing with. By contrast, the vivisection in *Annihilation* produces eco-speculative uncertainty as to what precisely defines the human. Similarly, *The Thing*’s chimeric monster would leap out and react to being “caught out” in such a surgical context, as per the aforementioned blood test scene. By contrast, there is a clear sense that whatever lurks within this soldier is not fussed about Kane’s intrusive incision and manhandling. Evidently the ability to delineate what is human and what is not human is much fuzzier and ill defined in *The Shimmer* than it was in the Antarctic. Just as our small intestine would not react to being revealed, why then should these fidgeting tentacles react?

- 143** They are instead presented as part and parcel of this human’s body. The thin and hubristic skin of species categorisation is torn asunder, peeled back to reveal a strange and wriggling kinetic interior. Where *The Terminator* and *The Thing* peel back the skin of the human to reveal a unilateral ontological truth to their antagonists and protagonists, *Annihilation* does so to produce precisely the opposite estrangement. Through this scene, the human becomes just as liminal, marginal and ‘full of promises’ (1992, 302), as Haraway put it in ‘The Promises of Monsters’, as the alligator-shark. The human is now, like the pre-historic *Ichthyostega*, ‘firmly on the margins, those potent places where theory is best cultured’ (1992, 302-303).

Terror and wonder of this ecomonstrous posthuman figure are presented through a sublime formation across these scenes, echoing the sublime planetary imagery to be discussed in chapter five, and seen in *Snowpiercer* (Bong, 2013) and *After Earth* alike. The sublime framing of the ecomonstrous is further

developed when the scientists find the room this unsettling event previously occurred in. A medium-tilt shot shows the soldier's legs dangling from the chair, yet as the camera stretches its gaze upwards a vast patchwork of vividly coloured branches are revealed to spread out from his hips. His torso is suspended half way up the wall with his skull protruding from the maze of brightly coloured conduits firmly attached to its tiles (Figure 16). "What is it?" the medic asks. "I dunno" Lena responds. Again, the human's lack of knowing is central to the context in which we are proffered these images, and goes further to reinforce the sublime incomprehensibility of these figures. The sublime aesthetic's pincer-attack rhetoric of terror and wonder is leveraged to evoke a sense of immensity in relation to humanity's confrontation, or ecomonstrous encounter, with nature.

144 In this context the sublime works to sew together the two constituent parts of humanity and nature, unveiling a tentacular posthuman figure aligned with Alaimo's configuration of an 'Anthropocene subject as immersed and enmeshed in the world' (2017, 103). The haunting vision of this soldier's torso suspended up the wall, held in chimeric grouting with the phantasmic roots around him, seems an ecomonstrously contextualised posthuman counterpoint to the humanist vision of Da Vinci's Vitruvian Man. Where the category of the human was once emblematised by this suspended figure of a white man, it now appears quite different, a multi-coloured and multi-species alternative. Being attendant to the effects of extreme environmental pressures, as per the Anthropocene and the Shimmer alike, facilitates a movement from the Vitruvian Man to an approximation of a Chimeric Person. It is a figure that is both alluring and dreadful in equal measure, one that dethrones the human by foregrounding its imbrication with other forms of life. Petersen argues that:

**the ecomonstrous seeks to attend to this ecological strangeness by playing up the ontological gap between humans and**



**nonhumans in order to provisionally bridge it through uncanny contact. (2016, 6)**

Herein we see the differences between Petersen's vision of the ecomonstrous and my analysis of the ecomonster. Petersen's formulation of the ecomonstrous is best served, or seen, as a means of bridging a gap between humans and nonhumans. The ecomonster takes this one step further by not just provisionally bridging a gap, but sewing up the gap between the human, the nonhuman and the environment once and for all. In *The Shimmer* the human does not just come into uncanny contact with the more-than-human, it becomes a more-than-human ecomonster.

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Figure 16 – Ventress, Cass and Lena look on at the transformed human body held in tendrillar grouting on the wall.

# FROM ECOMONSTERS TO ZOE-CENTRIC POSTHUMANISM

146 To read about the above sequences in *Annihilation* one might think that *The Shimmer* is a realm occupied solely by vicious multi-species chimeras with sharp teeth, forked tails and hungry bellies. Although they do evidently take up a great deal of the film's narrative and thematic emphasis, this is not quite the case. Lena, when asked by Lomax in a flash forward if these mutations were nightmarish, responds, "Not always... sometimes it was beautiful". At this point the film cuts to transparent fish in a river, quietly going about their business in an all-together non-threatening manner. A later shot sees a transformed species of deer, sprouting brightly coloured cherry blossom flowers from their antlers in a manner reminiscent of Princess Mononoke's (Miyazaki, 1997) Deer God. The narrative affords Lena and the deer a brief reprieve from the otherwise altercation heavy confrontations between the scientists and *The Shimmer's* inhabitants. They simply stare at one another in quiet contemplation for a few seconds before the deer trot off. Much the same representational logic found in the closing sequence of *Snowpiercer* is found here, with the sublime aesthetic modulating the ambiguous encounter between the human and the nonhuman. The entire landscape they advance through further speaks to this hazily divine quality that *The Shimmer* bestows upon the world, as established in Lena's trance-like gazing at the deer. Moreover, the evocation of the sublime in this sequence echoes out in many of the other less-confrontational encounters they have with *The Shimmer* and its inhabitants. Beautiful multi-coloured moss on the walls of the abandoned military building is as alluring to behold as the deer's floral antlers, or the translucent fish. If Burke described 'delightful horror' as 'the most genuine

effect and truest test of the sublime' (1998, 24), then *The Shimmer* is most certainly engaged with sublime imagery and logistics. It is a world saturated in beauty and horror, and often with peculiar life forms situated somewhere between these two poles. Moreover, not all of the human transformations occurring in the film are contextualised by such horrific Carpenter-esque modes as described above. In a particularly striking sequence when they arrive at their third camp, they see a cluster of flowers that have grown in the shapes of humans. Thick roots sprout from the ground that resemble the thighs and legs of the human form, growing up towards torsos, heads and arms, which blossom with buds. Some appear to hold hands while others speculatively gaze off into some unknown distance.

While there is undoubtedly something quite beautiful about these unlikely flower arrangements, there is also an apocalyptically grounded context to them. "They've grown this way", the  
147 physicist Radek notes:

**At first I thought the radio waves were blocked by the shimmer and that's why no one inside could communicate with base, or GPS. But, lightwaves aren't blocked, they're refracted and it's the same with the radios. Signals aren't gone, they've scrambled. That leaf in your hand, do you know what you'd get if you sequenced it? Human HOX genes.**

HOX genes being the sequence of genetic code that give the human body its shape, such as head, shoulders, knees and toes. They feel redolent of the human bodies frozen in time by Vesuvius' ash clouds over Pompeii, or the human mannequins placed at 1950's nuclear testing sites (Figure 17). These figures in fact herald something startlingly similar to Pompeii, an environmental phenomenon freezing human shapes not just in time, but melding them into the environment itself. Moreover,

these flower figures, and the long-dead villagers of Pompeii, point towards the dwarfing power of natural processes comparative to the human body.



Figure 17 – An assembled field of these flower figures lurk inside The Shimmer.

148 These flower people exist on a sort of temporal fulcrum between flower time and human time, simultaneously both and also neither. They suggest our imbrication with natural cycles and environments, be that volcanoes or mysterious asteroids, and how this imbrication by its very definition points outside the human to something more-than and beyond it. This is a posthuman figure built again on multi-species alterity whilst grounded in a post-anthropocentric view. These flower figures dislodge us from hierarchical ecological standing by foregrounding both humanity's imbrication with the environment, in this case with flowers, as well as life's vulnerability to environmental pressures. The more immediately appealing quality of this ecomonster, to that say of the soldier's belly worms, is reflected in Radek's relation to them in a later sequence. In a contemplative speech she says to Lena, "Ventress wants to face it, you want to fight it...but I'm not sure I want either of those things". As she says this small grassy roots can be seen to sprout from cuts in her arms. Radek calmly walks off around a corner and as Lena follows her she steps out into a field filled with these

flower-figures. Radek is nowhere in sight, the implication being that she is now one of them.

Across these various visions of the human body consumed by, penetrated by and co-existing with nonhuman species we see an aesthetic register for the posthuman subject of a distinctly different tenor to that of *The Terminator* or *The Thing*, or indeed any number of the films listed in my introduction. Braidotti writes on Zoe, meaning life in Greek, which,

**stands for generative vitality. It is the transversal force that cuts across and reconnects previously segregated species, categories and domains. Zoe-centred egalitarianism is, for me, the core of the post-anthropocentric turn. (2013, 60)**

149 Chiming with Braidotti's logic, a Zoe-centred thematic, and aesthetic, is for me the core of where science fiction cinema's posthuman imaginary might venture to in the 21<sup>st</sup> century Anthropocene context. Annihilation's shimmering realm bestows us with an ecomonstrous incarnation of Zoe. The film speculatively contextualises Zoe through the realm of *The Shimmer*, exposing the human body to mutuality and unknowable alterity in the process. *The Shimmer* and Zoe reconnect the human with previously segregated species, categories and domains in the same manner. Annihilation configures posthuman bodies founded not upon transhumanist anthropocentrism, as per *The Terminator*, but on a Zoe-centred egalitarian ecology of more apposite application to the aesthetic and thematic demands of a warming climate. As Karen Barad eloquently notes in *Meeting the Universe Halfway*,

**a humanist ethics won't suffice when the "face" of the other that is "looking" back at me is all eyes, or has no eyes, or is otherwise unrecognizable in human terms. What is**

**needed is a posthumanist ethics, an ethics of worlding. (2007, 392)**

Annihilation's incubation of Zoe seems then a staging post of pertinence for removing the emphasis on the human in the genre's traditional configuration of the posthuman.

This de-emphasis on the human, inaugurating it as merely one form of life amongst many others, is stirred up in the film's ambiguous and strange narrative crescendo. Lena, the apparent sole survivor of the team, finds her way to the Lighthouse. She finds Dr. Ventress, who ventured off alone earlier in the film, sitting on a plinth in the middle of an cavernous dungeon at the heart of the building. Ventress prophetically declares:

150

**I needed to know what's inside the lighthouse. That moment's past. It's inside me now. It's not like us, it's unlike us. I don't know what it wants, or if it wants, but it will grow until it encompasses everything. Our bodies and our minds will be fragmented into their smallest parts until not one part remains. Annihilation.**

A strange light emanates from her throat and as she screams she seemingly spews out a torrent of energy, which dances around the room like fireflies or phantasmal waves. Her body dissolves to nothing as it merges into the forcefield of luminescent energy around her. The individual vectors of light all draw in centrifugally to an amorphous shape above the plinth. A red-hot light sits at its core while its darker exterior undergoes a constant cyclical motion that spews out energy from its front, for it to be fed back into the core at its rear. This entity stretches the limits of the imagination as well as the capacity of scholarly description. Describing this shape is not only rather difficult, but seems to defy the point, as this thing's formless and nebulous quality seems its defining trait. It is something words cannot describe, a kaleidoscope of colour and shapes that leave Lena dumbfounded.

Lena approaches this singularity cautiously and curiously, much like the approach to the dead alligator-shark seen earlier. A shot-reverse-shot sees the camera infiltrate this shape, unveiling Lena staring back into it with awe, further echoing and inviting comparison to the earlier alligator-shark sequence. We are returned to the point of view of an unknowable entity, with the human looking into it agape with confusion. Where previously this interiority was lent a dark, recessive and monstrous edge, the context here feels different. This interior is practically exploding with an intensity of light that is near blinding in concentration and vibrancy. Where the alligator's interior felt mysteriously muted, this hive of energy feels much more lively and aware. The soundtrack's swelling synths and distorted crackles add to the sense of vibrancy emanating from this shape. The previous shot-reverse-shot in the film was used to convey the unknowability of the nonhuman object, which the humans study from the

**151** exterior in puzzled disbelief. While it established a strange cross-species hybridity, the human was not embroiled in this process. The roles of human/nonhuman and known/unknown are not as clear-cut here. The strong sense of a consciousness inherent to this being lends the impression that Lena is being studied in turn. Aesthetically and thematically the film has accomplished a movement from a view of the nonhuman as unknowable and monstrous, to a view of the human as comparably unknowable and monstrous. In the protracted time Lena has spent in *The Shimmer*, with its prism-like genetic and species refraction silently penetrating her very being, the human has become as chaotic and arcane a creature as anything else in *The Shimmer*. We have seen the human morph into flowers, wriggle with worms and held in cruciform suspension in prismatic grouting. Any notion of the human body as discrete and unilaterally enclosed has come further and further unstuck in the journey through this realm. Again, as Morton argues, 'life-forms recede into strangeness the more we think about them, and whenever they

encounter one another' (2011, 165). To this end, the strangeness of The Shimmer's pulsing epicentre, as well as the strangeness of Lena herself, seemingly intensify as this encounter unfolds.

Three drops of Lena's blood fall horizontally from a cut in her face into this chasm of light. An extreme close-up unveils rapid cell division occurring across her now peculiarly lively cells, which fizz with a strange shimmering energy. When Lena's cells fall into this strange stranger before her, they effervesce and coagulate with energy and light.<sup>31</sup> The soundtrack swells and snaps in a discombobulating fashion as the camera zooms out to reveal this cell division becoming more swift and pervasive. As the extreme zoom out unfurls, an iridescent humanoid figure is displayed standing on the plinth, gradually coming into closer distinction. Lena shoots this faceless human visage, but to no avail as the bullets harmlessly pass through it. On trying to escape the lighthouse Lena finds it blocking the exit. In a strange  
152 interaction it starts to mimic her movements, before knocking her out when she attacks it. Lena wakes up on the floor and picks herself up from the ground. The humanoid figure again mimics her every movement as she does this. The interaction between the two feels partly confrontational and partly collaborative, as if they are dancing with one another. As their imitative tango continues Lena finds a phosphorous grenade on the floor by a dead soldier, possibly her erstwhile husband. She places it into the hands of the mimic as it starts to shed its shimmering

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31A sequence in *The Thing* also pays attention to the status of cell division in its ecomonstrous ecology, but situates the narrative emphasis in opposition to such multi-species assimilation. The station's chief scientist Dr. Blair (Wilford Brimley) is sequencing the time it would take for this alien to infect all life on Earth, the computer extrapolates this info by studying the rate of cell division occurring between the host cell and the intruder cell. The computer calculates that "IF INTRUDER ORGANISM REACHES CIVILISED AREAS ENTIRE WORLD POPULATION INFECTED 27,000 HOURS FROM FIRST CONTACT", much to the distress of Dr. Blair. Where this assimilation of cells is a site of great apocalyptic terror in *The Thing*, it is a site of more ambiguous and sublime wonder in *Annihilation*. Dr. Blair's understandable concern at this cellular assimilation seems reflective of the film's wider impetus to revere and protect the sanctity of the human form. *Annihilation* is evidently far less concerned with this protection of the human form. Indeed, the tone of the sequence is much more ambiguous when compared to *The Thing*.



layer and adopt a human skin, appearing as a direct imitation of Lena. Lena runs out of the room as the grenade explodes in the creature's hands. They pensively stare at one another through the doorway until its torso slowly catches fire and it recedes back into the dark belly of the cave, setting the tendrillar roots surrounding the lighthouse on fire in the process. As the lighthouse burns medium-long shots from outside unveil Lena looking on aghast as the crystal trees on the beach all burn up and crumble onto the ground. It would appear that The Shimmer has been destroyed.

Where Annihilation's previous instances of Zoe are locked to the ecomonsters' lack of species specificity, in this sequence the thrust of Zoe 'as the dynamic, self-organizing structure of life itself' (Braidotti: 2013, 60) gains a human avatar. There is more of a mysteriously celestial, or even extra-terrestrial, quality to the depiction of Zoe in this crescendo, which returns Annihilation's posthuman to a figure that assumes the form of something, **153** seemingly regressively, more akin to a human. Where the thrust of the narrative has seen the team of scientists studying what they have problematically labelled as separate from them, we now see a nebulous conglomeration of this nonhuman life looking back at and mimicking the human. When Lena leaves the lighthouse, having seemingly killed the mimic, one wonders if she has left unchanged, whether she is herself as much of a false avatar of a unilateral species specificity as The Shimmer's waltzing copycat. In their strange dance and contemplative gazing, there is more than a suggestion of recognition and kinship between the two. If we compare this to the final battle in *The Thing* and *The Terminator* the apposite ambiguity of the relationship between the two Lenas becomes clearer. MacReady boisterously shouts "Oh yeah? Well fuck you too!" and hurls dynamite at his foe. Similarly, in *The Terminator*, Sarah Connor slams a button on the hydraulic press that the T-800 clanders through and pointedly states "You're terminated, fucker." In both instances the human destroys the Other, be it technological or ecological. By contrast,

Lena seems to tentatively gift the grenade to her mimic, and apparently regrets its destruction as they look introspectively at one another. Again, the lines between what is and is not human are nowhere near as distinct or triumphant here as they were in *The Thing* or *The Terminator*.

However, the destruction of Schwarzanegger's T-800 at the end of *Terminator 2* presents a similarly amicable tone of recognition between the machine and the human as *Annihilation* presents between the human and the Shimmer/nonhuman. The robot descends of its own volition into a pit of molten steel, holding a thumb up to John Connor as it is engulfed and "terminated". This tone of recognition between the two constituent parts, be it human/machine or human/Shimmer, feels significant in its resonance between the two texts. While the notion of human entanglement with the ecological nonhuman was seemingly untenable for science fiction cinema's imaginary in 1982, as  
154 per MacReady's flamethrowing and expletive hurling at the thing, perhaps such entanglement is no longer unfeasible in the context of the 21<sup>st</sup> century's environmental crisis. Just as there was a shift in the technological posthuman's representation from 1984's *The Terminator*, with its T-800 triumphantly destroyed by humans, to 1991's *Terminator 2*, with its T-800 cordially melting itself for humans, a similar shift has occurred in the ecological posthuman imaginary. Lena's journey through *The Shimmer's* various incarnations of Zoe, encountering strange cross-species monsters, tentacularly entangled humans and extra-terrestrial mimics along the way, have worked to call the category of the human into question through ecological, rather than technological, cyborgisation.

The closing sequence of the film presents an emphasised ambivalence as to the question of whether Lena is still Lena, or indeed, whether the human is still human. Lena goes in to see her husband, who has recovered in the wake of *The Shimmer's*

destruction. “You aren’t Kane, are you?” she asks. After a long pause he responds “I don’t think so...are you Lena?”, to which she indicatively does not reply. The line of questioning brings us circularly back to the interrogation with Lomax that opened the film. Where Lena’s lack of response in the film’s opening felt akin to amnesia, it now feels indicative of the human’s inherent unknowability. Just as the alligator-shark aesthetically receded into the dark the camera pans to obscure Kane and Lena behind a dark semi-translucent film, suggesting a correspondingly ecomonstrous recession. Yet, where the dead ecomonsters of the Shimmer were rendered aesthetically inert and abstruse, Lena seems vibrant in her newfound obscurity. The spectral shimmering of light in the iris of her eye in the film’s closing shot hints towards the sort of beyond human formation that The Shimmer has landed us upon. Outwardly looking rather similar but inwardly fizzing with a new Zoe-centred ecomonstrosity.

# CONCLUSION:

## WHAT NEXT FOR POSTHUMAN SCIENCE FICTION CINEMA

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The closing sequence of Carpenter's *The Thing* finds MacReady, having blown up what was to his mind the last iteration of the amorphous creature, sat down in the burning remains of their research base drinking whisky. When missing teammate Childs turns up, both are immediately suspicious of one another. "Where were you Childs?", MacReady probes. He'd got lost in a storm before finding his way back to camp. "If we've got any surprises for each other, I don't think we're in much shape to do anything about it...Why don't we just...wait here for a little while, see what happens." On this defeatist closing note to the film, Ennio Morricone's thrumming bass score kicks in, softly imitating the sound of a heartbeat, much like the film's own monstrous mimicry of organic life. This score sets up a similarly ambiguous closing note to *Annihilation*, the mimicry in the score inviting us to question if MacReady and Childs are equally as deceitful an emulation as Morricone's bass riff. In the context of this chapter, MacReady and Childs' pause to see if either of them transform into the thing could equally be read as a call to wait around and see what happens with the posthumanism *The Thing* summoned from the ice. *Annihilation* seems like what has happened, it proffers a posthumanism that is in many ways indebted to the ecomonstrosity found in *The Thing*, but by other turns feels rather different.

*Annihilation* extrapolates from the chimeric posthumanism found

in *The Thing*, ironing out some ecological minutiae so as to better suit the ecocritical intricacies of the 21<sup>st</sup> century. Annihilation presents such a de-centred distribution of agency amongst its various forms of life that the very 'anthropos' of Anthropocene is called into question. All the better for it, as Alaimo is keen to query, 'who is the 'anthro' of the 'Anthropocene'? In its ostensible universality, does the prefix suggest a subject position that anyone could inhabit?' (2017, 89). More often than not Annihilation reaches its post-anthropocentric Zoe-centred ecology through the figure of the ecomonster, be this alligator-shark chimeras or human-flower fusions. The contrasting tone between the two is actually rather helpful. In conveying this through both horrific and more picturesque forms we are reminded of both the horrors that ecological entanglement evokes as well as the wonders it can contain. Marianne Gunderson argues that:

157        **an encounter with the weird monster is  
an opportunity to confront issues that are  
beyond the grasp of the human...and let them  
transform our ideas about who and what we  
are. (2017, 21)**

Science fiction can be seen here, through Annihilation, to dip its toes in weird Lovecraftian waters in order to ask questions such as this. In so doing it shapes a posthuman figure of pertinence to the heightened environmental and ecological pressures of the 21<sup>st</sup> century. The film's Zoe-centred posthumanism confronts who and what we are by emphasising cross-species creatures and bizarrely agential environments, de-emphasising the figure of the human in the process.

Our vision of who, or what, Lena is come the film's closing moments is remarkably different from the opening moments, and these differences are organised around ecological posthuman thinking. The Shimmer's ecomonsters provide a revised platform

within the genre for questioning what it means to be human, and what precisely a human, or indeed a species, is. Alaimo, in *Bodily Natures*, convincingly argues that:

**thinking across bodies may catalyse the recognition that the environment, which is too often imagined as inert, empty space or as a resource for human use, is, in fact, a world of fleshy beings with their own needs, claims, and actions. (2010, 2)**

Annihilation stands out as a compelling audio-visual extrapolation of this cross-body thinking. In doing so Annihilation unveils the environment and the creatures that inhabit it as more than mere backdrop or inert sensorium. Instead the nonhuman is lent an agency and stature previously preserved primarily for humans.

