BEFORE THE END:

IMAGINING EXTINCTION IN

21ST-CENTURY AMERICAN FICTION

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Submitted to the School of English Literature, Language and
Linguistics for the degree of Doctor of Philosophy

September 2023

ABSTRACT

This thesis examines a subgenre of texts which I define as extinction narratives: texts which explore the possibility of human extinction. Contemplating human extinction poses conceptual and narratological difficulties and encourages us to think beyond the bounds of human experience, considering worlds after and outside of our own. Similarly, the Anthropocene requires thinking beyond the scope of human experience, and even human imagination, connecting the present with far-futures that exist outside of our conceptualisation and narrativization. By confronting the reader with the im possibility of conceptualising extinction, extinction narratives take the reader to the limits of human experience, encouraging a consideration of the world beyond those anthropocentric parameters. Extinction narratives also challenge prevalent frameworks of global catastrophe that use apocalyptic paradigms which retain ideals of redemption, renewal, and salvation following the moment of catastrophe; consequently, they move away from anthropocentric framings of catastrophe that risk enforcing ideas of human exceptionalism and the presumption of human endurance.

My thesis demonstrates how extinction narratives engage with the complexity of thinking extinction through a formal and narrative experimentation which both responds to and reflects the ungraspable awareness of humanity's long-lasting negative impact on the planet. I explore how extinction impacts notions of futurities and posterity, arguing that by disrupting these more 'traditional' notions, the texts open up to alternative interpretations of archivy and intergenerational connection that can be productively utilised when considering the scales of the Anthropocene. I show how these narratives trouble anthropocentric thinking by deconstructing the understanding of the human as exceptional and separate, instead drawing attention to the human as being similar to and assembled with the nonhuman world. I argue that this non-anthropocentric framing can encourage an interconnectedness that is vital whilst under the self-inflicted threat of environmental crisis.

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INTRODUCTION

EXTINCTION AND APOCALYPSE IN THE ANTHROPOCENE

There was a time, and there will be a time, without humans: this provides us with a challenge both to think beyond the world as it is for us, and yet remain mindful that the imagining of the inhuman world always proceeds from a positive human failure.

~ Clare Colebrook, *The Death of the PostHuman* (2014)

No witchcraft, no enemy action had silenced the rebirth of new life in this stricken world. The people had done it themselves.

~ Rachel Carson, *Silent Spring* (1962)

The contemporary cultural imagination has become increasingly concerned with the knowledge that humanity has caused irreparable environmental damage to the planet. As the consequences of anthropogenic climate change become more prevalent, narratives have emerged that explore the potential consequences of the Anthropocene: a term which is commonly used to define our current geological era as being characterised predominantly by the significant impact humans have had on the environment, owing in large part to the dominance of anthropocentric ideologies. Narratives vary wildly in how they consider the Anthropocene, yet the very concept of both the Anthropocene and the most prominent sign of anthropogenic impact – climate change – poses problems of comprehension and narrative representation: considering the Anthropocene requires a thinking on scales beyond the human, and climate change presents difficulties in conceptualisation, owing to its complex causes and disparate effects.[1] Literature and film/television have become the central way to explore topics pertaining to the Anthropocene and the environment; indeed, narrative can be essential in influencing people's understanding of climate change and helping to reframe pervasive attitudes towards the natural world that position it as subordinate. Narrative can be a vital way

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[1] By anthropocentric, I refer to the perspective that centres and privileges humanity beyond all other beings, seeing it as separate from and superior to the nonhuman world rather than acknowledging its dependence on and imbrication with other species. The term anthropogenic is used primarily in relation to climate change and environmental damage, to highlight the influence humanity has had on the natural world.

to help communicate the reality of climate change – a way to narrativize and make comprehensible the figures, facts, and incomprehensibility of long-ranging and long-lasting environmental collapse. However, the way in which narratives articulate these topics is vitally important. Narratives that frame climate change as being easily manageable and survivable risk enforcing attitudes of complacency and reassurances of human exceptionalism: attitudes that have contributed to the irrevocable damage to the climate and to the natural world in the first place.

Recognising this complexity and significance, this thesis examines a subgenre of American texts which I refer to as extinction narratives, identifying them as emerging from growing concerns relating to climate change and the building awareness of living in the Anthropocene.[2] I define extinction narratives as texts that explore the possibility of human extinction. These texts position the narrative in the anticipatory period immediately prior to a catastrophic event which threatens the continuation of humanity. Such narratives refuse to provide a 'solution' to the event or situate the narrative in the post-apocalypse, instead anticipating the end of the human race. Extinction narratives challenge prevalent frameworks of global catastrophe that use apocalyptic paradigms which retain ideals of redemption, renewal, and salvation following the moment of catastrophe. These metanarratives draw on inherited models of apocalypse that have been dominant in American history, and which situate apocalypse as being a form of divine intervention. Extinction narratives refute this model of apocalypse, providing no

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[2] There is disagreement concerning where to locate the start date of the Anthropocene. Paul Crutzen proposes the Industrial Revolution and the beginning of human agriculture; however, others argue for the mid-twentieth century owing to the increase in atmospheric radiation following the invention of the atomic bomb in 1945 (Zalasiewicz *et al.* 2015), and the Anthropocene Working Group have argued for the Great Acceleration in 1950, owing to the rapid increase in human population. Indeed, the latter half of the twentieth and twenty-first century has seen the most prominent emergence of narratives which engage with the Anthropocene. This period is when the extensive impact of human activity is becoming known and unavoidable, and cultural preoccupation with these topics evinces its growing threat. As of March 2024 however, the International Union of Geological Sciences announced its decision not to officially designate the Anthropocene as a formal geological epoch (to some controversy and debate). Despite the disagreements surrounding the official designation or start dates of the Anthropocene, the term continues to be used culturally as shorthand to refer to the devastating, dramatic, and continuingly harmful effect human activity is having on the natural world. Furthermore, as Colebrook has noted, "[e]ven if the Anthropocene turns out not to be an actual truth […] it nevertheless asks us to think and perceive as if our world would be readable in the absence of what we now take to be readers" ("Archiviolithic" 34). For the purposes of this thesis then, I acknowledge that whilst the scientifically agreed designation or start date of the Anthropocene is debatable, the term is useful in helping to think through, or think forward, to consider the long-term impact of human activity, and to consider the human species from a post-human perspective. I go into more detail on the histories, trajectories and debates of environmentally focused genres in the introduction to Chapter Two.

reassurance of continuance, redemption or renewal in a theological afterlife, instead centring the narrative in a secular universe with no promise of theist assurance of meaning or divine intervention.

Extinction narratives move beyond anthropocentric framings of catastrophe that risk enforcing ideas of human exceptionalism and the presumption of human endurance, as is seen in the more common apocalyptic or post-apocalyptic narrative. I argue that the concept of human exceptionalism that has dominated (and continues to dominate) the apocalyptic tradition stands counter to the ideologies needed to most effectively comprehend and come to terms with the impact of human activity on the planet. Instead, extinction narratives reject exceptionalist thinking, postulating a planet-threatening event not as a chance for redemption or as evidence of purpose, but as an uncaring event that decentres the human and troubles the millennia-old binaries and hierarchies that place humanity as distinct from and superior to nature and nonhumans. As such, they unsettle the primacy of the human and trouble hierarchical perspectives of human/nonhuman delineations. These narratives also encourage an acknowledgement of past and ongoing species extinctions. Anthropogenic climate change has contributed to an unprecedented extinction crisis, with extensive biodiversity loss: Elizabeth Kolbert's *The Sixth Extinction: An Unnatural History* (2014) details this anthropogenic extinction crisis, showing how millions of species and ecosystems are succumbing to extinction as a result of human exploitation of the land. Through a consideration of extinction, these novels encourage an acknowledgement of these losses, whilst simultaneously placing the human species as equally susceptible to extinction as the plethora of species that have gone before us. As Joshua Schuster observes: "[t]he biological end of many species has become palpable as an everyday concern. We are the human witnesses to a moment where humans have put existence itself into question. In placing all of life into question, we have placed, also, our own lives into question" (4). In perpetuating anthropogenic climate change and mass species extinction, humanity has also put its own assurance of continuation at risk, drawing attention to our susceptibility to extinction, and consequently disrupting hubristic ideologies of human exceptionalism.