158 This change of emphasis is of the utmost poignancy at this time of rapid environmental change. The story of the Anthropocene is, often, all-too-human a story. Given the impact upon, and agency of, those who are not human, different modes of posthuman storytelling are required in these times. Nils Bubandt argues that the Anthropocene,

**is a story which has one of two endings: either apocalypse of one kind or another or salvation through some technological fix (embodied in dreams of machines to sequester carbon, of gene banks to store the DNA of extinct species, or of an exodus to Mars) (Haraway 2016). (2018, 8)**

Science fiction films' dominant posthuman imaginary, as per *The Terminator* or *Blade Runner*, seems inclined to reflect this triptych of anthropocentrism, apocalyptic framing and technological attention. A strategy out of this, as highlighted by Bubandt, is:

**to tell other and more-Earthbound stories**

**of the Anthropocene that challenge this anthropocentric and euro-centric story. We want to tell multi-species stories about the more-than-human socialities that we humans cultivate, in many different ways, with the bacteria, the fungi, the protists, the animals and the plants around us. (2018, 8)**

159 Annihilation's posthuman imaginary is aligned with this urge to tell multi-species stories, unveiling the role and agency that nonhumans have in the story of the Anthropocene. Where much academic attention paid to science fiction is anthropocentric in approach, such as Vint's position that science fiction is 'a privileged site that investigates some of the possibilities of changed embodiment for changing humanity' (2007, 7). My approach here, instead, has been to look at science fiction cinema's posthuman as a privileged site that allows investigation into the problems of considering humanity, or any form of life, as a discretely segregated species in our current environmental milieu. If the mid-late twentieth century's posthuman of science fiction cinema was dominated by the humanistic visions of the robot/cyborg/machine, perhaps now as debates surrounding the Anthropocene increase in intensity so too will the prevalence of this Zoe-centred, ecomonstrous, posthuman form.

This said science fiction cinema's robotic and mechanical posthuman imaginary shows no signs of slowing down. A recent remake of *Ghost in the Shell* (Sanders, 2017), a release of another Terminator film, *Terminator: Dark Fate* (Miller, 2019), and a slew of other films like *Alita: Battle Angel* (Rodriguez, 2019), *Mortal Engines* (Rivers, 2018) and *Upgrade* (Whannell, 2019), with a tag line that reads "Not Man. Not Machine. More", demonstrate this on-going consideration of the human/technology paradigm within the genre. Clearly these narratives still resonate, and with good reason. This chapter in no way seeks to suggest otherwise, and does not anticipate a decline in such explorations

within the genre. As discussed in my introduction, the ways that technology bleeds into the fabric of our day-to-day lives is unquestionably prevalent. The means by which Earth-bound creatures and environments spill into the realm of the human is perhaps less tangible, but certainly no less real or rampant. This elusive, often hauntingly invisible, imbrication of the human with the realm that we have falsely segregated and described as “nature” bespeaks to the hyperobjectivity of the Anthropocene, wherein we can only experience slithers of it at a time (Morton: 2013, 4). Narratives with Zoe-centred aesthetics and ecologies, such as *Annihilation*, become all the more important for this fact. They unveil the connections between living beings in all their wonder and monstrosity. Without such films we might find it harder to consider and visualise the trans-corporeal bodies and connections that quietly govern life, or Zoe, as we know it. With them the human is forced to look inwards and discover the fleshy, entangled and chimeric wriggling that occurs under the skin. Haraway argues that ‘if the cyborg has changed, so might the world’ (1992, 330). What this chapter has revealed echoes Haraway’s thinking, but modestly inverts it. *Annihilation* suggests that as the world changes, so too might the cyborg.

These last two chapters have both traced a set of changes in science fiction cinema. They have argued that these changes are linked to the environmental and ecological difficulties of the 21<sup>st</sup> century, as heralded by the Anthropocene. Chapter two revealed the ways in which science fiction’s imagination of disaster has shifted around our rapidly warming climate, tracing a shift from a technological to an ecological imagination of disaster coming to the fore. This third chapter demarcates changes in how the posthuman might be configured in the shadow of humanity’s newfound geological agency. It argues that these eco-oriented shifts in the philosophical notion of the posthuman are observable in science fiction cinema. *Annihilation* is at the apex of this shift, suggesting a renewed posthuman figure for the genre



that reflects the ecological demands of co-existing with a dying planet. This movement towards the ecomonstrous posthuman in the film traces a similar arc to chapter two, where we see the technological engulfed by the ecological.

Part one of this thesis has used the idea of the Anthropocene to trace a set of observable changes in the genre. It has shown how science fiction cinema is influenced and moulded by the environmental calamities of the 21<sup>st</sup> century. Part two of this thesis will be slightly different, though still committed to tracing and observing these patterned changes. Where part one is about the uses of the Anthropocene for reading science fiction cinema, part two is about the uses of science fiction cinema for reading the Anthropocene. Chapter four concerns how we think of time in the Anthropocene, and proposes that science fiction cinema helps untangle the topological temporal folds of the 21<sup>st</sup> century. The fifth and final chapter concerns planetary imagery. It argues that

**161** science fiction cinema frames a set of planetary perspectives that are of pertinence to the pressures of our global environmental catastrophe, allowing for new modes of “seeing” Planet Earth. Where part one traced a movement from the technological to the ecological, part two considers modernity’s transformation (in)to the Anthropocene. Rather than staging modernity and the Anthropocene as two discreet and separate things, these chapters consider how modernity bleeds into the Anthropocene, and vice versa. Together these two sections allow for new ways of understanding science fiction through the Anthropocene, and the Anthropocene through science fiction.

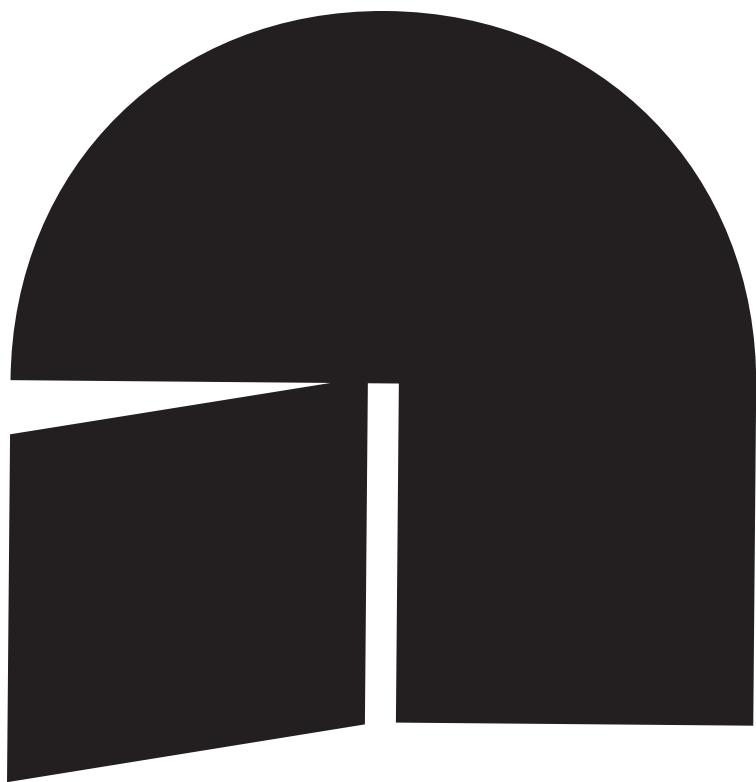
PART 2

# TEMPORAL AND PLANETARY IMAGINARIES



CHAPTER 4

**TIME FOUND  
AND FELT IN THE  
ANTHROPOCENE:  
FOLDING TIME IN  
INTERSTELLAR AND  
ARRIVAL**



This chapter investigates the intersections between conceptions of time in the Anthropocene, and time in contemporary science fiction cinema, using *Interstellar* (Nolan, 2014) and *Arrival* (Villeneuve, 2016) as case studies. It will demonstrate that science fiction cinema's privileged relationship with time affords it a unique position for disseminating our impression of time in an era marked by climatic change and the encroachment of nonhuman temporal registers. Mary Ann Doane argued that cinema reflected the temporal changes of modernity at the dawn of the 20<sup>th</sup> century (2002). This chapter, mirroring Doane's framework, will argue that these science fiction films reflect the temporal collapses of the Anthropocene at the dawn of the 21<sup>st</sup> century. Just as science fiction's imagination of disaster and the posthuman re-orient around the heightened environmental concerns of the contemporary moment, so too does the representation of time in these two films. However, this chapter unfurls more than a shift in science fiction

164 cinema's representational proclivities. These films bear time as an encumbering load, and foreground its presence in their narrative, aesthetic and affective assemblies. In so doing they approach and access the sense of time that is found and felt in an era of rapid environmental change, allowing audiences to experience temporal registers that perhaps elude our grasp outside of cinematic mediation. Part one of this thesis detailed changes to science fiction cinema that are informed by the Anthropocene. This second section of the thesis instead details how understanding the Anthropocene is aided through science fiction cinema, as suggested here by *Interstellar* and *Arrival*'s entanglements with nonhuman time.

*Interstellar* wears time. Be it in the open dialogue that occurs between its protagonists on special relativity, its metronomic score, its 12-module space ship resembling the face and rotation of a clock, its narrative crescendo's depiction of a 4<sup>th</sup> temporal dimension or its 'hypersleep' pods, it is clear that time is a core

pre-occupation of the film on both a visual and thematic level. Time is worn as a weight and felt as a pressure by its protagonists in their quest to find a new home for humanity, following an ecological crisis on Earth, referred to as “The Blight”. At an undisclosed future date, Earth is on the brink of starvation in the wake of this dust-bowl-like catastrophe, which is choking the atmosphere and scuppering agricultural production to a critical level. The diminished population of Earth subsist on corn-heavy diets as the situation reaches crisis point. The film follows ex-pilot and now corn farmer Cooper (Matthew McConaughey), who, following mysterious coordinates left in binary code by a supposed spectral presence in his home, discovers a secret NASA base. NASA, run by Professor Brand (Michael Caine), has discovered a wormhole that leads to a new galaxy, which contains a black hole called Gargantua and a series of planets that offer a hope of new life for humanity. A team of scientists were previously sent into this wormhole on the “Lazarus” missions.

- 165** Lazarus saw each scientist landed on one of these prospective new home-planets to relay information on their environmental and ecological suitability back to Earth before bedding down into hypersleep. Cooper joins a new mission to head back through the wormhole and attempt to colonise the most suitable of these planets, while Professor Brand continues to work on the conundrum of how they will get the rest of humanity there when and if the time comes.

If *Interstellar* wears time, then *Arrival* cloaks it. *Arrival* opens with a montage that introduces Dr. Louise Banks (Amy Adams). This opening scene focuses on Dr. Banks’ relationship with her daughter, who we see develop a terminal illness that she soon dies from. Set in what we assume to be the wake of this tragedy, twelve UFOs land at seemingly random locations across the planet. The US government hires Dr. Banks, a linguist, in efforts to communicate with the Lovecraftian aliens, who are referred to as “heptapods”. The primary directive of her mission is at face

value quite simple, she is tasked with getting an answer to the following question, “What is your purpose on Earth?” From here we see Dr. Banks and her colleague Dr. Ian Donnelly’s (Jeremy Renner) slow steps towards learning the heptapods’ language. As the plot unfolds a series of what we assume to be flashbacks reveal Dr. Banks’ relationship with her young daughter, who died of cancer in her teens. The narrative reaches a climax as China’s General Shang (Tzi Ma) threatens violence against the heptapods, and Dr. Banks needs desperately to decode their intentions to prevent inter-species warfare. It transpires that as Dr. Banks learns the language, she gains the ability to travel through time. As such, she is able to project forwards in time and relay information back to General Shang in the present moment, convincing him to prevent his attack on the heptapods, who disappear into thin air upon the declaration of ceasefire. It is also revealed that what we assumed to be flashbacks of her relationship with her daughter were in actual fact flash forwards in which she was looking at the

**166** child she will have in the future.

One of the most significant factors in both films’ relationship with time is that they present their various forms of time travel in manners estranged from what one might immediately expect from the genre. By this I mean that their methods of temporal transcendence are reached through organic means, as opposed to technological ones. *Interstellar*’s time travel is seemingly geological, with different planets in the film presenting different time-pressures for its characters to navigate. *Arrival*’s time travel is also non-technological, it is born out of other-than-human linguistics. As David H. Fleming and William Brown note, ‘*Arrival* explores how an a-temporal alien language imparts a correspondingly inhuman way of perceiving and experiencing time or temporality’ (2018, 345). This emphasis on the nonhuman aspects of time travel in these two films tellingly contrasts with the dominant images of time travel in the genre, which predominantly accentuate the technological specificity of the

device at hand. We might think of the many levers and buttons of H.G. Wells' *The Time Machine* (Wells, 2002), of the complexly cabled time travel coffins of *Primer* (Carruth, 2005), the fizzing sparks of the telephone box in *Bill and Ted's Excellent Adventure* (Herek, 1989) or even the raucous whirring of the *Hot Tub Time Machine* (Pink, 2010). As with *Back to the Future's* (Zemeckis, 1985) *Delorean*, there is often a clearly established layering between humanity's techno-scientific endeavour and time travel technology itself (Figure 18). The petro-culture linkage of the *Delorean* automobile to time travel further hints at the resonance and twinned history of the damaging use of carbon fuels and the advancements of scientific practice. Time travel, in science fiction cinema at least, is often something that humanity achieves by way of consumerist techno-scientific conquest. The technological underpinning of the temporal voyage is usually aestheticized front and centre, as seen in the above examples. It is significant that in the two films explored in this chapter time is travelled not

167 only organically, without specifically designed technology, but also entirely by accident.



Figure 18 – The *Delorean* hits 88mph and projects into the future, narrowly avoiding Doc Brown (Christopher Lloyd) and Marty McFly (Michael J. Fox) in *Back to the Future*.

Just as the last two chapters traced a shift from a technological imaginary to an ecological imaginary in science fiction cinema, the temporal estrangement of these two texts points towards a

similar shift in attention. We see human's cast adrift and tumbled up in temporal flows foreign to them, arrived at inadvertently and perhaps unthinkingly by both Cooper and Dr. Banks' altercations with more-than-human non-technological assemblages: planets and aliens, respectively. This seems of edifying pertinence for reading the experiential temporal shock of the Anthropocene context. The pursuit of capital and (mis)use of our planet's resources has inadvertently imbricated our species with timescales both bound by and beyond our grasp. Just as Cooper, Brand and their band of astronauts find themselves standing on planets estranged from their own sense of time, we now do so in turn. In my introduction I cursorily posited that time in the Anthropocene feels science fictional. What this chapter will show is that the links between time in the Anthropocene and time in science fiction cinema are far more than cursory.

168 How one approaches time in cinema, and indeed how it has historically been approached, is varied. Cinema and time have been analysed philosophically as per Gilles Deleuze's *Cinema 1* and *Cinema 2*, historically as per Doane's *The Emergence of Cinematic Time*, materially as per Garrett Stewart's *Framed Time* as well as from a genre perspective, as found in Bliss Cua Lim's *Translating Time*. My approach will sit in a zone between historical, philosophical and, of course, genre analysis. It seeks to demonstrate how we think time in the Anthropocene, and how science fiction cinema is uniquely placed to facilitate such thinking. Science fiction films' proliferation of now very familiar images of space ships accelerating to "warp speed" to reach distant galaxies and sequestered nebulae, as made famous by *Star Trek* (Roddenberry, 1966-1969), and imaginings of time travel technologies which allow their protagonists to hop to and from one temporal location to another, as mainstreamed by *Back to the Future* seem exaggeratedly reflective of the basic functions of cinema itself. A film cuts from one image to the next, seemingly teleporting into a new spatial and temporal location with each



and every edit in ways that are not dissimilar to the spatial propulsion of the Starship Enterprise or the temporal navigation or Doc Brown's Delorean. Indeed, the necessity for the Delorean to be travelling at 88mph in order to accomplish its impossible voyage through time seems reflective of cinema's own need to travel at 24 frames per second for the illusion of its spatio-temporal continuity to be sustained. Moreover, "thinking" time in the Anthropocene requires a science fictional mind-set. Heather Swanson, Nils Bubandt and Anna Tsing suggest something similar, positing that 'viewing the Anthropocene as science fiction... asks us to take the view from afar and look at the earth as if we were explorers from the far distant future' (2018, 149). To imagine and think time in the Anthropocene a temporal dislodging of an inherently science fictional nature is required. Indeed, to comprehend time in this era it helps to think as if we were from a time and galaxy far, far away. However, clearly, the conditions that produced this epoch are situated quite firmly in the recent past, at home on Planet Earth. Thus, in order to fully assess cinema's stakes in this temporal shift it is important to frame the medium's entanglement with the sense of time that preceded, or perhaps produced, the timeshape of the Anthropocene.

# CINEMA, TIME, MODERNITY AND THE ANTHROPOCENE

One exceptionally illuminating piece of writing for this chapter is Doane's *The Emergence of Cinematic Time: Modernity, Contingency, the Archive*. Doane's framework of thought is in many respects very similar to my own. Doane's book 'is about the representability of time in the late nineteenth and early twentieth centuries', wherein she posits that, 'the achievement of modernity's temporality, as exemplified by the development of the cinema, has been to fuse rationality and contingency, determination and chance' (2002, 208). Doane argues:

170        **at the turn of the century time became palpable...Time was indeed felt – as a weight, as a source of anxiety, and as an acutely pressing problem of representation. Modernity was perceived as a temporal demand. (2002, 4)**

This resulted in time becoming 'increasingly reified, standardized, stabilized, and rationalized' (2002, 5) during the late nineteenth/early twentieth century. Her core thinking here is that the processes and upheavals of modernity resulted in a concomitant shift in how people felt, and interacted with time on both an individual and global level. Taylorism, the world-clock and the space-time compression of new technology (cars, telephones, trains) are amongst the primary agents that changed how people considered and engaged with time. In a very detailed and intellectual analysis she demonstrates the ways in which cinema was itself situated within this temporal shift, arguing that 'cinema compromises simultaneously the rationalization of time and an homage to contingency' in a manner that is/was 'consonant

with the broader rationalization and abstraction of time in an industrialized modernity' (2002, 32).

Lutz Koepnick, in his keenly observed *On Slowness: Toward an Aesthetic of the Contemporary*, makes similar assertions to Doane with regards to cinema's entangled relationship with time in the early throngs of modernity. Koepnick posits that,

**aside from factory whistles and assembly line production, cinema and train travel may very well stand out as the most important agents in the standardization of temporal experience during the last hundred and fifty years. (2014, 57-58)**

He expands on this, effectively convincing that,

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**industrial modernity, as it began to sweep across the European landscapes of the nineteenth century and introduced technologies such as the steam train, the telegraph, the telephone, the cinema, and the automobile, inaugurated an age of unprecedented time-space compression. Modernity brought the thrill of speed and motion to the sluggishness of preindustrial life. (2014, 15)**

It is very interesting that Koepnick cites transport technologies such as the automobile and the steam train as harbingers of this new speed and space-time compression inherent to modernity. An ecocritical lens of analysis, ushered in with stressed urgency in the Anthropocene context, upsets this view of automobiles and steam trains representing a unilateral sense of speed, and would perhaps be cautious of the "thrill" induced by it.

While the speed associated with cars and trains is absolutely one of the hallmarks of modernity, and certainly operates to disclose

the differences of the space-time relations opened up by these emergent technologies, to think on this ecocritically upsets its sense of singular rhythm. Automobiles, somewhat ironically, brought about unimaginable speed through incomprehensible slowness. The natural accrual of oil and coal within our Earth's crust takes millions upon millions of years, yet in 1930 it only took 2 days to get halfway across the United States by steam train (Richard, 2012). Moreover, the effects of the burning of these resources stretch far beyond the short timescales of the transport they facilitate. To think time in the Anthropocene, is to also re-assess how time was conceived and thought of in modernity. Ecocriticism pays greater attention to the competing flows, pressures and rhythms locked to the space-time compressions of modernity's speedier pace of life. While these new technologies certainly brought speed to the world, they also imbricated the human with almost unimaginable slowness.

172        **Indeed, as Ginn et al point out, Modernity's temporal cadence of ever-onward-rushing progress, newness, and renewal was never all-encompassing. Modernity always had its countertemporalities. There was ruin, both of places left behind and visions of future destruction to come. There was nostalgia—for a vanishing Nature, for a time of craft and community before capital bestrode the globe, for paradise. There were resistant rhythms of everyday endurance, and there were non-Western temporalities never incorporated into modernity's singular temporality. (2018, 213-214)**

The notion that modernity presents a unilateral sense of speed is misleading, and the way in which we think time now calls for us to re-consider the tempo of modernity. This chapter is not about juxtaposing time in modernity vs. time in the Anthropocene, since one naturally bleeds out of the other. Instead, it works from the

premise that a warming climate collapses various types of time, such as those of modernity, geological formations, ecological systems and human existence.

Much thinking on time in the Anthropocene context, following Chakrabarty (2009), would propose the arithmetic of human time + deep time = Anthropocene. While this is robust and digestible thinking, it seems an over simplification. In my first chapter I discussed the vast Russian doll narrative of the Anthropocene's geostory, each step towards further specification unveiling another agent embroiled in the history of humanity's relationship with the Earth and the more-than-human world. A similar process occurs when we think of time in the Anthropocene, beyond the simple demarcation of human time + deep time we get an impression of a vastly connected and dispersed web of competing flows of duration and scale. Glacial melt, tectonic shift, ocean currents, atmospheric temperature rises, Earth's  
**173** axial tilt, modernity's space-time compression, the world clock, Australian aboriginal dream-time, eroding coral, lichen life cycles ... the list goes on. Just as history in the Anthropocene is a topologically layered affair, so too is time. All of these differently localised, globalised and cosmic time pressures converge on our one planet. As Swanson, Bubandt and Tsing posit in the introduction to *Arts of Living on a Damaged Planet* 'the time of modernity is not the only kind of time, and that our metronomic synchrony is not the only time that matters' (2017, G10). While time is vast in the 21<sup>st</sup> century by way of humanity's newfound deep time imbrication, there is more at stake than pointing out our embroilment in these seemingly incommensurate scales. This runs the risk of being rather anthropocentric in our thinking.

To think on a more deeply ecological level we must consider the multiplicity of different scales of time flowing through one another, very large and very small, human and nonhuman. This folding plurality of divergent durations is the timeshape of

the Anthropocene, a topologically layered convergence point of human and nonhuman temporalities interwoven with one another.<sup>32</sup> This merging of shorter timescales with much deeper ones produces a sense of weight to time in the 21<sup>st</sup> century. The short-term utility of a product or activity often stretches out magnificently further into the past and future. Mobile phones are an interesting example of this. Not only do they require 10 times more precious metals than a laptop or desktop computer, but the data centres fuelling them emit large doses of carbon into the atmosphere (Bekhir and Elmeligi: 2018, 448).<sup>33</sup> A mobile phone has roots in the deep geological past whilst finding itself projected into a speculative atmospheric future. Such examples show that time not only folds through such interactions, but also that this folding produces a sense of viscosity. The encumbrance inherent to the topological folding of time in the Anthropocene is similar to the sense of time's thickening described by Timothy Barker in *Time in the Digital*. Barker writes that digital media can

174 induce 'multiple modes or scales of the time (to) coexist in the viewing present', which results in a sense of 'temporal thickness' (2012, 13). In the Anthropocene context, we are also made aware of a temporal thickening by virtue of the various discrepancies of temporal scale inherent to the production, consumption and experiencing of phenomena in the 20<sup>th</sup> and 21<sup>st</sup> century. As Timothy Clark argues, there are clear 'disjunctions between the scale of planetary environmental realities and of those things that seem immediately to matter to human engagement from one day to another' (2015, 30). The films explored in this chapter productively engage with this sense of weighty time that is

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32 This notion of the temporal 'fold' is a core aspect my argument in this chapter. To mention the fold perhaps suggests reference to Deleuze, who also wrote on the fold in relation to Leibniz and Baroque (1993). My use of the term is in more of a day-to-day parlance and bears no intentional relation to Deleuze's own writing on the fold. Though I am sure interesting work could be produced from a Deleuzian reading of this temporal fold in science fiction, it is outside the goals of this particular project.