Contemplating human extinction poses conceptual and narratological difficulties and encourages us to think beyond the bounds of human experience, considering worlds beyond, after, and outside of our own. The texts engage with these difficulties through formal and narrative experimentation which both responds to and reflects the ungraspable awareness of

our long-lasting negative impact on the planet. The Anthropocene requires thinking beyond the scope of human experience, and even human imagination, connecting the present with far-futures that exist outside of our conceptualisation and narrativization. By confronting the reader with the impossibility of experiencing extinction, extinction narratives take us up to the limits of human experience so as to encourage us to consider the world beyond those anthropocentric limits.

In this Introduction, I establish how the Anthropocene poses conceptual and narrative difficulties, and outline debates surrounding the complexities of framing anthropogenic climate change. I outline the development and dominance of American apocalypticism and apocalyptic narratives, establishing the reasons for their pervasiveness. I demonstrate how the ideologies which inform this apocalyptic tradition can be seen as incongruous to attempts to communicate anthropogenic climate change. I propose that extinction fictions, through their refusal of promises of redemption and their criticism of destructive and hierarchical ideologies which encourage an anthropocentrism that is rooted in capitalist and colonialist regimes, can be productively read in relation to anthropogenic climate change.

<p style="text-align:center">*   *   *</p>

The importance of environmental conservation became a prominent topic in the United States from the mid to late twentieth century, as environmental activism began to expand. Rachel Carson's *Silent Spring* (1962) made a fundamental contribution to the development of environmental studies and the consideration of anthropogenic impact on the natural world; Carson's work detailed the effects of pesticides on the environment, critiquing the United States Department of Agriculture for their reckless actions, and emphasising the importance of considering environmental conservation in governmental policies. Then in 1989, American environmentalist Bill McKibben was one of the first to draw mainstream attention to the dangers of rising greenhouse gases and global warming with *The End of Nature* (1989). Environmental journalism such as Carson and McKibben's works have been key in communicating the dangers of unfettered human exploitation of the environment. The United States was the site of the development of Earth Day (in part owing to the influence of *Silent Spring*), an annual worldwide event promoting environmental activism and conservation. As environmental activism increased, so did discussion surrounding how to best communicate the

reality of climate change and articulate the extent of environmental damage, particularly through the form of narrative. In 1978, William Rueckert coined the term ecocriticism in an article which encouraged the analysis of literature through the lens of ecology. Theorists such as Lawrence Buell and Cheryll Glotfelty contributed to the development of the field in the United States, and ecocriticism has since expanded into a broad-ranging field that has influenced numerous offshoots of theoretical approaches which it works in collaboration with, such as environmental humanities and ecofeminism. Towards the end of the twentieth century, the United States was developing a growing awareness of the risks of human exploitation of the environment, and the mounting threat of environmental damage.

This anthropogenic environmental damage has contributed to extensive biodiversity damage and mass extinctions of species across the globe. Species extinction itself is, broadly and historically speaking, an ordinary and natural occurrence and a requirement of evolutionary development. Gillian Beer observes that rather than viewing species extinction with "dismay and horror", Charles Darwin saw extinction as being "ordinary and […] necessary to evolutionary change" (Beer 321), a fundamental core to his theory of evolution: in order for species to evolve and grow, other species must die and fade into extinction. Yet the replacement of the extinct species with others relies on the assumption of masses of new species flourishing and reproducing. The sheer scale of losses and species extinctions in our current age means that a vast number of species are facing unfavourable conditions and threat of a mass extinction event. Mass extinctions are characterized by a sharp and rapid decrease in biodiversity, with the world losing more than three quarters of its species in a short time period. There have been five periods previously qualified as mass extinctions, and there is ongoing debate regarding whether we are currently verging on a sixth.[3] A key distinguisher between these past mass extinctions and our current one is that the driver behind this extreme loss of biodiversity is human activity: through "co-opting resources, fragmenting habitats, introducing non-native species, spreading pathogens, killing species directly, and changing global climate" (Barnosky *et al.* 51), humanity is causing irreparable devastations within the natural world. Tied firmly then to the awareness of the ongoing mass species losses is the sense of human culpability: Beer observes that humanity's "present attitude to extinction is freighted with human guilt", as

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[3] For more on the sixth extinction, see Barnosky *et al.* (2011) whose analysis of the fossil record suggests that current extinction rates are much higher than should be expected, Pimm *et al.* (2014) on current and ongoing biodiversity loss and species extinction, and Terry Glavin (2006) on the documented losses of plants, animals, and the cultures lost with them.

"extinctions are understood not as the outcome of external catastrophic forces or long-extended depletion but as the outcome of one species' current greed, folly, and neglect of posterity" (325). Humanity's ongoing desire to constantly expand and develop, ideologies rooted in capitalist and colonialist worldviews, results in behaviour which understands the natural world as disposable and solely existing for the use and exploitation of human actors, without considering long-term conservative efforts that would keep the planet liveable for future generations, both human and nonhuman.

Indeed, the extent of humanity's negative impact on the planet is emphasised most clearly through the predominance of the term 'Anthropocene' in contemporary discussions surrounding environmental disaster. In 2000, Paul Crutzen coined the term 'Anthropocene' to name our present geological era, an era marked predominantly by the impact of human activity: industrialisation, large-scale agriculture, deforestation, and the burning and exhaustion of fossil fuels have all contributed to substantial changes in the Earth's environment, climate, and ecosystems. This, Crutzen argues, means that it has become "more than appropriate to emphasise the central role of mankind in geology and ecology by using the term 'Anthropocene' for the current geological epoch" (16), so as to emphasise the unprecedented and long-lasting extent of the damage enacted on the planet by humanity. This was a major shift in the consideration of human existence, framing human activity not as solely historical, but also as geological. One of the consequences of thinking about this impact is that it requires a consideration of the extinction of the human species: to theorise the Anthropocene is "to assume a future world in which human presence on Earth has been reduced to a lithic layer" (Grusin, *After Extinction* vii). This framing expands historical time to the geological, and indeed suggests the potential annihilation of human history once humanity is made extinct: the Anthropocene "contains within it both the anticipation of human extinction and the imagination of how such extinction would manifest in Earth's crust" (Grusin, *After Extinction* vii). The reminder that humanity as a species will one day exist as a layer in the earth can incite anxieties relating to the impermanence of existence – all of human history and culture will be lost, translated into a geological footprint that evidences human presence but lacks the human observers that could provide context and framing.[4] Thinking about the Anthropocene requires

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[4] Anxiety is understood as a general feeling of unease and discomfort, which can arise from specific situations and experiences, or can be diagnosed as a symptom of a pathological disorder (commonly known as Generalised Anxiety Disorder). In referring to anxiety within this thesis, I refer to an emotional response that can impact thinking, emotions, and behaviour, both individually and culturally. Charles D. Spielberger argues that anxiety can be a "powerful influence in contemporary life" (3),

imagining a future beyond representation: it requires imagining the annihilation of human experience, of human language, and of human narrative.[5]

Both the concept of the Anthropocene and its primary manifestation of anthropogenic climate change defy easy representation and comprehension. The process of climate change is incremental and abstract, with no clear-cut antagonists, protagonists or demarcated location of origin – there is no short-term narrative structure to follow, no distinct beginning, middle or end that can be ascertained. Both the concept of the Anthropocene and climate change challenge our sense of scale: as Farrier queries, "[h]ow can its seemingly incompatible scales of action and consequence, event and outcome, and the deep enfolding of human and inhuman agencies it pronounces be given form, or even imagined?" (*Anthropocene Poetics* 20). Timothy Morton uses the term 'hyperobject' to think through this difficulty of comprehending the expansive scales and the far-reaching consequences of thinking about climate change. Defined as things "massively distributed in time and space relative to humans" (Morton, *Hyperobjects* 1), hyperobjects are conceptually inaccessible owing to their expansive scales and their inability to be perceived in their entirety. They can be literal 'objects', such as the human-created created things that Michelle Bastian and Thom van Dooren call "new immortals" – "plastics, waste and chemical pollutants" whose effects "[promise] to circulate through air, water, rock and flesh for untold millions of years", propelling us into "unfathomably vast futures and deep pasts" way beyond the human temporal scale (1). Yet climate change itself is

having the potential to impact a person's behaviour. Feelings of anxiety around certain ongoing events or possible future occurrences have the propensity to impact attitudes and behaviour and influence cultural beliefs and outputs.