33 As detailed in Lotfi Bekhir and Ahmed Elmeligi's study, 'by 2020, the footprint of smart phones alone would surpass the individual contribution of desktops, laptops and displays' (2018, 448).

wrought through the folding of human/nonhuman scales.

In summary, the Anthropocene context upsets our historical reading of modernity's temporal signature, which morphs, folds and thickens under the pressure of ecocritical scrutiny. As Ginn et al. powerfully put it, 'the very long term effects of climate change, nuclear radiation, plastic pollutants, and more...collectively, shatter modernity's temporality and its countertemporalities' (2018, 214). In the wake of this temporal shattering, this chapter will investigate how cinema's previously noted relationship with modernity's temporal signature operates now. It will indicate how cinema, through the genre of science fiction, can reflect a sense of time's topological folding in this era of escalating climatic change.

# TIME AS ENVIRONMENT: INTERSTELLAR'S FOLDING TEMPORAL SIGNATURES

176 In a poignant scene before his departure, Cooper returns home to say goodbye to his family and explain where he is going to his distressed young daughter, Murph (Mackenzie Foy/Jessica Chastain). In a somewhat misguided attempt at consolation, he hands her a wristwatch, "one for you, and one for me", he says. A close up shows these two clock faces side by side in synchronisation with one another. The use of a clock here holds obvious significance in relation to time. Clocks, as described by Barker,

**are a technological engagement with time, intent on its measurement in pulses, not necessarily indicative of its nature. They are, at their most basic, a linear measurement of the passing of time. (2012, 6)**

The clock, then, is a way of rationalising and measuring time by and to human means and ends. Cooper continues,

**When I'm up there in hypersleep, or travelling at the speed of light, or near a black hole, time is gonna change for me. It's gonna run more slowly, now when I get back let's compare... by the time I get back we could be the same age....you and me, imagine that.**

The synchronicity and function of the clock, a device designed to mediate and measure time to human affairs, comes unstuck



when brought into contact with the nonhuman apparatus of black holes and light-speed travel. In Cooper's active acknowledgement of divergent temporal pressures, we see *Interstellar* opening a dialogue into what happens when different senses of time converge, a central preoccupation of the narrative as it unfolds and a central preoccupation of the Anthropocene as we currently understand it. What is hinted at here in Cooper and Murph's interaction is expanded upon dramatically in a later sequence, which gives us a unique window into the convergence of temporal flows.

In this sequence, Cooper and the band of NASA scientists have gone through the black hole, and are having a discussion about which of the four prospective planets to investigate first. They have data on the ecological potential each of them holds, and one in particular, called Miller's Planet, seems promising. There is however a catch to these initially auspicious readings.

- 177 The problem with Miller's Planet is that it sits on the cusp of Gargantua's gravitational sphere of influence. Black holes have a huge, in this case let us say gargantuan, density, to the extent that they quite literally suck in light, matter and most importantly, time. By virtue of its proximity to Gargantua, Miller's Planet suffers a temporal lag comparative to Earth's chronicity. As the scientist Dr. Brand (Anne Hathaway) comments, "Gravity on that planet will slow our clock compared to Earth's...drastically". Indeed, as the ship's theoretical physicist Rommily (David Gyasi) calculates, "every hour we spend on that planet will be ... 7 years back on Earth. That's relativity, folks." In the context of a mission whose purpose is to find a suitable home for humanity before everyone starves and/or chokes from the harsh atmospheric conditions, this is a serious concern. A temporal lag of this nature is far from ideal, leading Brand to note that they "need to think about time as a resource. Just like oxygen and food." Brand's comment and logic around time's use as a resource succinctly encapsulates the feeling of anxiety we have, or perhaps should

have, over time in the Anthropocene. Our planet is dying, and will continue to do so if we do not act “in time” to mitigate the worst of the damage. While much ecocritical thinking highlights the increasing pressure on scant organic resources (be this food, water or oxygen), Interstellar posits that time in the Anthropocene can be seen as a resource no different from the very things that sustain life on Earth. If we do not use the time that is given us in a sustainable and ecologically appropriate manner it will spell doom in a fashion akin to the environmentally damaging abuse of our natural resources, of which time is perhaps now one.

This sense of ecological time pressure established in their conversation is escalated when they actually land on the planet, where Hans Zimmer’s score begins as a syncopated metronomic pulse overlaid with swelling synths. The emphasis is initially very much on the syncopation of the metronome. What is particularly striking is that the metronome sounds more like the dripping  
**178** of water than the ticking of a clock, a clepsydra perhaps. This water clock motif in the score imbues time with a tangible and sensuous environmental quality, linking the temporal pressure exerted by Miller’s Planet to its environmental specificities. Indeed, when the surface of the planet is revealed it is framed as a vast ocean of water as far as the eye can see. Confusingly, what appears as a large region of deep ocean is in fact a vast expanse of very shallow water. Signatures of depth on Miller’s Planet are distorted in both clock and climate, with the environment reflecting the discrepant scales of time that are inherent to the planet itself. Upon landing on the surface they find Miller’s beacon as a wreck in this landscape of roughly knee height seawater. They find Miller’s body not far from the beacon, drowned but still intact, bobbing on the water. At this point Cooper, still on the ship, realises that what Miller had described as mountains in her transmission were in actual fact extraordinarily large waves (Figure 19). The team find themselves hopelessly caught in the swell of an impending tidal wave that threatens their lives, and the

mission at large, as they rush to get back to the ship.



Figure 19 – The shallow water of Miller’s Planet gives way to huge tidal waves as Interstellar’s protagonists attempt an escape.

179 Crew member Doyle (Wes Bentley) does not make it and is swept away into the planet’s briny depths while Cooper, Brand and robot CASE (Josh Stewart) find themselves back in the ship unable to take off due to engine flooding. CASE informs Brand and Cooper that it will take 45 minutes to an hour to flush out the engines, roughly 7 years of Earth time. Apoplectic with rage Cooper shouts “what’s this going to cost us Brand!?”, “A lot”, she says, “...decades”. Baffled as to how Miller and the wreckage were still intact Cooper asks, “how’s the wreckage stayed together after all these years, huh!?” Brand responds that it is “because of the time slippage. On this planet’s time she just landed hours ago, she probably just died minutes ago.” CASE confirms that Miller’s data “was just the initial status, echoing endlessly”. Here we see not only the disastrous sense of affect and consequence tied to different temporal flows folding in on one another, that of Earth time and Miller’s planet time, but also humanity’s inability to grapple with this folding. Additionally, this sequence shows that there is more at play than simply the folding of two different timescales, we see a kaleidoscopic array of temporal pressures and speeds colliding disastrously in on another. Earth time,

Miller's planet time, the endlessly echoing loop of Miller's beacon, the tidal signature of the planet's waves, the urgent rush to get back to the ship, their engine's time to flush itself of excess water and the confusing time signature of Miller's death all collide and crash down upon one another like the waves of the planet itself.

In order to expose analysis to these various heterogeneous times, "slowness" provides a useful and underexplored framework for temporal thought. Koepnick's work introduced me to the term in a particularly illuminating chapter of *On Slowness*, within which he writes on the temporal propulsions of glaciers. On the one hand glaciers are natural emblems for deep, or slow, time, with their movements of an inch or so a day at odds with our human conception of speed. Moreover, due to global warming glaciers are melting, which makes them a sadly appropriate framework for thinking not just on timescales larger than us, but for our current entanglement within such scales of time.<sup>34</sup> While we might  
180 initially think of glaciers as singular entities advancing inexorably at a very slow rate, emblems of deep time, Koepnick effectively discloses that glaciers are more complex than this. He writes:

**far from representing a unified geological configuration, a glacier is a highly dynamic force field whose individual vectors themselves undergo constant motion and transformation ... It is a glacier's categorical unconformity – its articulation of multifarious forces and timetables – that turns any attempt to predict its kinetic activity into an extremely taxing undertaking. (2014, 86)**

Glacial time, then, is not just slow time but competing time, a wholeness that is composed of different tempos, pressures, speeds and rhythms. Slowness, as a temporal framework,

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<sup>34</sup> Indeed, glaciers have grown to become a key emblem of the Anthropocene and the environmental anxieties that surround it, as seen in eco-documentaries such as *Chasing Ice* (Orłowski, 2012).

announces itself strongly here and we see not only what happens when time moves slowly, as it does on Miller's Planet, but also how this slowness is imbricated with a variety of differing flows, tempos and pressures. As Koepnick has it,

**slowness...makes us pause and hesitate, not to put things to rest and to obstruct the future, but to experience the changing landscapes of the present in all their temporal multiplicity. (2014, 9)**

Slowness then seems of huge benefit to pause and reflect on the multiplicity of temporal flows that ecocriticism in the Anthropocene needs to be exposed to.<sup>35</sup>

181 Unilateral human chronicity is upset by Miller's Planet, within which an endlessly echoing loop of data was being fed to them, upon which enormous tidal waves rhythmically lash down and through which they, in a sort of temporal derangement, spend both a couple of hours and a couple of decades. Rather than witnessing one singular sense of deep or slow time, we see a variety of slow and fast temporalities colliding.

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35 This seems of interventional relevance to the surge of emergent writing on slow cinema. *Interstellar* and *Arrival* are in many ways aligned with this, but with some fundamental differences. Broadly speaking, writing on slow cinema situates it as a filmmaking strategy adopted by a number of directors around the world, 'whose aim is to rescue extended temporal structures from the accelerated tempo of late capitalism' (2016, de Luca and Jorge: 3). Slow cinema 'makes time noticeable in the image and consequently felt by the viewer, it can be argued that this is often achieved by means of a disjunction between shot duration and audio-visual content' (2016, de Luca and Jorge: 5). Long takes, sometimes very long indeed, static or languid camerawork, uneventful narratives and a general emphasis on banality are some of the hallmarks of this cinema of slowness. Neither *Interstellar* nor *Arrival* adhere to this mode of slow cinematic representation, quite the opposite in fact. Both feature bombastic Hollywood spectacle from a narrative perspective and, particularly in the case of *Interstellar*, are situated in a more Bordwellian neo-formalist tradition of Hollywood filmmaking, which emphasises a faster pace of rhythm. However, this is not to say that these two films are of no relevance to slow cinema, and that slow cinema is of no relevance to them. From an ecological perspective slowness is most certainly at play in these films.

Koepnick suggests that:

**slowness approaches the present as a realm of unfulfilled pasts and unclaimed futures; it stresses the extent to which the virtual is deeply embedded in what we call and perceive as the real. (2014, 14)**

182 This sense of unfulfilled pasts and unclaimed futures being deeply entangled with the present find form eloquently on Miller's planet. Drawing on the logic hinted at by Koepnick, we see the virtual and unfulfilled past of Miller's time revealed as inherently linked to and imbricated with the present of Cooper, Brand and CASE's Earth time. It is significant for this thesis that the time that is travelled across here is lent a deeply geological and environmental context. There are no sparking cables or whirring devices on show, simply the rhythmic dripping of water. We see not only slow and competing times, but time manifested as clepsydra, ocean and planet. Miller's planet unveils time as slow and cyclical, ferociously crashing down on *Interstellar's* protagonists, who are caught in the wake of both its tidal and temporal swell. Time on Miller's planet is not just environmental, but is the environment itself.

On Miller's planet we see a temporal process of the miniscule accumulating towards the very large, minute durations imbricated hopelessly with much longer durations. This temporal collapse is of pertinence to the Anthropocene's own clashing of temporal signatures, wherein large and small timescales fold in on one another. Plutonium-239 has a half-life of 24,000 years, yet the complete process of a nuclear bomb's initial explosion is 0.0000008 seconds (Hall, 18). Very long and very short things stack up and fold in on each other with disastrous consequences. As Chakrabarty argues, 'Anthropocene warming thus produces problems that we ponder on very different and incompatible scales of time' (2015, 45). *Interstellar*, through its ecologically and geologically contextualised folding of different time scales, not

only untangles this problem but unveils an affective component central to this bringing together of seemingly incompatible time(s). We see this in particular upon Cooper, Brand and CASE's return to their main ship orbiting Miller's planet. Team member Rommily, greying and aged, is quietly distressed by their return after so many years in solitude. After a brief exchange, Cooper sits down to watch the videos they have been receiving from their family members back at home. Mere hours away for Cooper has seen his daughter and son age by 23 years, growing more and more resentful as time has gone by. His father-in-law, whom he was close with following the death of his wife, has also died.

Within this sequence we see a series of shot-reverse-shot close ups of Cooper's visceral emotional reaction to the tapes (Figure 20), cut against the more muted and gradual emotional distress acted out by his son and daughter on VHS-style granulated footage. What is at stake here is not simply that we see time  
183 folding, it is that we see the devastating sense of affect wrought through this folding. The Anthropocene has folded the deep time chronology of geological forces within the much shorter timeshape of human and nonhuman affairs. Interstellar can be seen to do something startlingly similar here. Cooper's human time chronology is displaced by that of Miller's planet in the few hours he spends there, while Earth time, and thus humanity's time, move on at their usual pace. Upon returning to a sort of time-equilibrium aboard their ship we can see that the chronologies of Earth and Miller's Planet have hopelessly warped. As his daughter angrily comments on tape:

**Today is my birthday, and it's a special one because you told me...you once told me that when you came back we might be the same age, and today I'm the age that you were when you left.**

Cooper sees his family age and become estranged to him before

his very eyes, a timescale of 23 years becomes condensed and compressed like so many layers of rock under the weight of Gargantua's gravitational pull.



Figure 20 – Interstellar's Cooper breaks down in tears as he watches tapes sent from his family.

184 The deep time imbrication of Cooper with Miller's Planet is microcosmically encased in the granulated VHS-style footage of his family's decade-old videotapes. This sequence is not merely about highlighting a clashing of divergent temporal rhythms, but to unveil the emotional disturbance wrung through their folding. The fact that this touching of different timeshapes occurs through film footage is particularly interesting, and seems to foreground the cinematic as a tool for facilitating temporal collapse. Jennifer Barker's writing on cinematic tactility in *The Tactile Eye: Touch and the Cinematic Experience* seems of relevance here. Barker argues that:

**particular structures of human touch correspond to particular structures of cinematic experience. In other words, the forms of tactility that filmgoers experience at the movies are shared – in complex, not always comfortable ways – by both spectator and film. (2009, 2)**

Here the structures of human experience and cinematic experience that touch are not necessarily material, but temporal.



Cooper encounters his new temporal regime through the aesthetically dated and granulated VHS-style footage before him. In doing so we see both the spectator (Cooper) and the film (the family footage) engaged in a tactile form of temporal folding. This footage both emotionally and temporally touches Cooper, who sits neither fully within his new temporal regime, or the one that his family are locked to on Earth. Instead, in the interaction between him and the screen, he sits in the crevice between them.

**Barker poignantly suggests that in, watching a film we are certainly not in the film, but we are not entirely outside it, either. We exist and move and feel in that space of contact where our surfaces mingle and out musculatures entangle... caught up in a relationship of intersubjectivity and co-constitution, rather than as subject and object positioned on other sides of the screen. (2009, 12-13)**

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Just as Cooper and his family are neither entirely outside of one another, we the audience are not entirely outside of them either. The mirrored processes of screen watching occurring between the film's protagonist and us, the audience, helps suture the viewer into an experiential and tactile sense of the temporality proffered by the film. If Cooper is distressingly co-constituted by Miller's Planet time and Earth time, we as an audience are in turn. The affective force of his emotional reaction touches us across this thickening layering of screens and the folding of their distinctive time signatures. Just as VHS-style footage upsets the view of a reified and stable human form in *Annihilation*, as discussed in the previous chapter, it does so here in turn, but in a temporal rather than corporeal context.

This repeated use of screens to facilitate and corroborate the destabilisation of the human seems significant, and further recalls Joanna Zylińska's arguments in *Nonhuman Photography*:

**embracing nonhuman vision as both a concept and a mode of being in the world will allow humans to see beyond the humanist limitations of their current philosophies and worldviews, to unsee themselves in their godlike positioning of both everywhere and nowhere, and to become reanchored and reattached again. (2017, 15)**

186 Interstellar's use of this video footage, both decades old and a couple of hours young, affirms this sense of nonhuman forms of vision generating world views beyond humanist limitations. In this instance it allows for new ways of framing the human in relation to nonhuman temporal pressures. Zylinska writes on the 'nonhuman' of her nonhuman vision as based on media that is 'decoupled from human agency and human vision' (2017, 1), citing CCTV, drone media, medical body scans and satellite imaging (2017, 1) as amongst these modes of seeing through the nonhuman. The footage found here in Interstellar is nonhuman for quite different reasons. The human clearly addresses the camera and to an extent shapes the interactions with it, aesthetically it is strongly aligned with human agency and vision. Yet, through the clashing time signatures of Miller's Planet and Earth time, nonhuman qualities ripen in these otherwise relatively humanistic vignettes from Cooper's family.

Through their clashing, the human is placed in a precarious and marginalised position. The nonhuman footage encumbers Cooper with the emotional, philosophical and material heft of the human crossing temporal borders with the nonhuman. Time weighs down on Cooper in manners correspondent to the weighty burden of time humanity is confronted with in the Anthropocene. A medium close-up of Cooper sees his expression turn from dumbfounded, to thrilled, to devastated as clips of his son play before him. The rotation of the ship sees the light from the window oscillate around the room and sporadically illuminate

his face. The cyclical motion to the ship in this otherwise very still camera shot further emphasises the sense of time's relentless passage on-board their 12-module rotating clock of a spaceship. Where the clock of modernity gave the human a sense of ownership of time, the clocks of *Interstellar* facilitate a de-centring of the human from controlled temporal flow.

To read about the folding of human history and geological history on the page, in an academic environment, or otherwise, is a cerebral shock but not necessarily an emotional one. To see the folding of time acted out on the screen in such a context works towards better understanding the damaging sense of affect that temporal displacement can, does and certainly will induce in the Anthropocene context. We as a species are now in a situation not dissimilar to Cooper. We find ourselves locked within chronologies foreign to our own. Our human processes are impacting various long and short-term Earth processes at  
**187** a catastrophic rate. In displaying this, *Interstellar* unveils an ecologically affective component to its temporal collapses. Instructively, it is not just Miller's planet that evokes this environmentally layered time signature. The second planet they visit produces a similar sense of temporal crisis, which is reflected in the atmospheric conditions of the planet itself. Again, time is not environmental, it is the environment itself.

After re-grouping in the wake of their disastrous couple of hours/decades on Miller's planet they, after some dispute, set their courses for Mann's planet. Mann's planet is also clearly marked by the presence of water. However, the temperatures are clearly far lower, rendering the landscape a tundra of precipitous icy stone shards and glacier formations (Figure 21). As their ship comes down onto the planet they skim through the fringes of a cloud, which, to some surprise, they physically make jarring contact with. What appears as a cloud on the exterior in fact houses a huge chunk of ice underneath. The planet's environment is one

at odds with our environmental expectations pertaining to how water should behave. Just as Miller's planet confused our sense of



Figure 21 – Cooper looks out over the frozen desert of Mann's planet in Interstellar.

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Cooper, Brand, Romilly, TARS and CASE land by Mann's outpost and walk into his makeshift headquarters. They walk over to his hypersleep chamber, which appears more like a coffin than a technologically advanced cryo-stasis chamber, and open it up. Out emerges Dr. Mann (Matt Damon) in a state of shock. He looks at Cooper and immediately starts to weep uncontrollably, grasping out to touch his face and embrace him. Mann is literally raised from the dead, his life signature as still and muted as the frozen ground beneath their feet, until awoken by Cooper, Brand and Romilly. Dr. Brand gently presses Dr. Mann for more information, "Dr. Mann, tell us about your world." "Our world, we hope", he responds,

**Our world is cold, stark...but undeniably beautiful. The days are 67 hours long. Cold. The nights are 67 far colder hours. The gravity is a very, very pleasant 80% of the Earth's. Now up here where I landed the water is**

**alkali, and the air has too much ammonia in it to breathe for more than just a few minutes, but down at the surface, and there is surface, the ammonia dissipates and gives way to crystalline hydro-carbon. Breathable air. To organics, possibly even to life...we might be sharing this world.**

189 This is all a lie. The planet is in fact entirely as it appears on the surface, an inhospitable expanse, which suffocates as it freezes. Dr. Mann sent false information to the crew so as to get rescued, unable to comprehend or reconcile his potentially infinite slumber or the fact that his planet was not the new home for humanity he assumed it would be. He makes an attempt on Cooper's life and commandeers one of their ships in efforts to dock and board with their main vessel, the clock-faced Endurance. It is as if Dr. Mann has been driven mad by the timeshape of the planet he has been marooned upon. Like sailors lost at sea, forced to drink salty water, Dr. Mann's icy chamber has cast him adrift temporally and psychologically. He remains locked to, and obsessed by, the notion that his planet would be humanity's savior.

In a climactic scene wherein Dr. Mann attempts to board the Endurance he relays the beginnings of a rousing speech to Cooper and Brand via intercom, "This is not about my life, or Cooper's life. This is about all mankind. There is a moment...". At this point his speech is cut off as the improper lock he had on the Endurance causes an explosion, catapulting him into the vacuum of space and his death. The delivery and tone Dr. Mann reaches for in his monologue here is brazenly similar to Neil Armstrong's "One small step for man, one giant leap for mankind" speech, famously delivered upon the Apollo 11 mission's first moon landing. It is as if Dr. Mann is locked to the past, revering the historical narrative of the all-American-male astronaut conquering space and landing successfully on his target. His name, "Dr. Mann", could not frame him more opaquely into this American

male colonial narrative. The frozen planet has seemingly not just locked him in time, but cast him adrift and backwards through it, recalling and echoing the past accomplishments of human history. Again, we see Koepnick's conception of unfulfilled pasts and unclaimed futures coalescing with the present moment, as seen here through Dr. Mann's relationship both to his planet's environment and humanity's history of cosmic endeavour. Although he is awoken from his frozen sleep, seemingly raised from the dead, he remains tethered not just to his own past on the frozen planet, but further back to Earth's past. Dr. Mann seems to exist within and embody the crevasses of the temporal fold. He is neither fully existing in the past, present or future, but nebulously navigating the thickening folds between them. Through Dr. Mann we see a history of 20<sup>th</sup> century American colonial endeavour excavated from a hypersleep chamber. Just as *After Earth* (Shyamalan, 2013) and *Dawn of the Planet of the Apes* (Reeves, 2014) consider colonial narratives, so too in its own way  
**190** does *Interstellar*. Though, as I will go on to describe later in the analysis, *Interstellar*'s closing act is far less cautious of this type of colonial narrative.

What *Interstellar* reveals through its sojourns on Miller and Mann's planet is not just slowness as a framework of temporal thought, but the inherently ecological component to slowness, which is something that Koepnick's writing perhaps misses. In layering the confusing temporal signatures of these planets with environmental context, we are invited to think about time as an ecological constituent no different from the water that drowns on Miller's planet or the ammonia that suffocates on Mann's. The landscapes on these planets could perhaps instead be described as "timescapes", spaces whose temporal specificities are reflected in their atmospheric and ecological idiosyncrasies. Much Anthropocene writing orbits around the notion that deep time and human time have collapsed. *Interstellar* shows this also, but takes it further. It unveils that time in the Anthropocene

is more than a contained collapse, it is in fact, like a glacier, composed of many different temporal pressures and speeds. Koepnick argues:

**what glaciers bring to light is a simultaneity of different forms of flow, at times steady or seemingly stagnant, at times accelerating or slowing down, in each case producing a rich maze of folds and crevasses. (2014, 86)**

191 The glacial temporal framework of *Interstellar* places its characters in these perilous cracks, folds and confluences of divergent time pressures and flows. Time here does not feel like the forward thrust of progress and temporal standardization induced by modernity, as per Doane's writing, but feels like the temporal quake in being, to borrow Timothy Morton's phrase (2013), induced by the Anthropocene's dizzying hyperobjectivity. Doane argued that 'the achievement of modernity's temporality, as exemplified by the development of the cinema, has been to fuse rationality and contingency, determination and chance' (2002, 208). We see something rather different occurring here. The disaster of the Anthropocene's temporality is the folding of divergent and incompatible temporal flows. The achievement of science fiction cinema, as exemplified by *Interstellar*, is to unveil the ecological and affective weight wrought through this folding.

# ARRIVAL, INTERSTELLAR AND TRANSCENDING TEMPORAL FLOW

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In the above sequences of *Interstellar* we see the effect, and affect, of characters placed out of temporal bounds. The human is placed perilously in the frame of the various temporal collapses that occur. The convergence of time(s) is presented as a disaster, which leaves the human figure powerless. However, there is a recuperative narrative crescendo within *Interstellar*, which provides a platform for the human to transcend the temporal disturbances enacted in the narrative. *Arrival* does something very similar. These two films, in their closing acts, both provide their protagonists with a sense of temporal agency that seems at odds with the fragility with which the human is placed in the Anthropocene epoch's temporal shifts. As Morton highlights, climate change, and hyperobjects in general, 'involve profoundly different temporalities than the human-scale ones we are used to' (2013, 1). Initially in *Interstellar* this profound difference is corroborated and unveiled as a crisis point, with the disaster of clashing temporal heterogeneity explored on Mann and Miller's planets. Yet this impression is inverted in its crescendo, and is similarly upended in *Arrival*. Both of these films unfurl temporal frameworks of more-than-human origin in their closing acts, both of which allow their protagonists to transcend linear progression through time. While time was upset on Miller and Mann's planet, it was not necessarily time travel. Time was rather seen to accelerate and decelerate at rates which cast Cooper, Brand and Romilly adrift in a maze of folds. Time travel is presented in a more comprehensive fashion in *Interstellar*'s closing sequence and in *Arrival*'s staging of human interaction with heptapods. In so doing these films both posit and unveil a temporal structure that



allows the human to more consciously navigate time. Moreover, particularly in *Arrival*, this ability to navigate heterogeneous time is ecologically contextualised.

An informative sequence in *Arrival* sees Dr. Donnelly in voiceover narration describing the intricacies of the heptapods and their strange language. He opens by gesturing towards “some of the many things we don’t know about heptapods.” This voiceover is overlaid with a long crane shot over what looks to be a vast ocean of murky water, it transpires instead that this is a crane close-up of the heptapod spaceship’s interior surface. Just as Miller and Mann’s planet distorted our sense of environmental expectation, the heptapod’s technology does so in turn.

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**Who are they? Trying to answer this in any meaningful way is hampered by the fact that outside being able to see them and hear them, the heptapods leave absolutely no footprint. The chemical composition of their spaceship is unknown. The shell emits no waste, no gas, no radiation...the air between the shells is untroubled by sonic emission or light wave.**

This information is overlaid with a series of long and close-up shots of the heptapods’ ships and their relation to the environment around them. Much emphasis is given within the *mise en scène* to their complete lack of disturbance of the water or air. Clouds merely pass by them and still water gently ripples as if nothing were hanging atop it but the air itself. Here we see that the heptapods’ ships, while aesthetically imposing, are ecologically innocuous. The implicit meaning behind Banks’ narration and the ships’ environmental milieu is that heptapod technology is the antithesis of human technology. Indeed, the most “successful” or ubiquitous technological outputs of modernity, such as automobiles, trains, nuclear power or aeroplanes, often omit a combination of waste, gas and radiation,

all of which have a stark impact on the immediate local and global environment. In foregrounding environments and clean technology in relation to the heptapods an ecologically oriented sensibility is imposed onto this alien race. When we factor in that they can travel through time, it is clear that the temporality we are proffered by Arrival's heptapods is shot through with ecological context of pertinence to the technologically manifested troubles of a warming climate.

The specific means by which the heptapods travel through time is through their language, which Dr. Donnelly goes on to describe.

**How do they communicate? Here, Louise is putting us all to shame. The first breakthrough was to discover that there's no correlation between what a heptapod says, and what a heptapod writes. Unlike all written human languages, their writing is semi-sciographic. It conveys meaning, it doesn't represent sound.**

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In other words, unlike humans, what a heptapod says bears no correlation to what a heptapod writes. The heptapods' writing is logographic, in manners perhaps comparable to Japanese kanji. As Dr. Donnelly explains "unlike speech, a logogram is free of time. Like their ship, or their bodies, their written language has no forward or backward direction." This concept of their language, ship and bodies being free of time, and seemingly directionless, is edifying for this chapter. In *Interstellar* I have shown how characters were perilously placed within clashing temporal speeds, wherein divergent flows of time folded in on one another. This imbrication is the direct result of the human being tethered helplessly to a linear movement through time, we can only move forward through it. Even if it is slowing or accelerating at different rates the progression is in the same direction. Indeed, as Dr. Banks notes at the beginning of the film, "memory is a strange

thing. It doesn't work like I thought it did. We are so bound by time, by its order." The heptapods' arrival, and their language, untangles this temporal binding. Just as their language is free of time, those that are fluent in it are also free of time. Dr. Banks, as she learns the language, starts to become liberated from linear temporal thrust.

What is both interesting about how this time travel is conveyed, and of pertinence to the ecological meaning anchored to it, is that this time travelling is invisible. By this I mean it is cunningly hidden in the narrative under the masked guise of flashbacks. Just as the heptapods' ships are ecologically invisible, in the way that they have no detrimental impact on Earth's environments or inhabitants, their time travel is equally imperceptible. As Dr. Banks becomes more entrenched in the language, the film cuts to images of her and her daughter. The big reveal in the narrative crescendo is that these were in fact not flash backs, 195 but flash forwards. She was seeing into and living her future with a daughter she has not yet had. This invisibility of temporal dislocation seems of reflective pertinence to the temporal infrastructures of late stage modernity, wherein small actions cascade into much larger, cunningly hidden, timescales. For instance, it might take 5 minutes to drink a hot beverage from a polystyrene cup yet it can take up to a million years for this cup to decompose in landfill, and 50 years in a marine environment (Gehrman, 2014). The modern world in which we live largely makes this process, and this timescale, invisible. As Morton notes in *Humankind*,

**categories such as "away" have evaporated. One doesn't throw a candy wrapper away – one drops it on Mount Everest. Capitalist economics is an anthropocentric discourse that cannot factor in the very things that ecological thought and politics require: nonhuman beings and unfamiliar timescales.**

(2013, 6)

Arrival, in masquerading the alien language's time travel propensities under the guise of cinematic flashback, affectively contextualises the masquerade of hidden time(s) in the Anthropocene. As Jennifer Peterson and Graig Uhlin rightly note,

**in effect, given the delay between anthropogenic carbon emissions and their impacts on the climate, by the time the consequences of our actions are evident, it is in some sense already too late to correct our course. (2019, 143)**

Thinking through human interactions with the world through the Anthropocene context dislodges simple attribution of where and when the consequences of such actions will play out. Arrival harnesses and thrives upon this type of temporal derangement.

196 What we assumed to be a revenant past interrupting the present moment in the form of flashback is in fact an as yet to be lived future disrupting human assumptions of temporal thrust and scale. In lifting the veil of this cloaked future, Arrival, as did Interstellar, unfurls the sense of affect tied to this clashing of different timeshapes and timescales. However, Arrival takes this further in providing Dr. Banks with agency in this time travelling process. While initially these flash-forwards are out of her control, after a final conversation with the heptapods she understands and gains control over these strange memories of the future.

In this final conversation with the aliens, Dr. Banks approaches the alien vessel for a last conversation prior to what is presumed to be all out war between humanity and the extra-terrestrials. A small shuttle collects Dr. Banks and conveys her up into the craft. She steps out into a smoky atmosphere, her hair floating as if submerged in water, as she proceeds into the heptapods' chamber. "Louise has weapon. Use weapon", says Costello (a

nickname given to this heptapod). Perplexed, she asks, “I don’t understand, what is your purpose here?” Costello answers, “We help humanity. In three thousand years we need humanity help.” “But, how do you know the future?”, Dr. Banks retorts, confused at the concept. At this point the narrative is interrupted by images of her child playing by a river and staring into the camera. Initially such images were read as hallmarks of a virtual past traumatically interrupting and existing alongside the actual present. In fact these are images of an as yet to be realised future coalescing alongside and discontinuing the present. “I don’t understand, who is this child?” she asks with urgency and pain. “Louise sees future”, Costello responds curtly, “Weapon opens time.” At this point Costello departs and Louise finds herself back on Earth and outside the ship, now cognisant that this child is a memory of her future.

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Figure 22 – Dr. Banks and Dr. Donnelly stare at the heptapods’ written words being projected onto the screen of their spaceship in *Arrival*.

Previous conversations between Dr. Banks and the heptapods were mediated through a translucent boundary separating the two, staged as if their encounters were arbitrated through a cinema screen (Figure 22). It feels significant that this final revelatory conversation places them both within the same realm, within this figurative screen that previously mediated their contact. Returning to Barker’s writing in *The Tactile Eye*, ‘the

cinematic experience is the experience of being both “in” our bodies and “in” the liminal space created by that contact’ (2009, 19). There is a tactile viscosity to the air around Dr. Banks, which appears neither gaseous nor entirely liquid. It is a space defined by its eerie in-between-ness. We see Dr. Banks here placed in the interstitial space between her body and those of the aliens’ screen, allowing for a sense of contact previously denied them. Barker argues that this kind of tactility in cinema,

**undermines the rigidity of the opposition between viewer and film, inviting us to think of them as intimately related but not identical, caught up in a relationship of intersubjectivity and co-constitution, rather than as subject and object positioned on other sides of the screen. (2009, 12-13)**

198 This sequence helps to break down the subject/object dualism of human/alien by bridging the barrier of the screen that previously saw to separate them. In turn, this bridging facilitates the folding of human and heptapod time. Instructively, it is at the same time in which the heptapod/human screen is broken that the misleading screen of time in the film is correspondingly cleft open. Dr. Banks and the audience in turn realise the way in which temporal registers have been confused. There is an interesting dualism at play in the way *Arrival* positions Dr. Banks and the audience of the film in relation to the screen of the heptapods and the screen of the film itself. Once Dr. Banks traverses into this space beyond the screen, the audience are granted a similar temporal transcendence. This chimes with *Interstellar*’s use of screens, where Cooper is similarly incorporated with nonhuman temporal regimes through the uncanny temporal contact they facilitate. In both films, the screen is used as a self-reflexive framing device. These screens mediate and illuminate the shift in temporal perspective that the films’ nonhuman apparatus (planets and aliens) facilitate.

However, where *Interstellar* situates this folding of times and screens as a disaster, *Arrival* presents this as an opportunity for temporal transcendence. *Arrival* recuperates the disaster of heterogeneous temporal flows by making the future a necessary venue in service of the present. Louise, now cognisant of her ability to time travel, proceeds to project herself forwards in time and access a memory of the future, wherein she has a conversation with General Shang at a gala. He gives her his private number and tells her what his wife said to him on her deathbed. Back in the present moment, Louise calls him on this number and relays this back to him, in turn convincing him to stand down and end hostilities against the heptapods. The past, the present and the future lack clear specificity in these scenes by way of Dr. Banks' use of the heptapods' "weapon" of language. What is important here is not the disclosure of heterogeneous times existing alongside one another, but that the planet's

**199** survival is predicated precisely on recognition and acceptance of their collapse. *Arrival* shows that the past and the future are not as discernible and legible as we might think. This is a very appropriate framework for thinking through and tackling the problem of time in the Anthropocene.

To recycle Morton's quote, 'the very things that ecological thought and politics require' are 'nonhuman beings and unfamiliar timescales' (2013, 6). Both are presented here, but taken further in *Arrival*'s heptapod time travel. Heptapod time does not merely show unfamiliar scales via nonhuman beings, it displays how these unfamiliar scales need to be brought into dialogue and reconciled to avert anthropogenic induced disaster. As suggested by my previous reference to polystyrene cups, or to car emissions and mobile phones, the way in which the past and the future collide across divergent scales of time is one of the biggest ecocritical issues of the Anthropocene. We may think of the car ride we took a week ago as situated in the past, but the emissions

from the exhaust will remain in the atmosphere for thousands of years, haunting the future. In the early 21<sup>st</sup> century, the past and the future are no longer bifurcated, separate or independent entities. They bleed into one another across short and deep time scales in manners that unveil them as interdependent and deeply entangled tenses. Arrival's confusion of past, present and future time, as well as its positioning of the future's coexistence alongside the present moment, operates in a manner reflective of this topological folding of time.

Herein slowness as a framework of temporal thought announces itself once again.

**Slowness...makes us pause and hesitate, not to put things to rest and to obstruct the future, but to experience the changing landscapes of the present in all their temporal multiplicity.  
(Koeppnick: 2014, 9)**

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The present of Arrival, if we can even discern such a thing, is presented as a multiplicity of indiscernible pasts, presents and futures all coalescing out, in and through one another. In so doing, time in Arrival assumes a glacial quality, not for its speed per se, but for its cohesive whole being built through converging and competing vectors of time. In this case these being the confusing status of past, present and future tense. Just as a glacier is not merely one inexorable pushing in a singular direction, nor is Arrival's temporal footing in spite of its obdurate narrative drive. Time, like the heptapods' written language, has "no forward or back direction", and is instead revealed as a more motley stitching of temporal flows. In lifting the veil on a cloaked temporal dimension Arrival effectively establishes a framework for interrogating time, encouraging a critical view of the temporal structures inherent to both the causes and consequences of the Anthropocene.

Startlingly similar temporal transcendences take place in



Interstellar's narrative crescendo, but with a demonstrably more jingoistic inflection. Herein, Cooper and Brand have made their way back onto the Endurance following Mann's failed attempt to commandeer it. Cooper ejects Brand so that she will land on Dr. Wolf Edmunds' planet, which, as we discover in the film's closing scene, harbours the perfect environmental and atmospheric conditions to sustain human life. Cooper meanwhile is hurtled into Gargantua in last-ditch efforts to relay scientific information on the singularity at its core back to Earth. To his shock, he finds himself suspended in a three-dimensional tesseract stretching endlessly above, below and to the sides of him. This tesseract, bizarrely, assumes the form of a library. As the sequence unfolds it becomes apparent that this is not just any library, but in fact a seemingly endless iterative repetition of the bookshelf in Murph, Cooper's daughter's, room back on Earth. In the opening act of the film we see strange things happen around this bookshelf. Novels hurtle out of it and dust settles in a peculiarly prescribed

**201** fashion on the floor in front of it. Murph refers to the culprit of these mysterious occurrences as her "ghost", a seemingly spectral presence in the bookshelf. Yet, in fact, it is not quite a ghost in the traditional sense, it is her father communicating across space and time from the heart of a black hole. This notion of the ghost is well placed to unlock time from unyielding linearity, as Cua Lim demonstrates in *Translating Time: Cinema, The Fantastic and Temporal Critique* (2009). Moreover, the concept of the ghost has been demonstrated to hold ecological suitability for considering the nonhuman in the Anthropocene. Ginn et al argue that 'the winds of the Anthropocene carry ghosts – the vestiges and signs of past ways of life still charged in the present' (2017, G1). Their edited collection *Arts of Living on a Damaged Planet* 'offers stories of those winds as they blow over haunted landscapes. Our ghosts are the traces of more-than-human histories through which ecologies are made and unmade' (2017, G1). Here we see Interstellar attempt to leverage the temporal potential of the ghost to unlock time from inertial procession. However, the

ecological propensities of this spectre, as highlighted by Ginn et al, do not come into fruition in *Interstellar*.

Cooper, having ejected from his ship, finds himself suspended in this spectral space behind his daughter's bookshelf. Cooper and TARS, after some confused back and forth dialogue, decide to encode binary data pertaining to the singularity they have found themselves suspended within into the second hand of Murph's wristwatch. Murph, now an adult back on Earth, realises that the ghost in her wall was in fact her father, grabs the watch he gave her and finds the second hand twitching manically. She deciphers the data, allowing her to resolve a quantum conundrum, which in turn allows humanity to depart Earth en-masse. The vastness of time is condensed into the bookshelf of Murph's room, and then compressed further as it contracts into her wristwatch in the form of Morse code.

**202** *Interstellar's* presentation of time as a physical dimension is telling with regards to its ultimate relationship with time, and what this tells us about time in the Anthropocene. Where the environmental representation of time was a much more coded affair on Miller and Mann's planets, that needed to be teased out with some analysis, the physical representation of time is presented wholesale here in this sequence. We see both the human utterly at a loss and insignificant in the face of time's labyrinthine multiplicity, as well as taking command of the situation and finding a way of conquering time's incalculability. This oscillation between time's presentation as vast and scary (a hyperobject) as well as a realm to be penetrated and defeated (perhaps, like Planet Earth) is emblematic of the oscillatory configuration of the human in the Anthropocene. On the one hand the human is placed as a very fragile figure in the face of climate change, as Michel Serres notes 'river, fire, and mud are reminding us of their presence' (1990, 2) in the 21<sup>st</sup> century, yet on the other this is the era marked as that "of the human",

wherein we are inextricably tied to causing these events. The temporal dimension that *Interstellar* unfurls here works to display both the human vanquished by temporal multiplicity, whilst finding methods to confound and disrupt this polyvalent temporal dimension. In affirming the latter of these two in the closing act of the film, *Interstellar* seems to upset some of the ecological interrogation of time we saw earlier in the film – be this on Planet Earth, Miller’s Planet or Mann’s Planet. Koepnick argues that slowness is ‘dedicated to mapping the experience of contemporaneity, aesthetic slowness registers and reflects on the coexistence of multiple streams of time in our expanded present’ (2014, 10). Here *Interstellar* instead seems dedicated to conquering the experience of contemporaneity, distilling it into one cohesive moment. Rather than ‘reflecting on the coexistence of multiple streams of time’ (2014, 10) this closing temporal transcendence seems to affirm a singular existence of one stream of time, human time.

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The use of the clock to frame and distil this conquering of time feels like a further regressive shift in *Interstellar*’s narrative approach. As stated earlier in the chapter, the clock is a technological device used to measure time by and to human means and ends. As Barker notes, a clock is not indicative of time’s true nature (2012, 3). The opening of the film hinted at the sort of derangement that is induced on the clock when it is imbricated with the nonhuman temporal regimes Cooper would go on to encounter. Yet here in the film’s closing act we see the clock triumphantly re-framed as the harbinger of humanity’s salvation, with Cooper encoding the quantum data into the clock’s long arm. Rather than adhere to the viscosity, weight and complexities of the folds and crevasses of time found and felt on Miller’s and Mann’s planets, this narrative conclusion sees an affirmation of a more dated and anthropocentric sense of time. Murph’s “Eureka!” moment when she translates the data from the clock further creates a sort of techno-scientific link

between human conquest and time's standardisation to human affairs. Rather than affirm the senses of time found and felt in the Anthropocene in its concluding moments, we see *Interstellar* regress to represent a sense of time more familiar to modernity.

Moreover, the end of the film seems to affirm and endorse a colonial frontier myth of adventure and exploration by showing the human conquering rather than transcending time and more-than-human worlds. We see this colonial narrative validated in a closing image of Brand on Edmund's planet. Her helmet is off, which suggests that the air is breathable, and the camera pans to follow her as she walks into her base camp, which has an American flag flying prominently above it. Where the flag of Mann's camp was revealed to be limp and in burnt tatters, reflecting an indictment on the colonial frontier narrative, the flag of her camp is fluttering in a patriotic sheen of brilliance. Where the opening two thirds of the film seemed to reveal the disaster of the astronauts' colonial conquest, here it is celebrated with vigour.

A concluding affirmation of this defeating of time comes in the form of Cooper waking up in a hospital bed on "Cooper Station".<sup>36</sup> The doctor informs him that he is in fact now 124 years old, in spite of looking no older than the day he left. He is led to a reconstruction of his home back on Earth, which is set up as a kind of museum. Video recordings of old "blight survivors" play in TVs across the house. Rather than returning to his home, it is as if Cooper now lives in a museum of memory, seemingly an artefact of this museum no different from the TV recordings or the old furniture laid out around it. Where Cooper was once in an interstitial space between his own reality and the VHS-footage of his family played aboard the *Endurance*, he now seems to exist quite squarely in this virtual past. Just as Dr. Banks' temporal transcendence came from penetrating the heptapod "screen", Cooper's own conquering of time is presented through his domestic assimilation with these screens. His home is now an archive of memory, which is peculiarly haunted by his own

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36      Named after his daughter, as opposed to himself.

spectral presence within it. In a later scene Cooper sits on the porch with TARS, drinking a beer overlooking the land around them. The film seemingly re-casts Cooper into the idylls of the American Dream, wherein he has land, wealth and freedom. It feels inattentive and strange that this is presented as so tranquil and satisfying a set-up given that Planet Earth is, to all intents and purposes, dead. Where is the collective mourning for our one and only planet? What has happened to Earth's nonhuman inhabitants? The film is uninterested in such questions, and instead ends on a triumphant note with Cooper jetting off to meet Brand on Edmund's planet, to help build the new colony.

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Where *Interstellar*'s opening two-thirds show the human out of bounds, caught up in the swell of temporal disturbances enacted on foreign planets, this closing third upsets the narrative's otherwise fascinating exploration of nonhuman timescapes. *Interstellar*'s initial foray into glacial time gives way to a view that falls in line with common misconceptions about glaciers, namely that they are 'seemingly static and contained images of the temporal' (Koepnick: 2014, 86). *Interstellar*'s closing arc circles the square of heterogeneous time's folds and crevasses, terraforming it towards a contained temporal image, which places the human above and beyond multiple speeds and rhythms. This is precisely the opposite of what thinking time in the Anthropocene requires of us from an ecological perspective. Just as the human has historically placed itself above and beyond the nonhuman world, as seen in processes such as mass de-forestation or in sites such as the Great Pacific Garbage Patch, *Interstellar* unveils the human now conquering time in turn. Through *Interstellar* we can see the uses of science fiction film for furthering our comprehension of, and access to, different modes of time, but also their ability to simplify and regressively frame the human figure as triumphant. *Interstellar*'s confused ideological leanings with regard to nonhuman time seems to mimetically mirror the confusion of how best to configure the human in the Anthropocene as it is both conquered and conquering the nonhuman world.<sup>37</sup>

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37 This mirrors how *After Earth*'s imagination of disaster oscillates between a view of the human as a part of, as well as apart from, the nonhuman natural environment.