[5] Since the initial conception of the term 'Anthropocene', there have been a plethora of additional provocations and considerations of alternate '-cenes': Capitalocene, Cthulucene, Necrocene, Plantationocene, Technocene, Misanthropocene, Anthrobsene, to name just a few. These alternate terminologies engage with some of the nuances that the broader 'Anthropocene' misses, such as the role of capitalism and colonialism in the perpetuation of environmental degradation, or the uneven distribution of culpability and consequence across humanity. For this thesis however, the term Anthropocene feels to best embody the hubristic and paradoxical nature of considering the long-term impact of human activity. The concept of the Anthropocene acknowledges the devastating deep time consequences of anthropocentric attitudes towards the planet, yet the idea that human activity might have such an irreversible and unprecedented impact on the geological record is, itself, a fairly anthropocentric attitude, as is the notion of naming an entire geological era after our singular species. Jan Zalasiewicz argues that "there are now many Anthropocenes out there, used for different purposes along different lines of logic in different disciplines" (124). Therefore, whilst acknowledging the utility, and perhaps superiority, of the alternate neologisms, within this thesis I use the term Anthropocene intentionally to highlight this paradox and to highlight the hubristic anthropocentric worldview that has contributed to such damage (a worldview which extinction narratives aim to do away with), in the hope that the use of the terminology of 'Anthropocene' will one day become unnecessary – or indeed, become extinct.

also a hyperobject, with its long term, deep time, geological consequences, and with the difficulty in seeing clear cause and effect, which poses problems of comprehension. Eva Horn describes climate change as a "catastrophe without event" (55) – a catastrophe that lacks a single geographical and temporal location, and that has global, long-lasting, and destructive consequences. Unlike events with clear perpetrators and logical, immediate consequences, "climate change has no identifiable source or responsible agents – rather […] a multitude of sources and agents" (Horn 56-7). Climate change is impossible to pin down, difficult to conceptualise, and difficult to communicate.

The extensive losses and extinctions of countless species as a result of anthropogenic climate change and other human activity presents us with further challenges and disruptions. Similarly to Horn's "catastrophe without event", Thom van Dooren emphasises the drawn-out nature of species extinction, how it is not a singular event but instead an "ongoing *process* of loss" often "characterized by enduring patterns of suffering and death that begin well before" the death of the final member of the species, what he refers to as "the dull edge of extinction" (*Flight Ways* 46, emphasis in original). These processes of loss will also endure *after* the last death of the species, and will, Dooren argues, "likely continue long afterward" (*Flight Ways* 46). He uses the term "flight ways" to highlight how species are not isolated singular beings, but are connected with vast lineages and across generations. Extinction of one species also often causes mass consequences on other species and beings, as a result of the entangled nature of life both across the nonhuman world and the human world. Species extinction is therefore not a singular loss of the last animal of its kind, but the loss of an entire way of being and the species' interconnected relations and dependencies. Extinction causes disruption of human ways of thinking and being, particularly for those whose lives interact with at-risk species, who rely on nonhuman human species for companionship, for food, or for cultural meaning and connection.[6] Disruption also occurs more broadly in how such massive literal and cultural losses can impact meaning itself. Matthew Chrulew and Rick De Vos argue that mass extinction presents an "overwhelming disappearance of ways of being, experiencing and making meaning in the world" which "disrupts familiar categories and demands new modes of response", an "almost unfathomable loss" that "challenges our thinking and writing" (23). Both the broader concept of the Anthropocene and the 'smaller' losses that make it up are sometimes incomprehensible, sometimes intangible, and sometimes unthinkable.

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[6] See, for example, van Dooren on the impact of vulture loss in India (2017).

The framing of communication surrounding climate change is vital – it is essential to find ways to communicate the extent of climate change in a way that evades its abstraction, articulating facts and figures in a comprehensible narrative. Yet the difficulties of communicating climate change also extend to the attempts to articulate climate change within narrative. Rob Nixon describes climate change as a "slow violence" (2) – a gradual and incremental emergence of catastrophe whose causes and consequences are hard to ascertain. He poses the question:

> How can we convert into image and narrative the disasters that are slow moving and long in the making, disasters that are anonymous and that star nobody, disasters that are attritional and of indifferent interest to the sensation-driven technologies of our image-world? How can we turn the long emergencies of slow violence into stories dramatic enough to rouse public sentiment and warrant political intervention […]? (3)

Whilst acknowledging that action surrounding climate change might be stirred by use of narrative, Nixon identifies the issues of attempting to narrativize climate change: with no clear antagonists or protagonists, no clear 'moment' of disaster, and the absence of an evident move towards a resolution, how best to articulate a narrative that evidences the potential consequences of climate change, in a way that is urgent enough to provoke action and does not rely on reassuring tropes and platitudes? How to think beyond, and narrate beyond, the bounds of human existence, so as to communicate the significant negative impact humans have had on the planet?

The past few decades have seen an influx of narratives which envision the potential planetary consequences of climate change; yet a large majority have situated these consequences as devastating but survivable.[7] Post-apocalyptic narratives have become particularly dominant: fictions where anxieties surrounding climate change or other mass destruction manifest in the form of a catastrophic but 'survivable' apocalyptic moment. These fictions are generally secular, but their structures are rooted in theological apocalyptic traditions which position apocalypse as a pre-ordained and revelatory event centred on a deterministic view of existence; apocalypse in this sense can offer comfort in its promise of salvation and continuation in a

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[7] There are numerous examples of these narratives, which I will explore in more detail later in this thesis as a contrast to extinction narratives. Some examples of (post)apocalyptic narratives which situate climate change in this manner include Roland Emmerich's *The Day After Tomorrow* (2004), Dean Devlin's *Geostorm* (2017), and Kim Stanley Robinson's *The Ministry for the Future* (2020).

world beyond our own. The concept of apocalypse eludes strict definition, and there has been much discussion on the ambiguity and slipperiness of its terminology.[8] Broadly speaking, narratives of apocalypse are concerned with the end of the world, whether by human or otherworldly means. During times of crisis, apocalyptic rhetoric and narratives have been popular as a way to articulate or attempt to work through fears of threats (both local and global). However, the very concept of apocalypse contains within it fantasies of human exceptionalism – the notion that humanity is essential to the continuance of existence as the creation of a divine being and is therefore exempt from total annihilation, or that humanity is exceptional enough to solve and survive any annihilation event. This apocalyptic tradition constructs a framing of catastrophe which, I argue, is antithetical to the necessary framing of the consequences of anthropogenic climate change.

The genealogy of the apocalypse genre is multifaceted and complex. The notion of the end of the world spans across many different cultures and times, emerging in various mythologies and narratives: examples include the Mesopotamian flood myth depicted in the *Epic of Gilgamesh* from the second millennium B.C.E., and the Western medieval Norse concept of Ragnarök which would see the destruction and eventual rebirth of the world.[9] Whilst apocalypse in this sense is concerned with world-ending scenarios, the term also holds connotations of renewal, meaning, and purpose. Theological framings of apocalypse such as that within Judeo-Christian tradition reflect this interpretation of apocalypse as an opportunity for redemption and renewal. The prophesied 'end times' in the Christian Bible's Book of Revelation describes a period of extreme suffering and tribulation followed by a final conflict of Armageddon, after which humanity will be judged: the righteous will be saved and rewarded with eternal life in paradise, and the sinful will be condemned to eternal punishment in hell. This framing of apocalypse sits within an understanding of the universe as theist, created by an omnipotent deity who controls worldly and otherworldly events. The apocalypse is thus not simply the end of the world, but a moment of transition that ushers in salvation for the worthy and which assures human continuance. John Collins defines this category of apocalyptic narratives as being

> a genre of revelatory literature with a narrative framework, in which a revelation is
> mediated by an otherworldly being to a human recipient, disclosing a transcendent

[8] See Robert L. Webb for a discussion of the difficulty in defining the term (1990).
[9] For a broader overview of the long history of apocalypse, see Norman Cohn (1993), who examines apocalyptic worldviews in the ancient world; Martha Himmelfarb (2009), who provides an overview of apocalyptic literature through to the modern era; and Haueke Riesche (2021), who explores how the apocalyptic tradition frames contemporary and secular crises.

reality which is both temporal, insofar as it envisages eschatological salvation, and

spatial insofar as it involves another supernatural world. (9)

Apocalypse in this form is revelatory, pre-ordained, and centred around a deterministic view of existence, offering comfort in its promise of salvation for the worthy, and continuation in a world transcending our own. The prevalence of visions of apocalypse and of an eternal afterlife exhibit a fear of death and an inability to conceive of pure non-existence. Even those who are not worthy will still persist and live for eternity – albeit an eternity of suffering in hell. The apocalyptic tradition presents a worldview that is both theist and just, promoting the importance of individual human action within a moral framework and assurance that individual behaviour will be justly rewarded.

Apocalyptic assurances are not found solely in the promised continuation of existence, but also in the way that this form of apocalypse provides a meaningful structure to *current* existence, offering security and purpose to people's lives through its teleological structure: apocalypse provides an endpoint that implies that humanity has a premeditated trajectory and so has meaning. The word's etymology reflects this – apocalypse is rooted in the Ancient Greek *apokalypsis*: an 'unveiling' or 'disclosing'.[10] This framing sees apocalypse as "a sudden breaking point in human destiny unveiling an ultimate truth […] that has always been present, but remains most of the time hidden, denied or forgotten" (Aldrovandi 200). It implies a hidden meaning to existence that will ultimately be disclosed, gesturing to a predetermined understanding of human history that reveals the purpose behind all otherwise incomprehensible occurrences. Apocalyptic metanarratives provide reassurance not only of human continuation in a transcendental afterlife, but of meaning behind people's current lives and experiences. Matthew Avery Sutton observes that for avid believers in apocalypse, apocalypticism can be "a framework through which to interpret their lives, their communities, and the future, which in turn often inspired, influenced, and justified the choices they made. It filled in blanks, rationalized choices, and connected dots" (4). Belief in apocalypse allows people to ascribe meaning to and understand the incomprehensible facets of existence, providing a sense of reassurance of human purpose and importance.

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[10] See the entry for "αποκάλυψη" in *The Cambridge Greek Lexicon*: "uncovering […] disclosure, revelation (W. GEN. of God's people, plan, judgement)" (182).

Apocalyptic imagery and rhetoric have been particularly dominant in American history, to the extent that some have identified something particularly apocalyptic about the very idea of America. John Hay, for example, argues that "[t]o the extent that America signifies an idea or ideology as well as a geographical space and political state, it has always carried an apocalyptic resonance" (5). The United States has historically been conceptualised as "the new Eden", with early European explorers perceiving the "new lands" of America as "[representing] a millennial paradise" (Wojcik 21). Apocalyptic tropes and rhetoric have long pervaded American fictions: early Puritan writings included speculation about apocalyptic prophecies which proffered moralistic guidance alongside the promise of salvation for those who followed said guidelines, whilst assuring followers that all that happened was willed and preordained by God.[11] The popularity of these narratives is evidenced in the success of Michael Wigglesworth's *The Day of Doom* (1662) – detailing the arrival of Judgement Day prophesied in Revelations, the poem became greatly popular amongst many Puritan New Englanders, and has been referred to as "the first best-selling book published in British North America" (Long 378), with each new print selling out almost immediately. Prophetic writings concerned with apocalypse continued into the eighteenth century – preachers such as Jonathan Edwards were greatly preoccupied with the concept of apocalypse, and his sermons often drew on apocalyptic imagery and rhetoric.[12] Belief in apocalypse was a key feature for many religious groups, such as the nineteenth-century Millerites, whose leader, William Miller, believed that the world would come to an end in 1843/4, based on his interpretations of biblical prophecy. Miller's understanding of apocalypse was premillennial, based on the belief that the coming of Christ would bring Judgement Day and the end of the current world. Worthy believers would ascend to Heaven in an event referred to as the Rapture, and the tribulations would be followed by the Millennium: a thousand-year period of peace on earth under Christ's rule. Despite the end of the world not coming to pass in 1833/4, premillennialist beliefs continued to proliferate: the Seventh Day Adventists believed that Miller's predicted date was a spiritual apocalypse and that the tribulations on Earth were still to come. The Church of the Latter-day Saints (a group of premillennialist believers better known as Mormons) similarly believed in an upcoming apocalypse, following the guidance of Joseph Smith, who claimed to have been visited by an

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[11] Examples include John Cotton's *The Pouring Out of the Seven Vials* (1642) and Increase Mather's *The Mystery of Israel's Salvation Explained and Applied* (1669).

[12] Jonathan Edwards' *Notes on the Apocalypse* (1977) contains a collection of his reflections on apocalypse and the book of Revelation.

angel who informed him of the coming apocalypse; for the Mormons, the premillennial kingdom was predicted to be the United States itself.[13]

Millennial ideas in the United States persisted throughout the latter half of the nineteenth and into the twentieth centuries, although the late nineteenth century saw a shift to postmillennialism. Postmillennialists held the belief that the coming of Christ and the Last Judgement would come *after* the Millennium, rather than the premillennial vision of Christ's arrival signalling the start of the Millennium. Postmillennialism was favoured by mainstream Protestants and dominated American religious denominations up until World War One.[14] Premillennialism began to regain favour in fundamentalist Protestants from the 1910s onwards, as a reaction against the mainstream postmillennial denomination, and eventually surpassed postmillennialism yet again in popularity. Premillennialism retained its presence and influence in American culture: Hal Lindsey's *The Late Great Planet Earth* (1970), a nonfiction engagement with premillennial eschatology, was deemed the bestselling book of the 1970s by *The New York Times*, and films such as Donald W. Thompson's *A Thief of the Night* (1972), a fictionalised approach to the Rapture and Tribulation, demonstrate the popularity of these ideologies in U.S. culture at this time.[15]

The dominance of these millennial ideologies endured into the twenty-first century, evidenced in the persistence of millennial and theological apocalypticism within contemporary culture. Rapture fictions – fictions which explore in narrative form the concept of an end-time event where believers are raised to the heavens to be saved from the series of apocalyptic tribulations on Earth – exploded in popularity. Such narratives use the framework of the millennial interpretation of apocalypticism, exploring the aftermath of a rapture-style event. The *Left Behind* (1995-2007) novel series by Tim LaHaye and Jerry B. Jenkins achieved extensive commercial success, selling over 70 million copies and inspiring several films, including Vic

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[13] For more on Adventism and American apocalyptic beliefs, see Douglas Morgan (2001); see Jon R. Stone (2012) for more on millennialist movements in America.