# CONCLUSION

Arrival and Interstellar have both framed time through environmental and nonhuman lenses. They do this through a framework of slowness, revealing time, for the most part, in all of its complex multiplicity. Interstellar has been shown to environmentally contextualise time through its fictional planets. Miller and Mann's planet both evoke senses of time that are reflected in their strange environments, which I have referred to as "timescapes". Miller's planet sees the film's astronauts caught up in the swell of its waves, which crash down hopelessly upon them in the same manner that time does. One hour on Miller's planet equates to seven years of Earth time. A multitude of different pressures, speeds and rhythms converge on their disastrous sojourn on this tidal world, opening the narrative, and thought, to heterogeneous time beyond that of humanity. Similarly, Mann's planet creates a sense of frozen time, or time caught adrift, which finds voice eloquently in the inertial tundra of its ammonia-ridden atmosphere, and in Dr. Mann himself. Dr. Mann recalls a past era of American endeavour, as if he is not just frozen in time, but haunted and possessed by the spectre of space race history. Time in Interstellar is not just environmental, but is the environment itself.

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Arrival also gives ecological weight to its temporal footing(s), by way of time travel through other-than-human beings. Heptapod time blurs how we comprehend temporal anchoring, namely in its distortion of past, present or future. Heptapod time, like their language, has "no forward or backward direction". Through this, Arrival can be seen to cunningly hide time behind the veil of heptapod time travel. This is a process of temporal erasure that is reflected in capitalist modes of production and consumption, wherein short timescales are deceitfully imbricated in deeper scales of time. In revealing this sense of temporal obscurity Arrival invites us to question our temporal footing. This works

neatly in line with the necessity to question the various clashing timescales inherent to coexisting with the planet in the 21<sup>st</sup> century.

Just as cinema was well placed as an emergent technology at the dawn of the 20<sup>th</sup> century to articulate the temporal shifts of modernity (Doane, 2002) we now see science fiction cinema communicating the Anthropocene's own temporal shifts. In describing modernity's sense of time, Koepnick posits that 'modernity brought the thrill of speed and motion to the sluggishness of preindustrial life' (2014, 15). These films demonstrate that the Anthropocene upsets the thrill of modernity's speed, and unveils the slowness imbricated with this notion of industrial-capitalist acceleration. If modernity's motorcar driver was driving fast in one direction, then the Anthropocene's figurative motorcar driver is driving at different speeds in different directions: trundling slowly into the past whilst speeding off into the future, or is it perhaps the other way round? *Interstellar* and *Arrival* neatly harness and ecologically contextualise this process of divergent timeshapes colliding, collapsing and confusing one another, reflecting a sense of (deep) time(s) in the Anthropocene.

Through the formal and thematic significance of time to both science fiction and cinema itself, we see science fiction cinema unveiled as a unique tool for disseminating and exploring the temporal regime of a rapidly warming climate. This exploration is particularly timely in this moment of ecological crisis, wherein we are caustically reminded of geological time's vast scale, and our increasingly precarious placement within it. As Gerry Canavan has it,

**it cannot be denied that we find ourselves living in science fictional times.... Nowhere is the science fictionalization of the present clearer than in the contemporary consideration of humanity's interaction with the environment. (2014, ix - x)**

What is clear here is not just that we are living in science fictional times, but that science fiction is changing in these science fictional times. The time that is travelled in *Interstellar* and *Arrival* sits at an aesthetic and thematic intervention with science fiction cinema's dominant images of time travel. In both *Interstellar* and *Arrival* time is travelled by complete accident, and by way of nonhuman entities. This is in stark contrast to the technological means by which time is historically travelled in science fiction films, such as *Back to the Future*, *Primer*, *The Terminator* (Cameron, 1984) and *Looper* (Johnson, 2012). In doing so we see the by now familiar shift from the technological to the ecological occurring across these two films in the same manner noted in the previous two chapters. Indeed, the movement away from technologically dependent time travel feels significant to the wider arguments and observations of this thesis. These films' explorations of time through geological, ecological and

**208** non-technological registers allow us to see, feel and to an extent experience a series of timeshapes beyond the human. Given the distinct technological bent to science fiction's time travelling paraphernalia, this is an illuminating intervention in the genre's representational proclivities.

As the global climate crisis worsens, it has become clear that 'science alone cannot reveal the fractured timespace of our present planetary moment. Hence the environmental humanities are bringing to the fore other-than-scientific kinds of sense making' (Ginn et al: 2018, 214). This chapter has leveraged its own kind of other-than-scientific sense making by investigating two science fiction films preoccupied with time. These films' temporality is imbued with an affective tactility that is perhaps lost in scientific or statistical mediation, such as in Al Gore's rising temperatures vs. CO<sub>2</sub> emissions graph. They effectively unlock experiential access to a sense of time beyond the human. They show us that nonhuman planets and nonhuman creatures have



different relations to time, and in so doing position us towards viewing time differently in turn. Facilitating an enthralling view of this particular type of time is one of the core representational difficulties of the 21<sup>st</sup> century. As Clark argues,

**the psychology of narrative—of what makes for people a credible or compelling story is itself a problem for representations of the Anthropocene. ... In the literary representations of the Anthropocene the techniques available to engage a reader's immediate emotional interest emerge as most often at odds with the scale, complexity, and the multiple and nonhuman contexts involved. (2015, 181)**

209 Contrary to Clark's claims about literature, *Interstellar* and *Arrival*'s narratives thrive on the storytelling challenges that this epoch faces us with. The emotional interest in these science fiction films is in fact entirely dependent on the scale, complexity and multiplicity of nonhuman contexts involved in the Anthropocene. Through them we see that the ties between science fiction cinema and the Anthropocene are densely woven and mutually enriching.

The previous two chapters have traced a change in science fiction that seems informed by the environmental pressures and demands of the 21<sup>st</sup> century, and this chapter does much the same. It is an intervention directly linked to the trend being seen in 21<sup>st</sup> century science fiction where ecological concerns come to the fore in a manner correspondent to their escalated urgency in the contemporary moment. What is the use of this intervention then, beyond it further displaying shifts in science fiction cinema? This chapter has displayed how these films help in conceptualising time from a nonhuman, ecological perspective. The key problem with considering time in the Anthropocene is that it is quite simply very difficult to do so. As Hamilton,

Gemenne and Bonneuil put it, 'the timescale of the Anthropocene goes far beyond what the human experience is able to comprehend' (2015, 10). Similarly Ginn et al. propose that,

**thinking about deep time is challenging;  
deep time is strange and warps our sense of  
indebtedness to earth forces and creatures  
past, present, and future. Alienation is  
perhaps the most logical reaction to sublime,  
inhuman timescales. (2018, 214)**

210 Through science fiction films like *Interstellar* and *Arrival* we get a few steps closer to comprehending these challenging timescale(s) of the Anthropocene, as well as considering its impact on human experience. Where *Star Wars*' (Lucas, 1977) Death Star or *After Earth*'s shifts in representation are useful for showing how science fiction changes over time, the films explored in this chapter show the uses of science fiction for comprehending these changing times. *Interstellar* and *Arrival* lend experiential consideration to the glacial and nonhuman temporal registers that encroach on human experience in the 21<sup>st</sup> century. Outside of science fiction films such as these, it is taxing to consider and experience time from this series of nonhuman perspectives. If early cinema reflected the timeshape of modernity at the dawn of the 20<sup>th</sup> century (Doane: 2002, 32) then these films show that science fiction cinema of the early 21<sup>st</sup> century can correspondingly reflect the glacial timeshapes of the Anthropocene.

## CHAPTER 5

# A PLANETARY PERSPECTIVE: MELANCHOLIA, ANOTHER EARTH AND GRAVITY'S ECOFEMINIST SUBLIME



This chapter is concerned with the representation of planets. Through an analysis of science fiction cinema's planetary imagery it investigates humanity's troubled planetary relationship at this time of rapid environmental change. The chapter opens with an historically contextualised reading of NASA's Blue Marble (1972) and Earthrise (1968), detailing the legacy of planetary imagery's ecological significance as well as the criticisms of such images from an ecological perspective. Through a brief analysis of *Melancholia* (von Trier, 2011) and *Another Earth* (Cahill, 2011) it interrogates the intricacies of how these films picture planets in relation to the human. These films' planetary images are modulated through the concept of the sublime, in manners akin to NASA's Blue Marble and Earthrise. However, unlike NASA's imagery, these films deploy ecofeminist frameworks of thought in an attempt to repurpose the sublime away from binary subject/object relations between humanity and the planetary. This repurposing is of importance in shifting views of the planet away from an anthropocentric outlook that valorises a triumphant human subject, which NASA's imagery arguably exemplifies. An analysis of *Gravity* (Cuarón, 2013) closes the chapter. I argue that *Gravity*, through a re-modulated sublime, proffers a set of planetary perspectives that are inherently related to the concerns of the Anthropocene. Through this analysis I suggest that science fiction films like *Gravity* may be as important to cultural impressions of the planetary in the 21<sup>st</sup> century as NASA's planetary images were to emergent ecological thinking in the 1960s and 70s

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Figure 23 – NASA's Earthrise.

On December 24<sup>th</sup> in 1968, Apollo 8's William Anders captured an image of a gibbous Earth from lunar orbit. This has now come to be referred to as Earthrise (Figure 23). It was not until four years later, at a distance of 18,000 miles from its subject, that NASA captured a photograph of Planet Earth in its spherical totality. This image of the whole Earth suspended in space came to be known popularly as Blue Marble, and is now one of the most recognisable and oft-reproduced photographs in human history (Figure 24). Robin Kelsey, in relation to NASA's Blue Marble and Earthrise images, states:

**these two photographs...are the most celebrated of all NASA images. They have become symbols of the precious beauty of the earth, the shared home and fate of all humanity, the emergence of ecological thinking, and the wonders achieved by the Apollo space program. (2011, 12)**

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There is an appealing and enduring irony to these images. While NASA's Apollo programme was one of expansion into the solar system, what they facilitated perhaps most alluringly was an awestruck gaze backwards upon the Earth they had left behind.



Figure 24 – Apollo 17's photograph of Planet Earth, taken December 7<sup>th</sup> 1972. Now widely known as Blue Marble.

The most iconic image of cinema's first science fiction film, *Le Voyage Dans La Lun* (Méliès, 1902), is that of a planet suspended in space. For this reason, as well as perhaps quite simply that many science fiction films are set in space, I've always found planetary images to feel inherently science fictional, whether they are in fact a science fiction film or not. This entanglement of science fiction with images of planets is eloquently revealed in the comments of:

**Adlai E. Stevenson, U.S. Ambassador to the United Nations, who in 1965 took up this image (Planet Earth) in his appeal to the international community. Stevenson referred to Earth as a "little spaceship" on which humankind travelled together as passengers, "dependent on its vulnerable reserves of air and soil." (Höhler: 2014, 104)**

**214** Stevenson's concept of Planet Earth as a little spaceship is revealing. It unveils that not only is there something science fictional about this image but also that there is something intrinsically science fictional about the ecological estrangement it evokes. While the Blue Marble has been read as launching 'the emergence of ecological thinking' (Kelsey: 2011, 12), I would contend that science fiction cinema's framing of planets held, and indeed holds, the same potential for ecological affect as NASA's photographs. Indeed, as suggested by Stevenson's comments, when confronted with such imagery it is clear that we fall back on science fictional referents. This chapter engages with the entanglement between science fiction and the planetary through an ecocritical analysis of science fiction films' planetary images. In doing so it aims to place science fiction cinema more firmly into contemporary consideration of the planetary.

Kelsey's position that NASA's whole Earth imagery spawned an emergent form of ecological thinking is echoed and affirmed by a number of other writers. Chris Russell's 'Earth Imaging' is one such

example. It juxtaposes the affects of Blue Marble with another Earth image, called Pale Blue Dot (1990). This later photograph was taken in 1990 by the Voyager 1 space probe at a distance of 3.7 billion miles from Earth, rendering our planet and home a mere pixel in the vacuum of space. Comparing the blue pixel to the Blue Marble, Russill writes,

**The blue pixel stands in contrast to the planet's most widely reproduced photograph, "Blue Marble", a "whole earth" image depicting "us" from a vantage point located between the sun and earth. The "whole earth" fills most of the frame and suggests the priority of the global in understanding our earthly condition. Sagan's dot, on the other hand, hints at a cosmic zoom by adopting the perspective of an interstellar machine probe....For Sagan, this image rebukes the hubris of human exceptionalism to illustrate how fully dependent we are on a finite and fragile planet: "Our planet is a lonely speck in the great enveloping cosmic dark" (Sagan 1994, 7). (2016, 229)**

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What we see here is a constellation of eco-perspectives coalescing around these two images of Earth, in this case their differing affects locked to their differing distance from the planet. Both place an emphasis on the fragility of the globe, but the Pale Blue Dot seemingly de-emphasises the significance of the human, and indeed Earth itself, by way of its extreme cosmic extraction. My analysis of planetary images in this chapter will be similarly engaged with assessing the means by which they provoke diverse ecological meanings and affects. More specifically, it will look at how the human is placed or configured in relation to these images of planets, and how this placement speaks to the troubled human/nonhuman paradigm of the Anthropocene. Just as the previous chapter showed the human marginalised and out of sync with the folding scalar discrepancies of the Anthropocene's

temporality, this analysis of planetary imagery often facilitates a similar view.

The last chapter detailed how the concept of time has been read in relation to modernity, and contrasted this with how it has been conceptualised in the era of the Anthropocene. A mimetic process occurs here, wherein planetary imagery operates both as an emblem of modernity, whilst finding renewed relevance in this era of climatic change. Clark comments that,

**since late 1968 one defining icon of modernity has been the Apollo photographs of the whole Earth seen from space. The image has already become the obvious emblem of the Anthropocene. (2015, 30)**

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Just as time provides a way of reading the blurred line between conceptions of modernity and understandings of the Anthropocene, planetary imagery does so in turn, with it heralded here by Clark as an icon of modernity and the Anthropocene alike. Where the figure of trains, automobiles and the cinematic camera operate as technological emblems of early-stage modernity, the Apollo programme's planetary images mark a similarly totemic moment in modernity's technological triumph. Yet, as the Anthropocene context has brought into stark view, this technological triumph has had ecological consequences. The various environmental catastrophes of this era, be it global warming, ocean acidification or biodiversity depletion, place an added stress, or sense of anxiety, around our placement on Planet Earth. Through this set of looming and unfolding ecological disasters, the planet we are on today feels different to the planet found in 1968's Earthrise or 1972's Blue Marble. This chapter is interested in these differences and seeks to explore them through an analysis of contemporary science fiction's planetary imagery. If NASA's images shifted a cultural impression of the planetary in the late 60s and early 70s, how might 21<sup>st</sup> century science fiction's



images of planets contribute to our impression of Planet Earth in the Anthropocene?

Eugene Thacker, in his book *In the Dust of this Planet*, effectively contextualises a sense of planetary dislocation in the Anthropocene by formulating three different conceptions of planet. He writes on the world-for-us, the world-in-itself and the world-without-us, arguing that 'we can even abbreviate these three concepts further: the world-for-us is simply the World, the world-in-itself is simply the Earth, and the world-without-us is simply the Planet' (2011, 6). In the 21<sup>st</sup> century we uncomfortably straddle inflections of these different planetary formulations. Humanity continues to engage in mass-industrial practices (world-for-us), is aware of the effects of climate change (world-in-itself) and is fully cognisant of the long-term damage this could cause (world-without-us). Through this day-to-day negotiation of these various senses of planet it becomes clear that analysing and decoding planetary imagery is a rather slippery affair. These are images that convey a wealth of potentially contradictory meanings and contexts.

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Indeed, many refute the ecologically positive readings of NASA's whole Earth imagery that is suggested by Kelsey and Russill. Frédéric Neyrat, in 'Planetary Antigones', instead argues that:

**the vision of Earth as an object, a limited entity that we can lasso with a camera, domesticate, and then enhance, stands at the core of geo-engineering, and especially climate engineering—the attempt to control the climate through its technological optimization. (2016, 46)**

Here Neyrat suggests that the Blue Marble is an image of technological mastery, affirming mankind's domination of nature, asserting a propensity to control, harness and lasso the planet.

Heidegger reasoned similarly, stating,

**I was shocked when a short time ago I saw the pictures of the earth taken from the moon ... All our relationships have become merely technical ones. It is no longer upon an earth that man lives today. (1976, 56)**

Ursula K. Heise, in 'Developing a Sense of Planet', argues that, while

**the image of Earth as a 'Blue Marble' seen from outer space became the icon of the first Earth Day in 1970 ... On the other hand, environmental movements in various parts of the world, and particularly in the US, have focused on the loss of individuals' and communities' connections to their local natural environments as a principal cause of ecological problems. (2012, 91)**

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Furthermore, when read historically these images could just as readily be assessed by way of their pivotal role in the Cold War.

Tobias Boes argues that these images, Earthrise and Blue Marble,

**do not merely reduce complexity, they also introduce semiotic tensions of their own. They are, after all, unmistakable products of the space race, and thus on at least some level propaganda tools of the Cold War. To the environmental movements in the United States and Western Europe, Earthrise may well have signalled global solidarity, in many other parts of the world, it would have served as a reminder that American military pilots were the first to get to the moon. (2014, 158)**

A recent documentary commemorating the anniversary of the Apollo 11 mission, entitled Apollo 11 (Miller, 2019), seems reflective of the more problematic aspects of the planetary

images the Apollo programme produced. The film pays close and detailed attention to the enormous technological endeavour and innovation behind Apollo 11. An opening tracking shot of a huge rocket ship being transported across an airbase via improbably gigantic tracks both frames the human figures that walk alongside it as almost comically diminutive, whilst foregrounding that this behemoth is produced precisely through these tiny figures (Figure 25). A number of low-angle shots of the rocket taking off with white-hot fires bellowing out of its engines follow later in the film, reminding us that these astronauts were propelled into space not just through enormous financial and technological cost but by way of burning an awfully large amount of fossil fuels. Inattentive to the ecological and socio-political ramifications of this historical event, the film jingoistically celebrates its technological triumph. It also seems worth noting the distinctly masculine bent to this film, which represents figures like Neil Armstrong and Buzz Aldrin in heroic, John Ford-esque, moulds.

**219** The gender specific vocabulary of Armstrong's iconic "one small step for man, one giant leap for mankind" speech cannot be understated in this regard. Correspondingly, women by and large are ignored in the detailing of this endeavour, which is a critical oversight. As films like *Hidden Figures* (Melfi, 2016) make clear, Neil Armstrong and Buzz Aldrin would not have got to the moon without the mathematical wizardry of black women like Mary Jackson, Dorothy Vaughan and Katherine G. Johnson. Apollo 11 shows that while NASA's imagery may have spawned a new and emergent form of ecological thinking (Kelsey: 2011, 12), such thinking was, and indeed is, framed around white patriarchal petro-culture dynamics. In the late 20<sup>th</sup> to early 21<sup>st</sup> century, such a framing of the planetary is at odds with the eco-ideological imperatives inherent to living and dying in the Anthropocene. This chapter argues that a number of science fiction films sit at an intervention in this framing, instead providing images of the planetary that are more in tune with the environmental demands of the 21<sup>st</sup> century. In doing so they provide aesthetic

and thematic re-consideration of humanity's relationship with the planet, which currently sits at a perilous tipping point.



Figure 25 – The opening scene of Apollo 11 showcases the enormous technological upheaval of the era.

220 As discussed in my opening analysis of *Snowpiercer* (Bong, 2013), the traditional means we have of reading or visualising a human interaction with an overwhelming natural object is through the sublime. The sublime historically involves an ‘overwhelming confrontation with a natural object’ (Hitt: 1999, 605),<sup>38</sup> with the interaction rendering the human awestruck. This encounter between the human and the natural object produces a seemingly contradictory sense of what Burke termed ‘delightful horror’ (1998, 24). White and Pajaczowska affirm these contradictory feelings found in the sublime, ‘the sublime is not simply the spectacular or catastrophic or awful, but is the awesome which contains fear or apprehension because of its greatness’ (2009, 7). This seems then the province of both the planet we call home and the Anthropocene context that it currently bears the weight of. Both evoke feelings of apprehension and awe in relation to

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38 Though it is by no means relegated purely to natural landscapes and vistas. As the work of David Nye makes clear, the sublime is present in the 20<sup>th</sup> century through the foreboding and vast technological objects that surround us, such as skyscrapers and space rockets (1994). The Apollo 11 documentary thrives on such a framing of the technological sublime, evoking a sense of awe at the historical technological endeavour it details, as found in Figure 25.

their immensity. The following analysis will open with a discussion of *Melancholia* and *Another Earth*'s representation of planets. It assesses the uses of the sublime for a planetary framing of the Anthropocene, unearthing how these two films attempt to re-modulate its historical subject/object dualism through ecofeminist principles. The chapter will then close with an in-depth analysis of *Gravity*, using Thacker's planetary formations as a framework for reading the sense(s) of planet offered in the film. *Gravity* journeys across a series of planetary perspectives, before landing, literally and figuratively, on a view of the world-with-us. *Gravity* similarly reorganises the sublime through its planetary imagery, but with greater sensitivity to ecofeminist thought than *Melancholia* and *Another Earth*. In doing so it offers a more robust and ethically expedient planetary framework for the pressures and demands of living on a dying planet.

# AN ECOFEMININE SUBLIME IN ANOTHER EARTH AND MELANCHOLIA

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Two films released in the same year, *Another Earth*, an American independent production, and *Melancholia*, a Danish-American art film, both operate very similarly to one another. *Another Earth* follows Rhode Williams' (Britt Marling) attempts to make amends with a man called John Burroughs (William Mapother), whose family she inadvertently killed in a drink driving accident years earlier. Rhode, 17 at the time of the crash, was a talented astronomer. Her dreams of pursuing this as a career were scuppered after this car accident, both a result of serving a 4-year juvenile detention sentence and of her self-imposed, guilt-stricken, isolation upon release. Having been discharged, Rhode seeks out John to tell him she is sorry, but upon meeting him panics and claims she is a cleaning lady who's arrived to offer a trial service. A number of weeks pass with her cleaning his house every week, and the two develop a relationship. The backdrop to this plot sees another Earth appear in the sky above our planet, which the humans of Earth begin to refer to as "Earth 2". Naturally, humanity is mystified by the surprise appearance of this simulacrum in the sky. Where did it come from? Why is it there? Does it harbor life? Should we go there? While *Another Earth* is seemingly unconcerned with the shattering scientific ramifications such an event would induce, it takes this narrative backdrop as a cue for rumination on our own planet, and indeed our relationship to it. Rhode wins a competition to travel to Earth 2, and tells John she is going to go, also revealing her true identity as the inadvertent killer of his family. He is understandably angry, and demands she leave. She returns the next day and insists that he take the ticket to visit Earth 2, hypothesizing that the planet

arrived on the night of their tragic accident as a means for him to recuperate his loss. The film closes with John flying to Earth 2 and this mysterious clone planet disappears from the sky, the suggestion being that his family was indeed waiting for him on Earth 2.