[14] See James H. Moorhead (1999) for an extensive examination of mainstream American Protestantism from 1880 to 1925, and Jon R. Stone (2012) for a discussion on the variations of American millennialism in the nineteenth and twentieth centuries.

[15] Randall Balmer notes how estimates of view count for *A Thief in the Night* in the United States hover around one hundred million (inclusive of rewatches), observing that "[i]t is only a slight exaggeration to say that *A Thief in the Night* affected the evangelical film industry the way that sound or color affected Hollywood" (65). The film also had an international impact, being "translated into three foreign languages, subtitled in countless others", and retaining an "international distribution [that] continues strongly" decades after its initial release (Balmer 62).

Armstrong's *Left Behind* (2014), starring Nicholas Cage.[16] The success of this series demonstrates the cultural dominance of the apocalyptic tradition. Other narratives moved away from a literal manifestation of apocalypse, but retained its themes and ideas, reworking the notion of theological apocalypse into genres such as science fiction: Stephen King's *The Stand* (1978) features a global pandemic that takes humanity to the brink of extinction, with the few survivors finding themselves in a battle between good and evil, the good led by a character called Abigail Freemantle who claims to be a prophet of God.[17] Many of the protagonists ultimately sacrifice themselves in order to defeat the evil, and thereby bring in a new era of peace. Texts such as *The Stand* use a framework of theological apocalypse, exploring themes of prophecy and divine intervention, as well as redemption and renewal.

The concept of apocalypse has also evolved into a secular manifestation. Narratives exploring secular apocalypse exclude the religious element of apocalypse as being a form of divine intervention, instead featuring massive global catastrophes that threaten life as we know it. These types of apocalyptically-driven fiction vary in their form and definition – most share the depiction of a global catastrophe and explore the impact of this crisis on humanity, but the catastrophe varies wildly, with narratives featuring a host of threats such as nuclear disaster, global pandemics, natural disaster, alien invasion, asteroid impact, zombie outbreak, and robot uprising. These fictions also differ in where the apocalyptic event is positioned in narrative time: some narrate the experience of the apocalypse itself, positioning the threat as an event that must be overcome or endured,[18] whilst others narrate through the apocalypse, depicting both the events of the crisis and the experience afterward.[19] These narratives often focus on the rebuilding and re-establishing of societal structures, sometimes exploring the possibility of

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[16] The series, consisting of 16 novels, has inspired several films. Other narratives involving the idea of the rapture include Seth Rogen and Evan Goldberg's apocalyptic comedy film *This is the End* (2013), which ends with many Hollywood celebrities being raptured into Heaven, Casey La Scala's *The Remaining* (2014), an apocalyptic horror film envisioning the Rapture, and Damon Lindelof and Tom Perrotta's *The Leftovers* series (2014-7), which used the notion of the rapture (known in-series as 'The Sudden Departure') as the basis for their show (although ultimately no clear theological or secular explanation was given for the disappearance). For more on the dominance of rapture fiction in American culture, see Crawford Gribben (2004; 2009).

[17] See Edward James (2000), who explores the concept of rewriting the apocalypse for the science fiction genre.

[18] Examples of narratives which depict the experience of the apocalypse itself include Pat Frank's *Alas Babylon* (1959), Byron Haskin and Steven Spielberg's film adaptations of *The War of the Worlds* (1953; 2005), Emmerich's *The Day After Tomorrow* (2004) and Emmerich's *2012* (2009).

[19] Narratives which explore the events and the aftermath of an apocalypse include William R. Forstchen's *One Second After* (2009), Josh Malerman's *Birdbox* (2014), and Emily St. John Mandel's *Station Eleven* (2014).

creating a new and 'better' world than the one left behind. Others situate the narrative long after the apocalyptic event has occurred, positioning the post-apocalyptic world itself as the thing to be feared, but simultaneously offering the assumption that our human history will have a far-future in which reminders of the current world will be found as historical relics.[20]

Such secular apocalyptic fictions have often emerged in response to moments of socio-political unrest, and can be read as a way to express and reflect political, cultural, and global anxieties. The Cold War saw a flourishing of apocalyptic narratives in popular culture, with the atomic bomb and the threat of Mutually Assured Destruction inciting anxieties relating to a global catastrophe such as nuclear apocalypse.[21] Scholars have also identified a proliferation of post-apocalypse narratives following the events of 9/11: Matthew Leggatt identifies an emergence of narratives which "tended to concentrate on the fate of survivors of apocalypse rather than saviors" (24), situating the narrative in the 'after' period, and focusing on surviving and rebuilding a new world; John Walliss and James Aston identify a "significant increase in apocalyptic imagery and themes across a variety of popular media" (54) following the 9/11 attacks; and Kyle Bishop argues that the proliferation of zombie narratives in the 2000s was a result of national trauma from the attacks, noting that "a post-9/11 audience cannot help but perceive the characteristics of zombie cinema through the filter of terrorist threats and apocalyptic reality" (24). Evidently, apocalyptic narratives are commonly able to reflect anxieties surrounding collapse, catastrophe, and imminent disaster; yet they appear to have shifted to have more of a secular focus, with a large majority focusing on the aftermath of the post-apocalypse.

The reasons for this shift in depictions of apocalypse are complex. James Berger argues that it is a result of the catastrophic experiences of the twentieth century that have been understood as apocalyptic and constructed as breaks from the past, which has contributed to a "pervasive post-apocalyptic sensibility in recent American culture" (xiii). The crises of the Western twentieth century – two world wars, the Cold War, the Holocaust, the invention of the nuclear bomb – have incited a feeling that humanity has already experienced an apocalypse, and that we are currently in its aftermath. Resultingly, Berger argues that "the apocalyptic sensibilities

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[20] Such narratives include Walter M. Miller Jr.'s *A Canticle for Leibowitz* (1959)*, David Brin's *The Postman* (1982), or the Bethesda game series *Fallout* (1997-2018), all of which are set in a far-future United States and include glimpses of 'contemporary' America.

[21] Examples include Pat Frank's *Alas, Babylon* (1959), Leigh Brackett's *The Long Tomorrow* (1955), and Robert R. McCammon's *Swan Song* (1987).

both of religion and modernism have shifted toward a sense of post-apocalypse" (xiii), shedding the expectant and reassuring apocalypticism of millennialism. Teresa Heffernan similarly argues that the loss of narratives drawing on this form of apocalyptic structure stems from the experience of living in a world "that does not or cannot rely on revelation as an organizing principle" (7), suggesting that we "live in a time after the apocalypse, after the faith in a radically new world, of revelation, of unveiling" (6). The fictions that Berger and Heffernan discuss often display a disappointment with the contemporary moment, highlighting the perceived failures of current society and providing a fictional space in which these failures can be explored.

Yet despite the contemporary shift to secular apocalyptic events, the very suggestion of a 'post'-apocalypse retains the sense of assurance and revelatory elements found in apocalypse's theological history: the rupture of secular apocalyptic fiction provides an opportunity to break from the imperfection of the previous world and begin anew, having learnt from past mistakes. Themes of renewal and redemption persist, and visions of catastrophic apocalypticism combine with utopian and millennial fantasies, emphasising the capacity of humanity to overcome apocalypse and ensure the persistence of human legacy. Some fictions see a return to a 'simpler' time, proposing a prelapsarian space in which destruction provides a cleared landscape on which survivors can re-establish the fallen structures of society and culture. This type of narrative retains the apocalyptic motif of renewal and redemption, as the post-apocalyptic world experiences an industrial reversion, returning to a time before the technology that is often portrayed as the source of the apocalyptic event.[22] Alternatively, they may explore the potential of new life elsewhere, with the narrative showing the remnants of humanity leaving earth behind on the search to find another planet.[23] These types of narrative express utopian desires for an idealised future following a near-annihilation event, exploring themes of salvation and redemption for the survivors, and establishing a new era for humanity either on earth or beyond it.

Why this fascination with imagining end of the world scenarios? Apocalyptic fictions can emerge as critiques of elements of society, reflecting contemporary anxieties and extrapolating

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[22] Narratives which envision a post-apocalyptic return to a pastoral state include George R. Stewart's *Earth Abides* (1949), Jean Hegland's *Into the Forest* (1996), William R. Forstchen's *One Second After* (2009), and Clara Hume's *Back to the Garden* (2013).
[23] Examples include Philip Wylie's *When Worlds Collide* (1933), Neal Stephenson's *Seveneves* (2015), and Alex Proyas' *Knowing* (2009).

the concerns of the present to a possible future. Indeed, authors might politically mobilise their works through their narrative engagement with catastrophe and humanity's response to it, using the apocalyptic tradition to communicate moral lessons and situating the narrative as a form of didacticism. The appeal of apocalyptic narratives can also lie in the opportunity to articulate contemporary anxieties in a comprehensible narrative structure, enacting a worst-case scenario and then alleviating these anxieties by ensuring that this scenario is survivable. James Lovegrove argues that the recurring trope of apocalypticism demonstrates a need "to believe that the world is coming to an end or has done so in the past and that, though immersion in the crucible of catastrophe, humankind is tested and purified and bettered" (98). Those who do survive the apocalypse will be "deserving inheritors of a golden age, a perfect new world" (Lovegrove 98). The apocalyptic paradigm – both secular and theological – reassures that, despite these worst-case scenarios, humanity will persevere, and there will be opportunities for renewal and redemption. Anxieties are articulated through cathartic destruction and then appeased by restoring humanity and society in the 'after'.

Apocalyptic narratives also provide an opportunity to make sense of threats by transforming the chaos of reality into something comprehensible that follows a narrative arc. Apocalypse in this sense offers a proleptic structure of human existence and a vision of the future that ties the inexplicable disasters of the present to an ending that proposes a meaningful structure to human existence. Apocalypse exists as the climax and closure to the 'story' of humanity, whether through secular or theological means. This understanding of apocalypse as narrativizing has been considered by Frank Kermode, who argues that Western desire for a satisfactory narrative with conclusive closure stems from this notion of teleological apocalypse. Kermode understands apocalypse as a sense-making paradigm that, he argues, structures our stories and the desire for a meaningful ending. These kinds of conclusive endings imbue the prior narrative with a significance that "[gives] each moment its fullness" (6) – a form of meaning-making that also extends to post-apocalyptic narratives. In post-apocalyptic narratives, the apocalyptic event becomes imbued with meaning, a pivot point separating the before from the after, a moment of activation from which the world can be made anew in the post-apocalyptic space.

Yet the sense-making element of this apocalyptic framing encounters difficulties when it comes to articulating the negative impact of human action on the planet. Timothy Clark asks whether the Anthropocene, "with all its complexities", could in fact be "antipathetic to narrative as a basic mode of sense making", as it is "not something adequately presentable in terms of a linear

and coherent chain of directly related events" (*Ecocriticism* 83). The structured and sense-making 'narrative' of teleological apocalypse cannot be applied to the disparate, incomprehensible, and inaccessible nature of the Anthropocene. Furthermore, when considering the possibility of catastrophic climate change, and imagining these "stories dramatic enough to rouse public sentiment" (Nixon 3), narratives that invoke the reassurance of teleological apocalypse can seem insufficient, risking asserting the assurance of human endurance in face of calamity (despite the calamity being our own construction). They risk encouraging a reliance on the assurance of individual 'redemption' in the post-apocalyptic world (whether secular or theological), which stands in contrast to the collective action required to prevent the escalation of catastrophic climate change. They also assert the binary logic of apocalypticism that positions the apocalyptic moment as a singular event which neatly splits time into a 'before' and 'after' and often has a clear perpetrator or cause: a framing which opposes the abstract and intangible nature of climate change. Antonia Mehnert notes that "apocalyptic imageries generally based on presenting clear antagonists, may no longer be fitting to grasp the diffuse relation between victim and culprit in contemporary risk scenarios" (33). In ignoring the complexity of humanity as being both victim and perpetrator of climate change, such narratives run the danger of extending these narratives of reassurance outside of the fictional text. They risk contributing to further denial of climate change through a reliance on the promise of a new world post-collapse, which reproduces teleological narratives of colonisation, presuming that there will always be new land to conquer. It also presumes the persistence of a technological optimism which asserts that humanity can save itself despite the worst odds; in turn, this can give rise to an apathy which assumes catastrophe will be averted, a deferral of action that relies on future resolution and salvation.

Certain narratives which detail survivalist scenarios often privilege a certain 'type' of survivor: commonly white, cis, straight, able-bodied protagonists tasked with the responsibility of surviving and repopulating the earth. These types of texts risk positioning the apocalyptic event as being a threat to only a particular kind of future, and often disregards the nuances and complexities of the impact of climate change. Audra Mitchell and Aadita Chaudhury argue that many post-apocalyptic visions are centred around anxieties of losing a particular white future, observing that

> emerging narratives of the 'end of the world' explicitly center figures of whiteness
> as their protagonists – as the survivors of apocalypse, the subjects capable of saving
> the world from it, and as those most threatened. In these discourses, 'survivors' are

framed as saviours able to protect and/or regenerate and even improve Western

forms of governance and social order by leveraging resilience, scientific prowess,

and technological genius. (313)

Secular apocalypse in this sense is falsely universalising, positioning it as an event which will impact everyone equally and simultaneously, and occurs at a moment in the future, ignoring the ways in which climate change is already having catastrophic consequences on lives. These types of survivor narrative can also retain and reproduce the structures which lead to apocalypse in the first place: Joanna Zylinska identifies the "messianic-apocalyptic undertones and its masculinist-solutionist ambitions" that emerge within certain Anthropocene narratives, which "[bring] forth a temporarily wounded yet ultimately redeemed Man, who can conquer time and space by rising above the geological mess he has created" (12). Despite offering criticism of the structures which caused the apocalyptic event by showing their initial downfall, reinforcing them in the 'after' only demonstrates an inability to consider a future positively shaped by alternative structures.

Some narratives try to frame climate change and the Anthropocene in ways that might more accurately reflect its complexities and importance.[24] Kate Marshall identifies a growing body of U.S. fiction that locates itself "firmly within the strata and sediment of the Anthropocene" (524). These "novels of the Anthropocene" demonstrate awareness of their "status as new novels of a newly self-aware geological epoch" (524), articulating scalar shifts that move towards the larger scales required for thinking the Anthropocene. The emergence of these narratives reflects a growing cultural awareness of anthropogenic impact on the planet. Yet many narratives engaging with climate change still retain that same apocalyptic framework: Matthew Schneider-Mayerson describes how American climate fiction often "[chooses] to depict climate change in specific, limited, and surprisingly problematic ways", portraying climate change as "primarily a problem for white, wealthy, educated Americans" ("Whose Odds" 945), ironically so as the groups most vulnerable to climate change are often those with the least privilege. This narrative paradigm frames humanity as a protagonist who will survive and build the world anew in the same image of the world that came before. If they are to articulate adequately the threat of the Anthropocene and reframe human perceptions of

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[24] I will more explicitly delineate the genre categories and taxonomic debate surrounding climate-related fictions in Chapter Two, when I examine the impact of notions of extinction on genre.

superiority, narratives that respond to the Anthropocene must propose a re-framing of such metanarratives.