Melancholia, also set in the present day, opens on the wedding night of Justine (Kirsten Dunst) and Michael (Alex Skarsgård). The wedding is being held at Justine's sister and brother-in-law's, Claire (Charlotte Gainsbourg) and John's (Kiefer Sutherland), estate. As the evening wears on it becomes apparent that Justine is clinically depressed and, after a series of awkward moments laced through the evening, Michael and Justine come to a mutual understanding and go their separate ways. Justine stays with her sister and brother-in-law in the days after the wedding, processing a deep depressive episode during her stay. During this second act it is revealed that a new rogue planet, Melancholia, **223** has entered the solar system having sequestered itself behind the sun on its approach. As the film progresses Melancholia becomes loomingly more and more visible in the sky, day and night, as it slowly approaches Earth. John and Claire argue over the potential danger of Melancholia's arrival in the solar system. Claire is convinced that the planet will come crashing into Earth. John, a keen stargazer, continues to assure her that this is not the case, and that Melancholia will merely "fly-by", organising a family event to watch as Melancholia does so. In the end, the film culminates with the pallid blue planet smashing into and destroying Planet Earth.

The intricacy of plot detail aside, what is important is that these films share a mirrored series of sublime eco-gazes aimed up at their eponymous planets. The historic association of the sublime with natural beauty, in the viewing of mountains or oceans (Kant: 1790, 144), and evocation of perhaps contradictory feelings, such as wonder and fear (Jamieson: 2014, 190), find voice eloquently

in the planetary imagery found in *Melancholia* and *Another Earth*. Rhode and Justine stop to stare in total astonishment at the planets suspended in the black indifference of space. *Melancholia*'s opening vignette, which takes a cosmic frame of reference to show Earth and *Melancholia* colliding in slow motion to classical music, evokes a sense of the formidable and the fragile. It makes one consider our own individual placement on the planet and then the planet's own individual placement within the universe. Similarly *Another Earth* seems to emphatically mirror the representational logic of Casper David Friedrich's *Wanderer Above the Sea of Fog* (Figure 2),<sup>39</sup> framing Rhode in a medium-shot with her back to the camera as she gazes out onto the Earth in the sky, suspended above the ocean (Figure 26). These images in both films seem to uncomplicatedly relate themselves to a fairly traditional series of sublime views, evoking the 'delightful horror' (Burke: 1998, 24) of a human confrontation with an immense natural, in this case planetary, object.

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Figure 26 – *Another Earth*'s Rhode stands by the ocean and gazes out onto "Earth 2" in the sky.

Initially this simplistic alignment with the sublime suggests some complications in both films' evocation of ecological themes. Indeed, the sublime has been criticised for its seeming bifurcation of humanity from nature, or more broadly how it is founded as 'an expression of asymmetrical power relationships: between human



and nature, self and other, reader and test, male and female, conqueror and oppressed' (Hitt: 1999, 603). For instance, Emily Brady, in critiquing Kant's conception(s) of the sublime, suggests that:

**although natural objects are central to Kant's theory, we have seen that they do not appear to be themselves sublime, and that is actually the human capacities of reason and freedom that receive this designation. Thus it might appear that the Kantian sublime is too humanistic and perhaps even too anthropocentric, to serve as a plausible theory for understanding aesthetic appreciation of nature. (2013, 67-68)**

225 As such, an ecological sublime appropriate to the demands of the Anthropocene needs to move away from this subject/object relationship between human/nonhuman. As the films progress, Another Earth and Melancholia attempt to do precisely this, suturing the divide between the human and nature through their sublime planetary imagery. In their efforts to reframe a planetary aesthetic of the sublime in this way, they affirm Christopher Hitt's assertion that, despite its problems, 'the concept of the sublime offers a unique opportunity for the realization of a new, more responsible perspective on our relationship with the natural environment' (1999, 605).

Both Melancholia and Another Earth attempt to facilitate this more responsible relationship with natural environments through their female protagonists. Each film contains startlingly similar scenes where Rhode and Justine walk out to a secluded spot to lay naked in the light of the foreign planets in the sky. Rhode does so on the way home from cleaning John's house and, in spite of it being the heart of winter, she removes her overalls and lays down naked to gaze up at Earth 2. Similarly, in Melancholia, Claire sees Justine walk off into the gardens at night, and she follows her. Claire finds Justine lying by a riverbank, having shed

her clothes. She lies naked and basks in the pallid blue glow of Melancholia. There is a paganistic quality to this, as if Rhode and Justine are communicating with the planets that they bare their flesh to. There is a sense of attunement between their bodies and these planets through this ritualistic act of exposure, which suggests these women's processes of gazing and communicating with Earth 2 and Melancholia are not based on a subject/object binary, as per the traditional concept of the sublime. Instead we are proffered moments wherein the female form and the foreign planet exist as two objects in quiet contemplation of another, or at least that the female characters, through their bodies, seek out attunement with the distant planet.

While the significance of this female gaze and act of exposure holds clear pertinence to the sublime's problematic human/nature binary, it has a wealth of problems from an ecofeminist perspective. Victoria Davion, in 'Is Ecofeminism Feminist?',  
226 effectively demonstrates that,

**views which uncritically embrace unified or one-stance views of feminine sides of gender dichotomies are not feminist; when these views are linked with ecological perspectives, they are best understood as ecofeminine than ecofeminist. They are, in fact, dangerous views from a genuinely feminist perspective. (1994, 17)**

Indeed, as Karen J. Warren argues,

**what makes ecological feminism feminist is its twofold commitment to the recognition and elimination of male-gender bias wherever and whenever it occurs, and to the development of practices, policies and theories which are not male-gender biased. (1994, 1)**

Melancholia and Another Earth seem to affirm a gender bias

by problematically, or simplistically, suggesting that women's bodies and cosmic entities are entwined. Moreover, it is worth recognising the fact that both of these films are directed by (white) men. Of particular relevance in this regard is Lars von Trier, who from a feminist perspective is a figure of ill repute to say the very least.<sup>40</sup> As such, it is hard not to read these sequences, particularly within *Melancholia*, without an underlying impression of a voyeuristic male gaze behind the camera. Kirsten Dunst's naked body and gaze are directed by an authoritative and sexually oppressive male figure behind the camera. The voyeuristic framing of Dunst's naked body only adds to the domineering gender implications of the subject/object dualism of the camera's own gaze. While we do not see Britt Marling's Rhode naked in *Another Earth*, the processes of male direction are similar, if nowhere near as insidiously framed.

227 The attempted corrosion of the sublime's human/nature binary facilitated by these sequences is of pertinence both to the debates of the Anthropocene, as well as to the contemporary understanding of the sublime's configurations. However, it is arrived at by way of an at best simplistic, and at worst oppressive, understanding and visualisation of gender binaries. In many ways this highlights one of the historical criticisms of the sublime. As Emily Brady notes, 'the sublime of Burke, Kant, and others is deeply masculinist – connected to size, strength, and power' (2013, 194-195). Particularly in the case of *Melancholia* this masculinist bent comes to the fore. Jean François-Lyotard comments that in Kant's writing, the sublime:

**becomes the user of nature. This "employment" is an abuse, a violence. It might be said that in the sublime feeling thinking becomes impatient, despairing, disinterested**

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<sup>40</sup> For instance, there were allegations made against him by Björk pertaining to her sexual harassment on the set of *Dancer in the Dark* (von Trier, 2000) as well as the 2017 allegations by 9 women that they suffered sexual harassment working at von Trier's production company, Zentropa (Kreps, 2017).

**in attaining the ends of freedom by means of nature. (1994, 52)**

Lyotard here posits that Kant's sublime does not bring anything to nature, it merely employs it for inducing a feeling in the self. Instead, it is an abuse of nature. This abuse/violence found in the anthropocentric use of nature in the sublime seems reflective of the violent framing of Kirsten Dunst by Lars von Trier, from an (eco)feminist perspective this framing is an abuse, a violence.

Ecofeminism instead 'starts from the premise of a correlation between the history of institutionalized patriarchy and human domination of the non-human' (Buell: 2005, 19). It proposes 'that climate change and first world overconsumption are produced by masculinist ideology' (Gaard: 2015, 20). As a discourse, it is built on the premise that industrial-capitalist world systems are built on troublingly oppressive binaries:

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**nature is subordinated to man; woman to man; consumption to production; and the local to the global, and so on. Feminists have long criticised this dichotomy, particularly the structural division of man and nature, which is seen as analogous to that of man and woman. (Mies and Shiva: 1993, 5)**

NASA's planetary imagery seems a good example of this industrial-capitalist world system that privileges men and subordinates nature. This can be seen in its historical proclivity for male astronauts as well as the enormous carbon emissions required to propel astronauts into space. For ecofeminism, the subordination of nature by man is seen as concomitant, or at least analogous, to the subordination of woman by man. Thus, ecofeminism does away with, or at the very least is critical of, dichotomies or binary oppositions between humanity and nature to the same extent that it is of man and woman. As such, ecofeminism proffers a key set of principles to alter the

ecological and sociological regressions inherent to NASA's planetary imagery. While these scenes in *Melancholia* and *Another Earth* contain what look like ecofeminist principles, they in fact rehearse the binaries they seek to refute. In efforts to break down the subject/object dualism of person/planet, *Melancholia* seems to fall back into the trappings of a subject/object dualism correspondingly found in male/female gender dynamics. In doing so, both films' evocation of the sublime assumes an ecofeminine, rather than an ecofeminist, foundation. They achieve their ecological suturing by way of affirming gender dichotomies and rehearsing patriarchal modes of objectification.

229 This process of ecological progression by way of gender regression is affirmed and reinforced in the contrast between how men and women gaze at and interact with planets in these two films. Men, by and large, mediate their relationship with the planet via scientific equipment, or respond to it in inherently anthropocentric manners. In *Melancholia*, Justine's brother-in-law John repeatedly accesses and gazes upon *Melancholia* through his telescope or through his son's circular steel contraption, designed to see how much closer *Melancholia* is during its "fly-by". While for Justine, *Melancholia* is a cosmic entity to be communicated and attuned with, for John it is a cosmic phenomenon to be marvelled at and studied scientifically: it is an object and he is the subject. Hitt writes that 'the contradiction of the sublime is that it has tended to include both humbling fear and ennobling validation for the perceiving subject' (1999, 606), we see these dual processes, and problems, of the perceiving subject at work through John in *Melancholia*. He secretly knows about *Melancholia*'s collision course with Earth and commits suicide shortly before it occurs, yet gazes in wonder at this object, proud of his ability to study it as his family quiz him on the planet. He fears it but is ennobled in turn by the power of his scientific gaze. Where Justine quietly ruminates upon, and attunes herself with the planet, not dissimilar from the chorus of

birds that chirp at Melancholia's horizon cresting, John imposes his view upon it with his phallic scientific apparatus. John seems to oppress the planet with his gaze and his equipment whereas Justine seems to subordinate herself to it with her body.

In *Another Earth* we see a similar disjuncture between how men and women access Earth 2. When John Burroughs is seen looking at the planet it is, like the counterpart John of Melancholia, through a telescope. Greta Gaard argues 'that climate change and first world overconsumption are produced by masculinist ideology, and will not be solved by masculinist techno-science approaches' (2015, 20). This techno-science approach to Earth 2 is borne out in such moments of masculine scientific mediation in *Another Earth*. They perfectly juxtapose the very different ideology and relationship to Earth 2 that is established through Rhode's planetary attunement. Indeed, when talking about Earth 2, John Burroughs is very cautious of it, stating "we still  
230 think we're the centre of the universe. We call ourselves Earth 1 and them Earth 2...you think they call themselves Earth 2?" When women gaze at, lie in commune with, or more broadly just interact with planets across these films it is seen as an interaction built on attunement, understanding and symbiosis. When men interact with planets in these films it is oriented around study, observation and domination, reinforcing the subject/object traditions of the sublime's human/nonhuman framing in the process.

Through the clear distinction between men's relationship to these planets compared to women's, a clear ecofeminine discourse is established across these texts. Melancholia and *Another Earth*'s evocations of the sublime through their female characters break down human/nature binaries whilst simultaneously affirming male/female binaries. They posit the female form and the female gaze as more appropriately placed for assimilative understanding between the human and the planetary. This chimes neatly with

the ecofeminist contention that ecological concerns of the 21<sup>st</sup> century are produced by, founded upon and maintained 'through the colonization of women, of 'foreign' peoples and their lands; and of nature, which it is gradually destroying' (Mies and Shiva: 1993, 2). These films exult the female body and gaze as divorced from this system of oppression. However, the simplistic ecofeminine arithmetic of female = attuned and men = oppressive, which these films uphold, is highly problematic to wider feminist debates, which seek to break down such two dimensional understandings of gender.

While there are historical and contemporary inadequacies with the sublime, it does, as Hitt rightly notes, 'for all its problems, involve what look to us like ecocentric principles' (1999, 607). What we see occurring in *Melancholia* and *Another Earth* is a means of evoking a planetary aesthetic of the sublime towards inherently more ecological ends. While the overarching

**231** tone of *Melancholia* is essentially nihilistic in its depiction of mutually assured cosmic destruction, it positions a recuperative relationship with cosmic doom by establishing a calm sense of understanding between Justine and *Melancholia*. Such a recuperative force in the midst of a doomsday narrative resounds hauntingly in the 21<sup>st</sup> century Anthropocene context, wherein our relationship with the planet spells out an equally foreboding guarantee of destruction as that exacted by *Melancholia* in *Melancholia*. Moreover, the non-technological means by which Rhode and Justine interact with these planets offer an alternative to the techno-masculine visions of the planetary found in NASA's *Earthrise* and *Blue Marble* as well as the two Johns' stargazing. The issue with *Melancholia* and *Another Earth* is that their ecological progression is arrived at by way of gender regression, which is inexcusable. The ends simply do not justify the means.

Herein Gravity is of reconciliatory relevance, as it engages more productively and sensitively with ecofeminist discourse. My

analysis of the film will utilise a reading of Thacker's formations of the world-for-us, in-itself and without-us (2011) to analyse the ecological meanings and affects of its whole Earth imagery. It will demonstrate that images of Planet Earth in *Gravity* traverse variations of Thacker's planetary structures until arriving at a new, and slightly different planetary formation, that of the world-with-us. It will argue that the world-with-us is a more expedient framework than Thacker's initial three for thinking through humanity's relationship with the planet and the nonhuman world. This notion of the world-with-us is arrived at in the film through an ecofeminist re-modulation of the sublime.



# GRAVITY'S WORLD-WITH-US

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Where *Melancholia* and *Another Earth* situated their sublime planetary gazing from Planet Earth out onto fictional planets, *Gravity* instead stages it back onto Planet Earth itself. *Gravity* is set almost entirely in the exosphere above Planet Earth, and as such Earth forms the backdrop to the vast majority of the film. More than a simple backdrop however, the planet's omnipresence affords it a decisive narrative function that is key to the film's establishment of various planetary perspectives. Further to this, just as in *Another Earth* and *Melancholia*, much emphasis is given within the narrative to gazing upon the globe. Through a series of contrasting gazes, different senses of the planetary are evoked in the film. This range of planetary perspectives not only reflects the slippery plurality of meaning evoked in such imagery, but also reflects the various senses of planet wrought through the concept of the Anthropocene.

*Gravity* opens with a small band of astronauts in space as they make repairs to the Hubble Space Telescope. They are in open communication with NASA back on Earth, voiced by Ed Harris in a fitting nod to *Apollo 13* (Howard, 1995). The film's heroine, Dr. Ryan Stone (Sandra Bullock), is a novice astronaut on a small team consisting of more seasoned crew members Matt Kowalski (George Clooney), who is commanding his final space mission, and the short lived Shariff (Phaldut Sharma). Within minutes of the film's opening, Mission Control informs the crew that a large amount of debris is accelerating towards them and that they need to abort their mission. When the debris hits their position Dr. Stone is detached from the spacecraft and sent careening into space. The remainder of the film charts the increasingly perilous and fraught attempts of Dr. Stone and Matt Kowalski to return safely to Earth without the aid of their original shuttle. One of the

key interests of this chapter is Gravity's emphasis on these two characters' differing sense of planet. Kowalski's reverence for the Earth's beauty and Stone's seeming ambivalence towards it operate as a fulcrum through which to negotiate our own sense of planet at this time of extreme environmental change.

The opening titles establish space as a realm of dread and Earth, by contrast, as a source of salvation. They state:

**At 600km above Planet Earth the temperature fluctuates between +258 and -148 degrees Fahrenheit. There is nothing to carry sound. No air pressure. No oxygen. Life in space is impossible.**

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Tense violin strings increasing in volume overlay this title text before abruptly cutting to the opening shot of the film, which is a medium-long shot of Planet Earth filling about half of the frame from the bottom left. The abrupt cessation of the music enhances the experiential shock of being confronted with this image of the planet. A view of a vast ocean, most likely the Pacific, is visible and we see the Earth's slow and somnambulant rotation as land mass starts to come in sight. The contrast between the loud discordant strings, and scary facts about survival in space, to the peaceful lilting rotation of the Earth's scenic views immediately situates the Planet as an Edenic sanctuary. In doing so it openly recalls the ecological signification evoked in historical planetary imagery, namely NASA's Blue Marble and Earthrise. Much like these images, this opening sequence positions Earth imagery as a symbol 'of the precious beauty of the earth, the shared home and fate of all humanity' (Kelsey: 2011, 12). However, the calm platform provided for this eco-gazing increasingly breaks down as the film progresses, and the inherent complexities of this image come to the fore as it does so.

Slowly but surely a shuttle becomes visible as it approaches

the camera and voices can be made out. This impressive continuous take begins to swoop through space and introduces each member of the crew in turn as they float around the Hubble spacecraft. After some conversation between the three characters and Mission Control the camera retracts from a medium shot of Dr. Stone and Kowalski and pans to screen left for an off-centre close up of Kowalski who, gazing roughly in the direction of the camera says “Gotta admit one thing...can’t beat the view.” As he speaks these lines of dialogue the Earth’s spherical reflection is visible across his helmet and the camera then tilts up to show Planet Earth (Figure 27). Swelling music begins to play at this point as the camera pans over the swirling mass of whites, turquoises, blues and browns of the planet’s surface. “So, what do you like about being up here?” he asks of Dr. Stone. “The silence”, she replies, “I could get used to it”. The camera continues to pan until it reveals Kowalski again, this time on screen right, still gazing in wonder at the spectacle before his

235 and our eyes. He shakes his head as if in disbelief and mutters “...terrific” to himself before continuing with his task. From this opening scene, the film establishes a dissonant response between Kowalski and Dr. Stone in relation to the planet that looms both intimidatingly and beautifully before them. He is enamoured and she is ambivalent.



Figure 27 – Kowalski gazes out onto Planet Earth, which is reflected in his helmet, in the opening scene of Gravity.

Kowalski’s Earth gazing, as established in this opening sequence,

is instructively echoed and reinforced in two later scenes. In the first of these, Kowalski and Stone become separated after debris hits their ship, and, upon Kowalski re-locating Stone and towing her to the ISS, we are presented with a long shot of Earth bathed in a soft orange hue as the sun rises above it on the far right of the frame. Stone and Kowalski are seen dangling in space atop this planetary landscape. “Beautiful, don’t you think?”, Kowalski says. “What?”, Stone replies. “The sunrise. That’s what I’ll miss the most.” Stone does not return a comment on the view. The second of these sequences sees Kowalski floating off to his inevitable death, after altruistically sacrificing himself, and speaking to Stone via intercom. After a friendly flirtatious exchange he stops all of a sudden and says ““Oh wow, Ryan. You should see the sun on the Ganges. Amazing.” At this point his intercom signal cuts off and Stone does not hear from him again.

**236** Kowalski’s gazing at Earth, and reverence for the view, directly evokes a sense of the sublime. He is situated as a subject who looks out upon the overwhelming natural vistas of Planet Earth around him in a state of perpetual awe. Kowalski’s processes of gazing seem to broadly affirm the problematic bifurcation of humanity from nature found in the sublime, as per Hitt (1999, 603), he is situated in the classical mould of a human (man) staring in awe at the overwhelming natural object before him. The sublime, in order to evoke progressive ecological meaning, needs to upset or fragment this asymmetrical binary between human and nature given how deeply entangled the human is with nature, now a telluric force in the Anthropocene context. It is also of note that Kowalski’s eco-gazing veers more emphatically towards the wondrous side of the sublime’s Janus-faced aesthetic than it does its foreboding underbelly. This is found in his various uses of adjectives like “terrific”, “beautiful” and “amazing”.

His reverence for the planet’s beauty, on first glance, seems to hold some ecological weight, as he genuinely does seem to have

a love for the planet. However, his gaze hubristically lacks a sense of terror that is of equal importance to the sublime's suitability for the Anthropocene. Traditionally the sublime is understood as placing the sense of terror, or fragility, in the subject, who gazes in wonder at the immense power of the object in question i.e. a mountain, ocean or in this case Planet Earth. With an impending sixth mass species event looming on our horizon, and full knowledge of humanity's status as a geo-physical force present in the scientific, academic and public spheres, this sense of a fragile human gazing in wonder at the awesome power of nature starts to come unstuck. Instead, humans are revealed as an equally dangerous natural force. As such, when confronting overwhelming environmental forces in the Anthropocene it is of the utmost importance to be cognisant of the terrifying implications of the human's impossible entanglement with them. Leading on from this logic, a sense of terror has never been more important to an ecologically grounded sublime aesthetic, and suturing the lines of dissonance between subject and object announces itself as of equal importance. Without these foundational elements the sublime's framing of planets lacks recognition of humanity's deeply entangled relationship with nature. Kowalski's gazing is problematically robbed of a sense of terror, and is regressively predicated around a binary subject/object opposition with the planet. Through this, I would suggest that Kowalski's processes of Earth gazing evoke an impression of the world-for-us. Planet Earth becomes a playground of wondrous views for human perception and little else. His gaze does not think on the implications of humanity's presence nor is it one positioned as attuned with the planet itself.

As demonstrated in my analysis of *Another Earth* and *Melancholia* an ecofeminist gaze is poignantly poised to re-negotiate the sublime's traditional bifurcation of humanity from nature. Ecofeminism recognises and critiques this split between humanity and nature, seeking out a more symbiotic understanding between

the two constituent parts. While the character of Kowalski can be read critically from an ecofeminist perspective, most notably in his problematic view of a world-for-us, it is through Dr. Ryan Stone that Gravity harnesses ecofeminist thought, and the ecofeminist sublime, to bring us around to thinking on the realm of the world-with-us. Initially the fact that Kowalski, a man, and Dr. Stone, a woman, are shown to have divergent planetary perspectives modulated through the sublime may appear to echo the regressive, ecofeminine, gender politics of *Another Earth* and *Melancholia*. However, as the following analysis will argue, Gravity does not necessarily affirm gender binaries in the same fashion.

Dr. Stone is established from the very opening of the film to have a rather different relationship with the Earth than Kowalski. By contrast, Stone seems utterly ambivalent to the planet. The calm nature with which Kowalski is situated in relation to both the harsh realities of space, and the backdrop of Planet Earth, is in  
**238** direct opposition to Stone's relationship with the two. When the debris hits their position at the opening of the film Stone remains attached to the promontory she was working from as it begins to swing around wildly. She starts to panic, unable to control her trajectory. Kowalski, via intercom, tells her to disengage from the platform, which she does after some deliberation. As Dr. Stone hurtles away from Earth the sequence cuts to a locked on close up of her face as she continues to spin uncontrollably, hyperventilating manically as she does so (Figure 28). We see Earth reflected almost in its entirety in her helmet as it fogs up, and then physically behind her as she continues to spin. Synth music plays in a discombobulating manner to emphasise the danger of Stone's lack of syncopation with the Earth's rotation. Kowalski calms her down and she is able to roughly relay her position for him to pick her up, aided by his extravehicular mobility unit.