In contrast to the narratives of redemptive and reassuring apocalypse which I have outlined, I argue that extinction narratives move outside of this framework of apocalypticism. Extinction narratives instead decentre the human and refute human supremacy by exploring the possibility of human extinction, positioning the narrative in the anticipatory period prior to a catastrophic event which threatens the continuation of humanity and is implied to be unsurvivable. An integral feature to extinction narratives is the refusal to position the narrative in the 'after', thereby denying the possibility of redemption or renewal. The category of catastrophe might vary – some are more directly linked to human activity, detailing how anthropogenic climate change or other human action can have extensive consequences, whilst others feature unexplained or other/off-worldly threats to human existence. Whilst extinction narratives differ in the *kinds* of catastrophe, they all refuse the possibility of restoring the world to its former self, of undoing the catastrophe or rebuilding after the event, and thereby reject the framework of theological or teleological apocalypse. The cause of the event is also always secular – the event is not deemed to be the cause of a deity punishing or ending the human world, and there is no presumption of a religious afterlife. In this way, these narratives distance themselves from the more religious conceptualisations of the apocalyptic tradition which find purpose in 'the end', or comfort in an eternal afterlife. Extinction narratives also emphasise the catastrophe not necessarily as a singular moment but a slow, building breakdown that reflects the slow violence of climate change. In exploring the possibility of human extinction, these narratives trouble the idea of humanity as exceptional and eternal, encouraging a consideration of a world beyond human framings. Extinction means not solely the physical death of all humanity, but also death of all human constructs: all human knowledge, human history, and human culture are lost to the void. It means the annihilation of the symbolic order itself, resulting in a world outside of human conceptualisation, encouraging readers to consider: how can we imagine a world outside of the human imagination?

When thinking, narrating, or indeed analysing the idea of human extinction however, it is vital to keep in mind the literal attempts of forced human-on-human extinction that have occurred in human history: that is, attempts at human genocide. The United Nations defines genocide as "acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group", through:

(a) Killing members of the group; (b) Causing serious bodily or mental harm to members of the group; (c) Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part; (d) Imposing measures intended to prevent births within the group; (e) Forcibly transferring children of the group to another group. (n.p.)

Genocide is the deliberate attempt to 'make extinct', a violent form of dominance and oppression that threatens the literal and symbolic extinction of a group and their culture. Indeed, the emergence of species extinction of a concept links with the emergence of destructive and racist ideologies which perpetuated attempts at genocide. Schuster highlights how "the history of conceptualizing extinction overlaps with the history of mass violence toward some human communities and peoples who have been subject to genocidal agendas informed by naturalist interpretations of extinction" (5). The science of extinction "[introduced] new forms of violence and dominance by marking off some species and races as more extinctable than others", a conviction that was extended into "violent judgments of the biological basis for the oppression of non-white races" (Schuster 5). Indeed, the United States was built on its attempts to wipe out Indigenous communities, a genocide that endeavoured to literally and culturally destroy Indigenous people and their ways of life, through numerous forms of violence: through attacks, raids and massacres, through destruction of Indigenous land, and through attempts to destroy Indigenous ways of life, through forced relocation and cultural assimilation. Allied here too is the perpetuation of racial systems of oppression which led to the Atlantic slave trade, as well as centuries of institutional racism towards Black people in the United States.[25] Schuster notes that "white settler power is perpetuated by organizing ontological definitions and thresholds in a way that casts Black, Indigenous, and racially marked bodies as incessantly subject to erasure and finitude" (214), highlighting the racially motivated oppressive structures which fuel the genocidal acts in the U.S.

Indeed, Indigenous and Black scholars have used the terminology of apocalypse, in the sense of apocalypse as being a violent end of a world, to refer to settler colonialist violence in America: Gerald Horne discusses the "apocalypse of settler colonialism", framing slavery, white supremacy and capitalism as agents of apocalypse in seventeenth-century North America

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[25] Chapter Three goes into more detail of colonial methods of genocide against Indigenous and Black Americans in the US, including forced contraception, the forced removal of children from their families and cultures, destruction of cultural material and exclusion from archives, as well as exploring colonial and racial forms of environmental violence.

and the Caribbean, describing Indigenous Americans and Africans as the "primary [victims] of the apocalypse unleashed with full fury" (17).[26] Kyle P. Whyte highlights how "the hardships many nonIndigenous people dread most of the climate crisis" are similar to the ones "Indigenous peoples have endured already due to different forms of colonialism: ecosystem collapse, species loss, economic crash, drastic relocation, and cultural disintegration" (226). There is an emergence of Indigenous literature which engages with the sense of Indigenous peoples having already experienced apocalypse, emphasised keenly in this quotation from Waubgeshig Rice's *Moon of the Crusted Snow* (2018), an Indigenous post-apocalyptic novel:

> They say that this is the end of the world. […] apocalypse! What a silly word. […] Our world isn't ending. It already ended. It ended when the Zhaagnaash came into our original home down south on that bay and took it from us. That was our world. When the Zhaagnaash cut down all the trees and fished all the fish and forced us out of there, that's when our world ended. (149-50)

Rice highlights both the historical attempts at genocide of Indigenous communities, along with how the violences against the land and against Indigenous communities were and are allied: decimation of the land and nonhuman species correlates with decimation of communities, of cultures, and of lives.[27]

The hierarchies which are used to perpetuate racist and colonial beliefs in white supremacy thus align with the hierarchies that diminish the nonhuman world, and acts of genocide often align and overlap with acts of environmental degradation – or, alternatively, acts of ecocide. Schuster argues that "[t]he diminishment and destruction of animal lives over the last several centuries connects distinctly with the diminishment and destruction of Indigenous communities, in particular, that have existed in long-standing relationship with these animals" (Schuster 6). Decimation of nonhuman species destroys not just said species, but the lives and cultural connections of those human communities who are entangled with them. In an analysis of spectral animal gods in Hayao Miyazaki's animated file *Monokoke Hime* (1997) and Linda Hogan's *Power* (1998), Susan McHugh highlights how "genocides of tribal peoples connect

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[26] Jared Hickman similarly discusses the apocalypse of settler colonialism, making the case for another '-cene' in the Americocene to highlight the culpability of settler colonialism projects in environmental degradation (2020).

[27] For more on these types of fictions, which have been defined by Grace Dillon as "indigenous futurism", see Dillon on imagining indigenous futurisms (2012), and Kyle P. Whyte on Indigenous science fiction for the Anthropocene (2018). Examples of further indigenous futurisms include Cherie Dimaline's *The Marrow Thieves* (2017), and Rebecca Roanhorse's *Trail of Lightning* (2018) and *Storm of Locusts* (2019).

with decimations of native species […] to pave the way for settlercolonial states" (23), analysing how the spectral beings highlight how "ecocide – the deliberate and irrevocable destruction of ecosystems – becomes entangled with cultural extinctions or erasures of languages, traditions, knowledges, and viewpoints distinct to particular communities" (23). The attitudes that perpetuate violence towards and oppression of nonhuman species often align with the attitudes that perpetuate similar violence and oppression of certain human groups, to the extent that Lauren J. Eichler argues that "ecocide and the genocide of Indigenous peoples are inextricably linked", and are "even constitutive of the same act" (104), highlighting how the acts of violence towards both Indigenous peoples and the nonhuman world coalesce and intertwine.[28]

As mentioned briefly earlier in this introduction, terms such as the Capitalocene or the Plantationocene highlight both the role of capitalism, colonialism and racism in the Anthropocene, and emphasise the unequal contributors and consequences of environmental degradation. Audra Mitchell states that when "conjuring a homogeneous figure of 'humanity' responsible for driving extinction", we risk "[erasing] inequalities of responsibility […] including the disproportionate ecological harm caused by […] colonial capitalism" (914). The wealthiest and most privileged of humanity are often the highest driver of emissions, and the least likely to be immediately impacted by the consequences of climate change. Whilst thinking extinction is helpful in thinking non-anthropocentrically, there is a risk of universalising the human experience and erasing historical systems of racial oppression, creating a monolithic framing of the human species and not differentiating between levels of privilege and culpability. It is vital to keep this in mind when considering anthropogenic climate change, and exploring these extinction narratives. Stacy Alaimo argues that "[t]hinking the human as a species does not preclude analysis and critique of economic systems, environmental devastation and social injustice" (*Exposed* 155), and indeed, many of these extinction narratives work to highlight social injustice and critique capitalist and colonialist systems and worldviews. Although it is vital to be careful not to wholly universalise in the narration of (or indeed, the analysis of) fictionalised visions of human extinction, extinction narratives can, in their attempts to decentre the human and highlight ways that humans are connected to and not