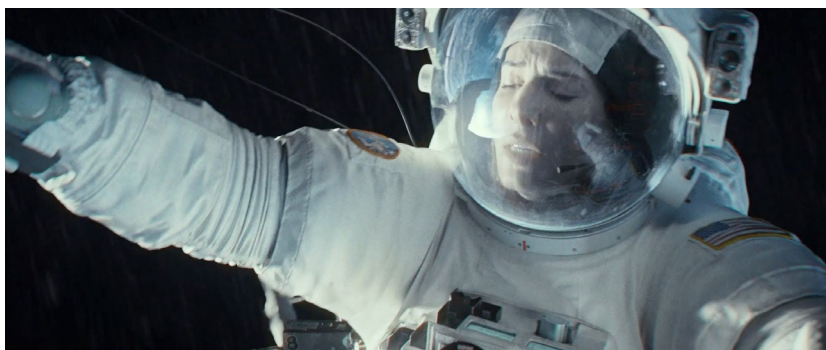


Figure 28 – Gravity's Dr. Stone spins wildly, visibly distressed, as the refraction of Earth spins confusingly across her visor.

239 In contrast to the slow and calm gaze of Kowalski, Stone's gaze upon the Earth in these opening scenes is one lacking a tranquil platform, and is fraught with the tension of imminent death. Planet Earth is an object that disorients, spinning wildly out of control before her and our eyes as she careens through space further and further away from it. The manner in which her helmet fogs up as this happens further highlights the difficulty she has in accessing this image. In Kowalski's helmet we were offered a crystal clear reflection of Earth, in Stone's we are offered a murky and kaleidoscopic refraction. Moreover, Stone only looks at the planet when she is seemingly forced to do so by Kowalski, as a means to relay her position in relation to it back to him. Up until this point she either engages in a cursory and dismissive glance at the Earth, as per the moment with her comment on liking the "silence" of space, or she ignores it completely. Dr. Stone only actively begins to engage with the globe when her life literally depends on it. Up until this point, for Dr. Stone, the Earth is either an incidental backdrop or a visual discombobulator, one that enhances the frantic motion and confusion of the moment as she spins wildly through space.

At no point do we have an evocation of the sublime in the traditional set up of a tableau that allows for a subject to confront

and contemplate an object. In this initial distancing of Stone from moments of sublime interaction with the planet, we are proffered a sense of the world-in-itself. It is utterly ambivalent to her frenetic flight away from it, continuing to rotate independently and indifferently to Dr. Stone's off-kilter dalliance with death. It is an object and Stone is an object, both situated at points of complete extraction from one another. She does not view it as for-her, in the way that Kowalski views it for-himself. Indeed, she only actively reaches out to access the planet when her life is at the mercy of not doing so. This world-in-itself unveiled in Dr. Stone's relation to the planet, arrived at through a disassociation between the two, establishes her psychological distance from Planet Earth.

In a slightly later scene, Kowalski and Stone are re-united with one another after the calamitous events described above, and are making their way slowly to the ISS. "So where's home Dr. Stone?

240 Ryan, where's home?", Kowalski asks. After talking about her home in Illinois, Kowalski asks, "What do you miss down there? Is there a Mr. Stone?", "No.", she replies. He counters, "Nobody special? Somebody down there looking up, thinking about you? Ryan". After a pause she states:

**I had a daughter. She was 4. She was at school playing tag, slipped and hit her head. That was it. Stupidest thing. I was driving when I got the call so ever since then that's what I do. I wake up, I go to work and I just drive.**

As she says this, the camera is fixed to a close up of her helmet as she slowly spins around, the Earth rotating leisurely in her helmet's reflection. She is staring at the planet as she ruminates on her loss, and the camera pans left to match her gaze. The way in which her gaze at Earth is configured in this shot is enlightening for this chapter. Ryan equates Earth as the site of



a terrible tragedy, and its ceaseless and slow rotation marks the planet as a seemingly ambivalent backdrop to her grief. Whereas Kowalski configures Earth as home, in his high tales of Mardi Gras and life in Texas, Dr. Stone equates the Earth as a site of less homely proportions, as seen in her daughter's death and her existentially quotidian routine of working and driving.<sup>41</sup> Through this ambient indifference emitted by the behemoth globe the world-in-itself ripens into full fruition, and Stone's active disassociation from it is illuminated.

Thacker asserts that the world-in-itself is most oft recognised in the form of natural disasters. The long-term impacts of climate change also evoke this reminder of the world-in-itself, 'as the spectre of extinction furtively looms over such discussions' (Thacker: 2011, 5). Here, in *Gravity*, the world-in-itself is revealed not through dangerous weather but through Stone's backstory and her disassociated framing in relation to the planet. Dr.

**241** Stone gazes at the planet in all of its indifference during these sequences as it continues to endure with or without her and her daughter. While viewing the planet as a world-in-itself is an important step of planetary consciousness in the Anthropocene context, aligning our relationship with the Earth to an acknowledgement of our status as passing guests who are no more or less important than other forms of life, one gets the impression that Dr. Stone is herself as ambivalent towards the planet as it is to her. Stone sees no beauty in Earth, as evidenced by her repeated lack of response to Kowalski's reverence for the views, and does not associate it as the paradise it appears on screen. Instead, it is her daughter's graveyard. This problematises reading Stone's formulation of the world-in-itself as an ecologically positive framework of planetary consciousness, since

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<sup>41</sup> This narrative arc ties in with a broader trend suggested by Joseph Jenner, who argues that 'when female astronauts are the protagonists of contemporary screen works, it seems that it is difficult to represent them without reference to a wounded maternal instinct' (2019, 106). Another Earth, while not about a female astronaut, certainly also falls into this framework of a fractured maternal identity present in female-fronted science fiction.

ambivalence towards the Earth is logically conducive to a lack of care for it. However, as the film progresses so too does Stone's planetary perspective, and this shifting perspective of the Earth produces a more generative view of the planet.

Having made it on board the ISS shortly after Kowalski altruistically cut himself loose of her, Stone gets hold of a radio and tries to contact him to say that she's made it onto the ship. She is met only with silence and obscure radio signal white noise. She stares out the window at Earth and a vast white cloud over the blue ocean, glistening. "Please talk to me", she says. There is a long pause as the camera frames a medium-close up aimed out the window at Planet Earth, Stone's reflection is visibly layered over it as she gazes out in turn. Earth is a source of both extreme ambivalence and complete beauty in this scene, and the full scope of the sublime starts to come into view in this contradictory evocation of an object that is both very beautiful and terrifyingly apathetic. Her plea of "Please talk to me" feels aimed as much at the planet as it does towards Kowalski. The lack of response from either is telling with regard to this sense of the world-in-itself that Gravity establishes. What we see here is an acknowledgement of the planet from Dr. Stone, she seemingly talks directly to it and pauses for silent reflection upon it in a manner that she has not done up until this point. The full weight of her situation, her isolation and the startlingly imminent probability of death, are put aside momentarily to stare at the Earth in all of its arresting beauty. The layering of her face over the planet aesthetically reinforces Stone's first paused instance of reflective gazing at it. Moreover, this serves to visually suture the two component parts together, rejecting a framing of them as two discreet or separate entities that one would expect in the traditional concept of the sublime. It is also significant that Stone talks directly to the planet here, whereas Kowalski would only talk about it, as an object, Stone seemingly talks to it as if it were another subject capable of response. This sense of dialogue, or

gestured attunement, between Stone and the Earth was echoed in a non-verbal exchange just prior to this.



Figure 29 – Gravity's Dr. Stone passes out onboard the ISS, assuming a foetal position as she floats in zero gravity.

243 Upon entering the ISS spacecraft, Stone sheds her suit and seems to immediately pass-out with the exhaustion of her endeavor, and the stress of the situation. In a brief moment of calm, wherein both Stone and audience alike are permitted a pause for reflection, a medium-shot from inside the ship sees Stone's unconscious body curling up into a foetal position in front of the airlock (Figure 29). The tubes that surround her enhance the uterine qualities of the image. She floats in this position, cushioned by the circular airlock behind her, with the Earth framed in its window. The look on her face is one of complete calm, and the music undulates soothingly to emphasise the meditative qualities of this moment. The tranquility of this image, when combined with the uterine imagery on display in the mise-en-scène and the framed planetary backdrop, recall the principle of Gaia theory. Patrick Curry explains that the basic idea of Gaia theory:

**is that Earth is more like a living organism than an inanimate machine, which is made up of highly complex interacting ecosystems binding together not only the continents, oceans and atmosphere, but also its living inhabitants... Gaia and its inhabitants co-**

**evolve together in a web of relationships of which symbiosis (not, as in most evolutionary theory, competition) is the dominant kind. (2016, 68-9)**

Gaia theory operates harmoniously with the broader principles of ecofeminist thought, which has a proclivity to focus on the inter-relations and inter-dependencies between humanity and nature.

As Karen J. Warren asserts:

**what makes ecological feminism ecological is its understanding of and commitment to the importance of valuing and preserving ecosystems (whether understood as organisms, individuals, populations, communities and their interactions, or as nutrient flows among entities "in a biospherical net of relationships"). This includes the recognition of human beings as ecological beings (as "relational and ecological selves"), and of the necessity of an environmental dimension to any adequate feminism or feminist philosophy. (1994, 2)**

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In Dr. Stone's foetal repose, we see her falling into a drowsy sense of symbiotic understanding with the planet. She rotates slowly in the uterine chamber of the airlock with the Earth framed behind her, both unconsciously engaged in slow and ceaseless rotation.

Gravity seemingly recuperates Dr. Stone's distance from Planet Earth by positioning her as having this seemingly cosmic physiological tempo with it, the planet here very much positioned as "Mother Earth" with Stone positioned as its child. In Gravity's positioning of Stone's predisposed rhythmic relation to the planet, the film transcends her self-imposed binary distance from it. The film posits instead that she is hereditarily predisposed to being an ecologically bound element of Gaia theory's 'highly complex

interacting ecosystem' (Curry: 2016, 68). Even when Stone is at a far remove from Earth, literally orbiting around it, she falls into a rhythm with the planet while she rests. The subject/object system of oppression that is rooted in modernity's relationship with nature breaks down. Ecofeminism, and its critical view of 'the structural division of man and nature' (Mies and Shiva: 1993, 5), re-purposes the sublime here towards an inter-connected and symbiotically attuned vision of humanity and the planet. It is also interesting that Dr. Stone is not actively engaged with gazing at the planet in this scene, certainly not in the same way Kowalski was, or that Rhode and Justine were. In this unconscious sublime interaction the senses of ennobling validation often found in the perceiving subject are stripped from the sublime, instead it is now presented as a platform where two objects slowly rotate in quiet rhythm with one another.

245 This is not to say that this sequence is without its problems from an ecofeminist perspective. Somewhat problematically, the film seems to posit that this symbiotic placement of Dr. Stone's physical form in relation to the Earth is inherently gender specific. The imagery of this sequence is overtly gendered, as per the uterine and foetal signifiers, and the narrative cues leading up to it very much emphasise the maternal nature of the tragedy which plagues Stone's association with the planet. Furthermore, in setting up the dissonance between Kowalski's planetary consciousness and Stone's own, the film risks establishing a distinct gender binary in its characters' planetary interactions. In this sense, this sequence recalls the two moments in *Another Earth* and *Melancholia* wherein Rhode and Justine bear their naked bodies towards the planets in the sky. In so doing, while this sequence showcases ecofeminist theory's re-modulation of the sublime, it also seems to fall back on the problematic gender binaries found in *Melancholia* and *Another Earth*. However, an absorbing sequence later in the film recuperates the binaries suggested here.

As the narrative progresses, Dr. Stone is very aware that she no longer has the companionship of Kowalski to help her perilous situation. Her only company is, in a very real sense, the planet itself. Through this change in narrative milieu and stakes we see a distinct shift in her sense of planet. Dr. Stone boards another vessel, called the Soyuz, attempting to make radio contact with NASA. She enters the Soyuz after a fire breaks out on the ISS, her hope being that she can use the Soyuz to travel to the nearby Chinese space-station, called Tiangong. With great anguish, Dr. Stone realises that the Soyuz is out of fuel. After clattering her fists about and screaming in frustration the camera cranes out of the shuttle and we faintly hear her trying to contact Houston's Mission Control. A piano motif builds in the soundtrack and the Earthly backdrop becomes more and more prominent as the shuttle fades into obscurity. A sunset is visible on the top left arc of the globe, and the aurora borealis dances over the top right extremity of Earth. Stone's tragic struggle dissolves into the black

246 and our attention is drawn instead to the aesthetic wonder of the planet itself. This is a view of the world-without-us. Stone's fading into obscurity coupled with her inability to contact anybody on the planet present the globe as a realm utterly absent of humans. Planet Earth is seemingly a rock suspended in space, fading into darkness on one end and fizzing with electro-magnetic energy on the other. Terror and beauty coalesce in this image, the full force of the sublime operating to unveil this view of the world-without-us planetary perspective. There are no city lights shining, and there are seemingly no humans to contact. Thacker suggests that, 'the world-without-us lies somewhere...in a nebulous zone that is at once impersonal and horrific' (2011, 6). Here, in *Gravity*, this world-without-us is instead quite personal and rather beautiful.

*Gravity* cuts back to Stone's struggle within the Soyuz. "Mayday, mayday...is this the Chinese station? Is this Tiangong? Copy", Stone repeats this desperately in an attempt to get through to someone. To her astonishment, a muffled voice becomes audible.

The person on the other end of the line is speaking a foreign language, and no subtitles are provided to decode what is being said. The man repeats the word 'Aningaaq', which Stone takes as his name. "Aningaaq...Is that your name? My name is not Mayday, I am Stone. Dr. Ryan Stone. I need help." After saying these words she hears Aningaaq's dogs howling gently in the background, at which point she becomes entranced, stating, 'Those are dogs... they're calling from Earth...they're calling from Earth'. She drops her head despondently with this realization. We hear Aningaaq laugh and his dogs howl, unaware of whom they are talking to or the graveness of her situation. Stone shakes her head in bemused defeat and sits back in her seat. "Aningaaq, make your dogs bark again for me, would you please?" At this point she starts to howl and bark herself, lost in a primordial canine reverie with Aningaaq and his animals.

247 A short film released alongside *Gravity*, simply titled *Aningaaq* (Cuarón, 2013), plays out the same sequence of events described above, but from Aningaaq's perspective back on Earth. Aningaaq (Orto Ignatiussen) is an Inuit fisherman situated on a frozen fjord in Greenland. The opening shot pans from left to right to reveal Aningaaq's fishing equipment on the ice, and Aningaaq slowly walking towards his sled and radio, which rests upon it. He sits on his sled and talks to Stone via the radio with his pack of huskies in the background and his, presumably, wife and baby joining him on the sled slightly later in the sequence. He cannot understand Dr. Stone either, yet the two of them strike a chord while impersonating the huskies together. At the end of their conversation Aningaaq simply puts down his radio and walks back towards his hut, utterly unaware of the perilous significance of the contact he was just engaged in.

The harmonised howling that occurs between Aningaaq on his frozen fjord and Stone in her space shuttle sets up an unlikely intersection of understanding between her and the Earth.

Stone's relationship with the planet assumes new dimensions that echo the symbiotic attunement seen in her foetal slumber earlier in the film. This interfacing of an indigenous person in the wilderness with a human at the very apex of technological achievement is one of significance to the ecocritical debates of the Anthropocene and wider ecofeminist discourse. In Thacker's planetary formations the one thing they all have in common is their relation to "us", in so much as they each orbit around different relations between humanity and the planet. But who is this "us"? Is it all of humanity? Is it Aningaag? Is it Dr. Stone? I would suggest that Thacker's use of "us" is Eurocentric, reflecting human beings of the modern world. Indeed, the formation of the world-for-us is precisely built upon the processes and perspectives of mass-industrial modernity and the others percolate up through this Eurocentric, modern "us", in turn. Thacker's "us" is inherently problematic in its dissolving of the huge fault lines between the "first" and "third" world, the rich and

**248** the poor as well as tribal and modern peoples of this planet.

This is one of the biggest criticisms of the very concept of the Anthropocene itself, the "anthro" within it implying humanity as a mass block of culpability for the ecological crises facing all organic life as we know it. This is not accurately reflective of the fact that, by and large, it is developed nations that are contributing the most heavily towards climate change and that tribal peoples, island inhabitants and those living in less purportedly developed parts of the world are those that suffer the consequences of climate change the most, in spite of contributing towards it the least. Indeed, alternative nomenclatures, such as Capitalocene (as per Jason W. Moore) and Cthulucene (as per Donna Haraway), have been proposed in manners that recuperate the Anthropocene concept's eraser of these colossal differences in culpability for climate change. Gravity, in its unveiling of Dr. Stone's changing modulations of planetary consciousness via her interaction with Aningaag, makes



strides towards highlighting the presence of non-modern cultures and ways of life in the Anthropocene context.

Furthermore, this interaction between Dr. Stone and an Earth occupied by non-modern peoples is of reconciliatory benefit to the historical criticisms of whole Earth imagery. As detailed in my introduction, whole Earth imagery, while instigating the impetus to think ecologically on a global scale, has been criticised for its erasing of local specificity. As Maria Mies and Vandana Shiva stipulate in relation to the global, 'contrary to what it suggests, the global does not represent universal human interest but a particular local and parochial interest which has been globalized through its reach and control' (1993, 9). This logic applies readily to NASA's planetary imagery, which was achieved by way of mass-industrial Western ideals of conquest utterly extracted from the politics and realities of how many different humans live and relate to the planet. Whole Earth imagery runs a significant risk of erasing local cultural specificity at the behest of painting a portrait of grandiose all-encompassing human endeavour. Gravity, by unfurling an Earth seemingly bereft of the hallmarks of the modern, techno-scientific peoples and apparatus that launched Dr. Stone and her colleagues into space aligns its planetary consciousness to this more nuanced understanding of local specificity.

Pat Brereton, in *Environmental Ethics and Film*, also writes on this sequence between Dr. Stone and Aningaaq. He argues:

**such a strange counterpoint and smart paratextual intervention between the feature film and this mini-documentary certainly adds to the total effect, raising numerous environmental and ethical questions around responsibility and empathy between humans, who are so far apart in space. Most specifically, the story speaks to the ethics of mercy-killing animals, alongside responsibility**

## **around a 'duty of care' for our fellow creatures. (2017, 102)**

While I agree that the short and the feature film evoke more ecological meaning and affect when placed in harmony, I think his reading falls short of the mark. This scene seems like it is about something “bigger” than Aningaaq’s relationship with his animals, one of which is sick and he has to kill. As the sublime context unveils, this is about suturing the lines of dissonance between modern and indigenous peoples of the Earth in ways that contribute to our understandings of the Anthropocene debate.<sup>42</sup>

Here we see Gravity’s planetary consciousness aligned with ecofeminist thought in a far more holistic fashion than seen in previous sequences. Rather than rest on gender distinction, here we see a man and a woman of seemingly oppositional cultural and technological backgrounds interacting with one another  
250 across a vast distance, both literally and metaphorically. By way of Aningaaq and Stone’s interaction, Gravity recuperates its gender binaries to unveil an ecofeminist suturing of distant peoples. This scene is about humans engaging with the planet, as opposed to highlighting differences between how men and women interact with the planet. Karen J. Warren attests that,

**ecofeminist analysis of the sources of and solutions to the twin dominations of women and nonhuman nature are structurally multicultural – reflecting the perspectives**

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<sup>42</sup> Brereton further discusses the gender politics of female-fronted science fiction in relation to Gravity and ecofeminism, stating that ‘female protagonists help to focus on a provocative form of ecological and ethical agency. From the positive representations of Katniss in The Hunger Games, to the anti-heroic antics of Delacourt in Elysium, and finally the more ethereally maternal quality of Ryan in Gravity, all three speak in varying ways to a broad range of environmental and ethical problems in outer space that have resonance for contemporary Western society in particular’ (2017, 103). However, his analysis does not look to critique the ways in which gender binary is established in these films. In fact it often rehearses and accepts the binaries that ecofeminism is critical of. His analysis is perhaps, like Melancholia and Another Earth, ecofeminine rather than truly ecofeminist.

**of local, native, indigenous peoples of both the Northern ("the North") and the Southern ("the South") hemispheres – and pluralistic – rejecting universalizing, essentializing, "one right answer" approaches to human social and ecological problems. (1994, 2)**

In this sequence Gravity's planetary imaginary allies itself to this pluralistic and multicultural approach to planetary thinking.

251 This is something that Melancholia and Another Earth did not achieve in their stronger emphasis on white bourgeois characters and reliance on gender binaries. This unwitting, and unknowing, interfacing of a tribal person with an astronaut operates as a pertinent metaphor to highlight the stark differences in how humans live on our one and only planet. Ecofeminist thought is well framed to acknowledge and unveil the cultural, economic and ecological differences between the humans of Planet Earth that are perhaps ignored, or swept under the carpet, in some of the broader thinking around the Anthropocene. Indeed, 'ecological feminist ethics have addressed human relationships with other animals, with environments, and with diverse others locally and globally as relations meriting contextualised ethical concern (Donovan and Adams, 2007)' (Gaard: 2015, 20). Gravity leverages this ecological feminist ethics to unveil an interaction between a modern and a non-modern human, one that is at an appropriate linguistic and spatial distance to display the problematic lack of understanding between the two component parts in the Anthropocene context. However, in the chorus of primeval howling that occurs between Aningaag, his hounds and Dr. Stone Gravity suggests a convalescent form of communication, positing that the best means for suturing our differences should fall back on attunement with our nonhuman world.

In a sense, this sequence is the most overtly science fictional of any of the scenes in *Gravity*, it is as if Dr. Stone has inadvertently travelled either very far back or very far forward in time, placed into a conversation with an Earth bereft of the modern one she left behind. This enhanced science fictional lens almost suggests that the world has borne witness to an ecological disaster, rendered an icy tundra in manners similar to *Snowpiercer's* Earth or *Interstellar's* frozen planet. *Gravity's* Earth assumes a spectral quality 43 wherein 21<sup>st</sup> century modern life is no more, and only those who are in tune with their environment, able to survive in the harsh wilderness of an undisclosed ecological disaster, have survived. This depiction of Earth as a primordial territory, occupied by humans existing with the world as opposed to the world existing for them, is emphasised in the climax of the film, wherein Stone's pod unceremoniously crash lands into the ocean. In a tense series of events upon opening the pod bay doors Stone nearly dies, initially by drowning in the ship itself, then by an

252 inability to get out of her spacesuit and finally through becoming tangled in underwater weeds.

This is not a return to a planet that welcomes her with open arms. Indeed, there is a supreme sense of planetary ambivalence on display again here through her near death experiences. Reinforcing this, in the midst of these distressing events, the camera becomes distracted by a frog that swims past, which it pans to follow. The camera only returns attention to Stone when the frog disappears into the briney undergrowth. In doing so the film emphasises Stone's ecological insignificance by placing her on a plateau of importance with this amphibious pedestrian. Furthermore, it is instructive that in order to survive on the planet Stone has to literally shed herself of her space suit, ridding herself of the heavy trappings of modern technology, to surface above water. Fertile mountain ranges loom in the background and she

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43 The ghostly semblance of Earth feels stronger outside of the context of the *Aningaaq* short, wherein *Aningaaq's* voice and circumstances assume more apparitional properties in the isolated feature film.

swims towards the shore, which she crawls onto like a pre-historic life form making the evolutionary leap from ocean to land (Figure 30).



Figure 30 – Gravity's Dr. Ryan Stone crawls back onto land after crash landing in the ocean.

Selmin Kara, in her article 'Anthropocenema: Cinema in the Age of Mass Extinctions', writes on this closing sequence of Gravity, albeit from a slightly different perspective. She states:

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**Gravity's response to the threat of space debris by going back to "the primordial soup" or a time before civilization can be viewed in this light too. The debris chain reaction that sets in motion Gravity's survival narrative is symptomatic of the broader threat that human activities pose to life on Earth as well as in outer space. (2016, 8)**

Kara's article makes it clear that "primordial soup" is a direct quote from director Alfonso Cuarón, who was describing how he wanted the Earth to appear in this closing sequence. It is through interacting with a primordial Earth that Dr. Stone is able to plant both of her feet back on the ground, and it is by placing the human back into a more humbled ecological position, akin in worth to that of a frog, that Gravity arrives on a world-with-us planetary perspective.

It is a world where we, humans, exist on the same plateau of

significance as all other forms of life. Indeed, no longer a distinct life form, Stone assumes the role of merely one form of life among other forms of life on Earth. She is as 'earthbound' (Latour: 2015, 145) as the frog and the fish of the primordial soup. Timothy Morton argues that,

what ecological thought must do... is unground the human by forcing it back onto the ground, which is to say, standing on a gigantic object called Earth inside a gigantic entity called biosphere. (2014, 368/9)

Gravity facilitates precisely this process of un-grounding and re-grounding the human. Stone's interaction with this overwhelming, and deadly, natural landscape again recalls the sublime in its staging of a human confrontation with a natural object. Crucially, by way of the film's placement of Stone as one earthbound entity among many others, it robs the sublime of its traditional subject/  
**254** object dualism. This is a sublime formation of more inherent suitability to the Anthropocene, one that lands us on viewing the world as with-us instead of for-us.

If we think back to the opening of the film, with Kowalski's calm gazing at the planet, and compare it to the Earth we confront in this closing sequence, it feels quite different. Gravity facilitates a tour of planetary perspectives through Kowalski and Dr. Stone that unearth differing ways in which we can think on the planet. In evoking the sublime through its planetary backdrop, and layering ecofeminist thought and imagery atop of it, Gravity facilitates an ecofeminist re-reading of the sublime. More broadly, Gravity stages a set of planetary perspectives that resound with the ecocritical demands of the Anthropocene context. In Kowalski's reverence for the beauty of the planet we see a gaze that, on first glance, looks to contain ecologically progressive principles. However, in his binary subject/object relationship with the planet there is a clear distance set up between it, the object, and him,

the subject. By contrast, Stone journeys from a view of a world-in-itself, seeing it as a source of tragedy, into a perspective of the world-with-us. The planet she lands back upon feels different from the one we were presented in the film's opening, and this change is indicative of the change in planetary perspective the film induces. Initially Earth is voiced by NASA, at the end it is voiced by Aningaaq the Inuit and his hounds. Initially the world is a site of technological mastery, surrounded by satellites and orbited by astronauts, at the end it is a "primordial soup" belonging to frogs and fish. The Earth she returns to is different, and the differences are organized around ecological and environmental principles. By superimposing an ecofeminist framework onto the traditional subject/object binaries of the sublime, Gravity's journey back to Earth facilitates a transitional view from a world-for-us to a world-with-us.

# CONCLUSION: A WORLD-WITH-US AND THE ECOFEMINIST SUBLIME

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This chapter has displayed the unique position that science fiction cinema is placed for imagining planets and thinking the planetary. It is clear that picturing planets has historically provided an impetus to think ecologically about Planet Earth, as seen in NASA's Blue Marble and Earthrise. Yet, such imagery feels framed around a set of anthropocentric perspectives that in fact distance humanity from nature, whilst privileging a view grounded by and for a certain type of human (Western/Modern/White/Male). As Hannah Arendt wrote in relation to these images, 'we have come to our present capacity to "conquer space" through our new ability to handle nature from a point in the universe outside the earth' (1968, 278). Arendt sees the images of Earth taken by astronauts on the moon as an Archimedean point through which to view the world, fearing that this view brings on a technocratic detachment between Planet Earth and humanity. This chapter has analysed how a selection of contemporary science fiction films attempt to suture this human/planet divide through their own picturing of planets. Given the renewed importance and stress placed on humanity's relationship with Planet Earth, this investigation into *Another Earth*, *Melancholia* and *Gravity*'s planetary imagery is of timely relevance. Each of these films, through an ecofeminist aesthetic of the sublime, provide a platform for suturing the lines of dissonance between the two.

These films, especially *Melancholia* and *Another Earth*, often reach their ecological ends by way of repressive, or simplistic, gender politics. While they find routes out of the sublime's binary



opposition between humanity and nature, they can also be seen to, somewhat ironically, achieve this by way of affirming a male/female binary. As such, much of the re-modulation of the sublime found in these films is not ecofeminist, but ecofeminine. As Davion has it,

**a truly feminist perspective cannot embrace either the feminine or the masculine uncritically, as a truly feminist perspective requires a critique of gender roles, and this critique must include masculinity and femininity. (1994, 9)**

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Sequences such as Rhode and Justine's naked commune with foreign planets, or Dr. Stone's foetal slumber, all too quickly and simplistically equate the female form to "Mother Earth", and use the female body to suggest a predisposed connection with nature. Melancholia and Another Earth particularly can be seen to prioritise the eco in ecofeminism, often at the expense of the feminism. Just as Blue Marble has its eco-ideological inadequacies, these films' planetary encounters similarly contain their own set of shortcomings.

Gravity however gets far closer to an ecofeminist framing of the planetary through its closing interaction between Aningaaq and Dr. Stone. This sequence not only upsets the binary distinction between male and female relationship(s) with Planet Earth, as established in the Kowalski/Dr. Stone split, but also identifies a diversity of human perspectives on the planet. This is one of the hallmarks of ecofeminist thought. In doing so, this sequence, and Stone's subsequent landing back on Earth, facilitate an ecofeministically framed interaction with the planet we call home. Through this ecofeminist sublime, Gravity is able to iron out a great deal of the criticisms that have historically been leveled at whole Earth imagery. Gravity's framing of the planet is robbed of subject/object dualism, is predicated on placing humanity on

an ecological plateau of importance alongside all other forms of life, suggests no privileges towards a particular gender and opens thinking to the specificities of local people and place. The world was with-us before humans saw it as for-us, as seen in the ecological logic of modernity,<sup>44</sup> and Gravity concludes with Stone attuned to this world-with-us planetary perspective. In doing so, Gravity's representation of the planetary seems to chime harmoniously with the ecological imperatives of our times. It announces a sublime framing of the planet appropriate to the Anthropocene context.

Just as Apollo's Earthrise and Blue Marble instigated new ways of environmentally contextualising our planet, so too do Melancholia, Another Earth and Gravity. Since their release however the state and fate of humanity's interaction with the planetary has troubling resonances with the closing acts of *Interstellar* (Nolan, 2014), as well as Arendt's suspicions of NASA's  
**258** outer space conquest. Where the space race of the late 1960s pitted two nations against one another, the emergent space race of the 21<sup>st</sup> century has been privatised. Elon Musk's SpaceX and Jeff Bezos' Blue Origin are both vying to be the first to exploit the resources within and, eventually without, our solar system. The title of Christian Davenport's book about this rivalry, *The Space Barons: Elon Musk, Jeff Bezos, and the Quest to Colonize the Cosmos* (2018), illuminates the imperial underpinnings of this "quest". Arendt (1968) and Heidegger's (1976) fears of the technocratic and colonial implications of planetary imagery are perhaps well founded. In a milieu where humanity's interaction with the planetary is framed around a dying Earth and a re-

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44 Though, of course, the human thought that the planet is ours for the taking dates back far further than modernity, and is vastly dispersed across many different cultures. For instance, Ancient Rome's plundering of the Carthaginians' silver mines in southern Spain during the Punic Wars 'fouled the global atmosphere with lead for some 900 years' (Browne, 1) post -79 BC. This speaks to the means by which antiquated cultures coordinated themselves in world-for-us processes of consumption comparable to those of modernity, whilst also producing global warming effects.

energised colonial push into the cosmos, the urgency to instil a sense of palliative care for Planet Earth has never been greater. In this context, *Another Earth*, *Melancholia* and *Gravity* find themselves of renewed reconciliatory relevance as this space race steams ahead. They encourage a more anchored and attuned sense of eco-sensitive respect for our one and only planet than is facilitated by the “space barons” push into the cosmos. To recycle Morton’s quote, they ‘unground the human by forcing it back onto the ground, which is to say, standing on a gigantic object called Earth inside a gigantic entity called biosphere’ (2014, 368-9). Outside of eco-documentaries specifically concerned with our planetary condition, such as *Overview* (Reid, 2012) or *Our Planet* (Fothergill and Scholey, 2019), it is near impossible to find this sort of ecologically contextualised planetary mediation. These films allow for much needed ways of thinking and seeing planets from an ecological perspective. They provide important counterpoints to the colonial framing of the planetary that lurks in the *Blue Marble* and emanates anew from SpaceX and Blue Origin’s interplanetary undertakings.

Where part one of this thesis was about the uses of the Anthropocene for reading science fiction cinema, this second section has additionally highlighted the uses of science fiction cinema for reading the Anthropocene. While this thesis shows how this epoch is imagined in contemporary science fiction cinema, these last two chapters also show the uses of science fiction as a tool for (re)imagining it. Through the lenses of time and planetary imagery, these films unveil unique ways of thinking, seeing and experiencing the Anthropocene. They have disclosed how two of the most striking aspects of modernity (time’s rationalisation and the production of whole Earth imagery) have morphed in the 21<sup>st</sup> century. If part one traced a movement from the technological to the ecological, then the shift observed here is from modernity to the Anthropocene. This has never been to imply that modernity and the Anthropocene

are necessarily separate entities, but instead to show how one morphs into the other. Just as *Interstellar* and *Arrival* (Villeneuve, 2016) negotiated a series of topological folds in time, *Another Earth*, *Melancholia* and *Gravity* negotiate a series of folding planetary perspectives. *Interstellar* and *Arrival* announce a shift from modernity to the Anthropocene in the way in which cinema conceptualises time. Similarly, these three films narrate a shift from modernity's picturing of planets to a picturing of planets in the Anthropocene. Where the techno-masculine sublime of *Blue Marble* and *Earthrise* can be seen to reflect the industrial-capitalist progress of modernity, the ecofeminist sublime of *Gravity* instead communicates the ecological imperatives of the Anthropocene. Each of these two chapters show science fiction films visually and temporally reconceptualising how the human relates to the nonhuman world. In doing so we see both how the Anthropocene influences science fiction cinema's imagination, but also how science fiction cinema can influence our imagining of the Anthropocene itself.

CONCLUSION:

# MYTHOLOGIES OF THE ANTHROPOCENE



The idea of the Anthropocene proposes that humankind's use and abuse of Planet Earth's resources is geologically palpable. This thesis argues that at the same time in which humankind finds itself legible in the rock fossil record, the Anthropocene era finds itself correspondingly embedded in science fiction cinema. The films explored herein all display aesthetic, thematic and philosophical engagement with the intricacies of representation inherent to humanity's newfound geological agency. Whilst warming global temperatures and a hitherto unprecedented production of waste accumulates in the ground beneath our feet, this investigation into contemporary science fiction films similarly draws out evidence of an era marked by unprecedented climatic change.

262 While films like *Soylent Green* (Fleischer, 1973) and *Silent Running* (Trumbull, 1972) can clearly be seen to engage with the climate change concerns of the 1970s, examples of eco-oriented science fiction films are few and far between until the 21<sup>st</sup> century. Not only has this type of ecological narrative re-emerged, but more pointedly it has done so with unprecedented force and frequency across a short period of time. After *Earth* (Shyamalan, 2013), *Annihilation* (Garland, 2018), *Another Earth* (Cahill, 2011), *Arrival* (Villeneuve, 2016), *Avatar* (Cameron, 2009), *Badland: Road to Fury* (Paltrow, 2014), *Dawn of the Planet of the Apes* (Reeves, 2014), *Elysium* (Blomkamp, 2013), *Godzilla: King of Monsters* (Dougherty, 2019), *Gravity* (Cuarón, 2013), *Independence Day: Resurgence* (Emmerich, 2016), *Interstellar* (Nolan, 2014), *IO: Last on Earth* (Helpert, 2019), *Mad Max: Fury Road* (Miller, 2015), *Melancholia* (Von Trier, 2011), *Rogue One: A Star Wars Story* (Edwards, 2016), *Snowpiercer* (Bong, 2013), *Star Wars: the Force Awakens* (Abrams, 2015), *The Martian* (Scott, 2015), *Wall-E* (Stanton, 2008) and no doubt many more to come, all engage with ecological concerns of pertinence to the Anthropocene context. All of these films have been released within roughly the same 10-year period. This is quite an extraordinary shift in the genre's

representational proclivities, which are historically bound to technological concerns. While the mediation of the technological has by no means come to an end, this hitherto unparalleled influx of the ecological represents a step change in science fiction cinema's relation to global environmental concerns. This thickly compressed band of films congregate in the history of science fiction cinema in a manner that corresponds directly with humanity's geological impact. Just as nuclear radiation, carbon emissions and waste production compress in the rock fossil record, they do so in turn through science fiction cinema's storytelling.

In my introduction I argued that ecocritical approaches to cinema do not incorporate science fiction as much as they could or should, that Anthropocene studies short-sightedly relegates science fiction as an off-handed referent and that science fiction cinema studies' engagement with the Anthropocene is slim, albeit **263** burgeoning. This thesis has addressed each of these lacunas by bringing them together, producing an ecocritical reading of contemporary science fiction films through the concept of the Anthropocene. Chapters two and three display a shift from the technological to the ecological in the genre's contemporary manifestations. Both chapters detail representational changes across a range of science fiction films, and argue that these changes are linked directly to the concerns of the Anthropocene context. They unearth the force that the Anthropocene has exerted on the genre, and detail some of the ecocritical intricacies that percolate through this exertion. Chapters four and five unearth a similar shift in attention, but more pointedly unveil the uses of science fiction cinema as a tool for accessing or experiencing the Anthropocene. They each unveil science fiction cinema as an inimitably useful tool for mediating the scalar discombobulation of a rapidly warming climate.

Where chapter two argues that there is a new imagination of

disaster emerging in contemporary science fiction films, what this thesis has more holistically detailed is not science fiction cinema's new imagination of disaster, but its imagination of the Anthropocene. Some of the genre's most defining tropes, such as the posthuman form, can be seen to morph under the representational demands of this era. Similarly the genre's time travelling and inter-planetary propulsions have been revealed to correspondingly shift around the eco-representational challenges of this era. In detailing the complexities of this Anthropocene imaginary, this thesis has advanced understandings of contemporary science fiction cinema by pointing towards an emergent trend. Seemingly disparate films, such as *After Earth* and *Star Wars: The Force Awakens*, can now comfortably be housed in the same discussion due to their corresponding engagement with imagining the Anthropocene. This allows for new ways of understanding and historically conceptualising how and why science fiction films change over time. The stakes of this are clear for science fiction film studies, ecocinema studies and film studies more generally. This thesis places science fiction cinema more firmly into the heart of ecocinema studies by unveiling a widespread set of eco-oriented shifts in the genre. It argues that these changes pertain specifically to the heightened scale and urgency of environmental concerns in the 21<sup>st</sup> century Anthropocene context.

Rather than solely focus on how science fiction changes in the Anthropocene, this thesis also considers how science fiction might change our sense of the Anthropocene itself. For instance, chapter four opens up new avenues for accessing the sense(s) of time found and felt in this era of climatic change, showcasing that films like *Interstellar* and *Arrival* thrive on the sort of temporal derangement that is wrought through the Anthropocene epoch. Without such films it is harder to consider or experience the various folding timescales that cascade through human/nonhuman relations in the 21<sup>st</sup> century. Similarly, chapter five



re-assesses how planets are pictured, both in and out of science fiction films, and uses *Gravity* as an example of a film that seems to consider the planetary through a more ecologically attentive lens. As a result of this twin consideration of science fiction through the Anthropocene, and the Anthropocene through science fiction, this thesis has stakes outside of science fiction film studies, ecocinema studies or even film studies itself. More broadly this work is part of the environmental humanities and has importance to wider consideration of how the Anthropocene is defined, mediated and represented. This thesis has shown that the genre grants a sense of access to this epoch's temporal and spatial foundations, which other modes of storytelling comparatively struggle to accomplish. It argues that particular aspects of the Anthropocene are uniquely deciphered by way of science fiction cinema. In doing so it shows that these films have a lot to offer to an understanding of the Anthropocene. Indeed, these chapters show that the resonances between science fiction and the Anthropocene are far more than incidental. Instead a sense of a symbiotic back and forth between the two is revealed, with the Anthropocene better illuminated through science fiction films, and science fiction films better understood through the Anthropocene.

This research feels like its placed on fertile ground for further academic exploration, and as such it seems important to look ahead to where this project might logically lead next. Indeed, one of the exciting things about this thesis is that its been written amidst a regular influx of new and impending eco-oriented science fiction films that look to enrich my arguments. Be this Denis Villeneuve's *Dune* (Villeneuve, 2020), the upcoming release of *Avatar* sequels, or smaller budget productions like *Colour Out of Space* (Stanley, 2019), I am very interested to see the direction that science fiction cinema goes from here. It is clear that the trend observed and the findings produced by this research are not necessarily complete, but perhaps instead in a gestative

state. The thick band of films referred to above may only be the first alluvial layer of this new epochal era for science fiction cinema, which will compress and morph over the years under the weight of humanity's escalating telluric influence. It is also worth noting that this thesis has focused solely on big budget science fiction films, which tend to be Hollywood productions. This was purposeful, aligned with Sean Cubitt's belief that popular media is:

**in its own way as complex as the language of scientific papers or policy documents, popular media think aloud and in public about who we are, where we are going, and what debts we owe to the world we live in. (2005, 1)**

266 This thesis has effectively contributed to understandings of how popular films with global reach communicate and mediate the idea of the Anthropocene. However, productive spaces are opened from this approach. As hinted at in my introduction, how "arthouse" or more broadly non-Hollywood science fiction films communicate, visualise and engage with ecocritical discourse may branch off from the observations of this thesis. While *Melancholia*, and to a lesser extent *Annihilation*, can perhaps be considered as films produced outside the Hollywood paradigm, I think a future question opened up from this project is how and if non-Hollywood science fiction films relate to the Anthropocene in the same manners noted here.

This said, in the 21<sup>st</sup> century discerning a singular sense of national identity to a film is a taxing task. *Snowpiercer*, for instance, has many of the hallmarks of a Hollywood action film. For instance, it stars Chris Evans who is the actor best known for playing "Captain America". Yet, it is directed by Bong Joon-Ho, stars Korean actors such as Song Kang-Ho, is partially set in the Korean language, is adapted from a French comic book and is co-produced by a Korean and a Czech film company. The question arrives as to whether the films explored herein, due to the

globalised and transnational nature of contemporary filmmaking, represent a local American view of the Anthropocene, or are part of a more globalised storytelling practice. Mette Hjort argues that contemporary global cinema's inherent transnationality has effectively homogenised film production and film culture (2011, 12-13). Others would argue conversely, suggesting,

**that reiterations of genre from one national cinema to another frequently carry instances of translation (in meaning), rearrangement (of semantic and/or syntactic structuration), and (implicit or explicit) ideological criticism that significantly resist the notion of homogenization. (Dibeltulo and Barrett: 2018, 5)**

Where science fiction sits in this wider global context seems one of the next logical steps that this project might be taken in the future. Interstellar was shown to ultimately present a very  
267 anthropocentric and jingoistic view of the climate crisis, affirming and endorsing a colonial narrative of conquest and expansion. Is this nationalistic, inherently capitalist, view of the Anthropocene Western-specific? For instance, might science fiction cinema from Japan, a country with a very different historical relationship with both the atom bomb and climate change anxieties,<sup>45</sup> produce a different perspective on this epoch to the predominantly Western films explored herein? I do not ask this question in order to answer it, but merely to point towards where the findings of this research may be taken up in wider consideration of global genre cinema at a later date. Indeed, science fiction cinema, when taken as part of a more global cinema context, is perhaps a component part of a wider Anthropocene storytelling project occurring in genre cinema. As Silvia Dibeltulo and Ciara Barrett suggest,

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45 By way of an example, The Sea of Okhotsk, which lies off the Northern coast of Japan, is experiencing warming waters at nearly three times the global average (Denyer and Mooney: 2019).

**the paradigm through which we might conceive of contemporary genre cinema(s) is transition overall, in both temporal and geographic senses: of genres shifting and hybridizing over time, often as a result of, or in response to, critical, historical, and/or cultural shifts/events; of film genres being reworked and interpreted in(to) new locations and audio-visual formats that are distant from the time and place and/or medium with which they were originally associated. (2018, 4)**

While this thesis has certainly displayed science fiction cinema in transition, it is clear that not only other nations, but also other genres may operate similarly. How might horror, for instance, be seen in this light? Might there be similar Anthropocene-inflected transitions in place there? Sarah Dillon's arguments on horror literature certainly suggest so. Through an analysis that  
268 explores 'the profound and specific fastening of horror to the Anthropocene' (2018, 5), she posits that 'contemporary horror is moving from a literature of cosmic fear to a literature of planetary fear' (2018, 5). This mirrors the conclusions to my second and third chapters, which propose that contemporary science fiction cinema is moving from an imagination of technological disaster to ecological disaster. This thesis' use of films like *The Thing* (Carpenter, 1982) and *Annihilation*, both sci-fi-horror hybrids, hint further at the potential alignment between the two genres' shift towards environmental concerns. Evidently the processes and pressures of the Anthropocene are exerting their force, and their dread, into other genres and storytelling practices. As such, it is important to consider this thesis not as a discreet and segregated analysis that pertains only to one genre, but as a component part of a globally dispersed contemporary genre filmmaking milieu.

To this end, it is my hope that this thesis' approach, analysis and conclusions on science fiction cinema and the Anthropocene will be taken up in wider consideration of the Anthropocene in

contemporary global genre cinema. Be this in understanding how genres other than science fiction might have shifted under the Anthropocene's telluric heft, or assessing the transnational idiosyncrasies of such global genre storytelling, there is still much to be done in this arena. This is not to point towards deficiencies in my argument per se, but instead to gesture towards this project being part of something bigger. As the climate warms and the survival of organic life on Planet Earth is placed at risk, understanding Anthropocene storytelling becomes more and more important. As Haraway has it:

**it matters what stories we tell to tell other stories with; it matters what knots knot knots, what thoughts think thoughts, what descriptions describe descriptions, what ties tie ties. It matters what stories make worlds, what worlds make stories. (2016, 12)**

- 269 This exploration of science fiction cinema's climatically impacted imaginaries is propelled by this urge to understand the stories that are being told in the Anthropocene. The films discussed in this thesis unearth a series of worlds that bear uncanny resonance with the troubles of living on a damaged planet. These films are mythologies of the Anthropocene future, ruminating on the current state and fate of the planet through heroic, and unheroic, tales of human/nonhuman interaction. In viewing them, analysing them and bringing them together we get closer to understanding how the story of the Anthropocene is being told during the time in which it ruinously unfolds.

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