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[28] See also Ward Churchill and Winona LaDuke on Indigenous American resistance to genocide, ecocide, and colonization (2002), Martin Crook and Damien Short on the genocide-ecocide nexus, which understands ecocide, cultural and physical genocide as intersecting processes (2014), Damian Short on genocide and ecocide as acts of settler colonialism (2016), and Tim Lindgren on the link between ecocide and genocide in relation to a shared disregard of alternate life-systems (2017).

separate from the natural world, refute binary systems of logic that perpetuate systems of oppression that have supported racial and cultural oppression. This is particularly notable in extinction narratives which most clearly reflect on past genocides and extinction attempts, to highlight the similarities of oppression and violence across species lines.[29] Thinking extinction necessitates an imagining outside of persistent structures and worldviews that hold corruptive and destructive binaries that other and diminish that which colonial and capitalist systems of belief position as being inferior.

Despite the growing engagement with the idea of species extinction, extinction narratives that fully conceptualise human extinction are relatively rare. The late seventeenth and early eighteenth centuries saw an emergence of texts exploring the notion of human extinction, in part influenced by a combination of large-scale catastrophic events that contributed to mass death in the West – the Revolutionary and Napoleonic Wars, and the 1815 eruption of Mount Tambora, which triggered rapid planetary cooling and caused global famine and disease. Western writers responded to these events through an exploration of the possibility of human decline: examples included poems such as Thomas Hood's *The Last Man* (1823) and Lord Byron's *Darkness* (1816), both of which contain images of the earth devoid of human life, as well as Mary Shelley's *The Last Man* (1826) which envisions a post-pandemic world in which only one man is left alive. A small body of extinction narratives also emerged in the second part of the twentieth century when the threat of nuclear annihilation loomed large in the cultural imaginary and political landscape:[30] Kurt Vonnegut's *Cat's Cradle* (1963) imagines the creation of a substance called *ice-nine*, a seed crystal which causes water to immediately freeze and transform into more *ice-nine*. The novel closes with *ice-nine* being dropped into the ocean, freezing the world's oceans and water supply and dooming humanity to extinction. Stanley Kubrick's black comedy *Dr Strangelove* (1964) ends with the release of nuclear bombs that

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[29] This is most notably seen in *Future Home* and *Appleseed* with the discussion of the histories of settler colonialism and erasure of Indigenous cultures and communities, and also in *Alternate Endings* in relation to the LGBTQ+ community.

[30] The threat of the nuclear and its surrounding anxieties shares similarities with climate change: Daniel Cordle argues that "nuclear texts are not a historical curiosity of the Cold War," but share a similar engagement with the planetary vulnerability that is seen in climate change fiction, noting that "literature from that period [of nuclear anxiety] continues to speak to us […] offering foci and approaches that can also help to illuminate climate fiction" (289). Nuclear annihilation incites a similar long-term existential terror to that of climate change: Srinivas Aravamudan considers how "climate change [continues] the same nuclear logic of planetary obliteration, except slightly more slowly" (8).

will destroy the planet with nuclear fallout, as does Steve De Jarnatt's *Miracle Mile* (1988).[31] These narratives articulate an anxiety surrounding mass annihilation and extinction, prompted by the development of nuclear weaponry that has the potential to cause extensive destruction, and even total extinction.

Yet overall, extinction narratives are much less common than the plethora of apocalyptic, dystopian and post-apocalyptic narratives that have emerged in response to crises: as McFarland argues, "climate change fiction as a genre of apocalyptic and post-apocalyptic writing has resisted facing the potentiality of human species extinction, following instead traditional generic conventions that display a predilection for happy endings by imagining primitivist communities of human survivors with the means of escaping the consequences of global climate change" (2), an anthropocentric and hubristic manifestation of end of the world scenarios that refuse to imagine the possibility and reality of human extinction. The scarcity of extinction texts stems in part from the unique challenges extinction poses both conceptually and narratively; yet it is this difficulty that I argue makes this subgenre rich for examination in line with environmental crisis and approaches to the Anthropocene. The Anthropocene requires that we look at the earth from a far-future perspective to consider our long-term impact on the planet. Extinction narratives allow us to consider the final chapter of that human narrative and, as readers, place ourselves into a planetary perspective, considering a world without humanity and a world beyond humanity, whilst simultaneously considering the negative impact of humanity and encouraging a disruption of the destructive and dominant ideologies that have historically diminished and at times decimated that which has been positioned as 'other'. I ask: what difficulties does extinction pose to narrative representation? How can we relate these difficulties to the related hurdles of narrating climate change and the Anthropocene? And how might a narrative exploration of extinction encourage a troubling of human centrality in a manner that is essential to thinking about the climate crisis?[32]

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[31] Other examples of nuclear extinction novels from outside of the U.S include Nevil Shute's *On the Beach* (1957), based in Australia, Maggie Gee's *The Burning Book* (1994), based in the U.K, and *Level 7* (1959), written by Ukrainian-born Israeli Mordecai Roshwald, but which intentionally contains no geographical locators.

[32] My focus is on the representation of extinction within narrative fiction, and as such, my primary texts are all novels. I also refer in passing to examples within film and TV in order to illustrate the cultural impact of extinction, and to highlight persistent tropes and recurring themes across media and within the cultural imagination. It is worth noting that film and TV would be an interesting point of further exploration in regards to mediating extinction: in a discussion of narratives that exclude humanity in some way (which he calls "disanthropic" narratives), Greg Garrard notes that "the ostensible impersonality of the camera – its mechanical indifference, even – makes it possible to bracket out both

Chapter One considers how extinction poses existential and conceptual challenges through its paradoxical nature. I establish how these challenges have a significant impact on narrative, and how this emerges through a disruption of tense, temporality, and endings. I argue that the difficulty conceptualising extinction presents issues when attempting to proleptically grieve extinction: a difficulty that is shared by the loss felt in relation to environmental collapse. I demonstrate how the disturbing nature of extinction creates a sense of uncanniness and estrangement within the texts, which, I argue, can be constructively utilised when considering the Anthropocene and human assumptions of centrality and superiority.

Chapter Two examines extinction narratives in relation to genre, considering how they play with genre conventions and expectations. I explore Ben H. Winter's *World of Trouble* (2014) and Michelle Tea's *Black Wave* (2015), arguing that the complexity of narrating extinction requires genre experimentation, and results in genre breakdown. They experiment with genre with the effect of reframing the experience of existential threat and catastrophe in narrative, shifting away from an anthropocentric perspective that positions humanity as the central and only protagonist that will always endure. The extinction narratives I examine can all be understood as hybrid genres, a generic mix which blends the 'apocalyptic' genre with an additional one; yet the features of these additional genres are also distorted, the presence of the extinction event frustrating expectations for resolution and questioning the surety of the elements of these genres in the first place. I examine how this accentuates the impact of the threat of extinction – not only on individual lives, but on the broader concept of genre itself.

Chapter Three explores how extinction impacts notions of futurities and posterity, primarily the concepts of intergenerational connection such as reproductive futurism and archival security. I analyse the presence of intergenerational connection in Louise Erdrich's *Future Home of a Living God* (2016) and Lindsey Drager's *The Archive of Alternate Endings* (2019), exploring how these texts rely on notions of intergenerational connection during a threat to humanity's posterity; yet when facing extinction, these concepts become inherently troubled. By exploring the possibility of extinction, the texts highlight the fallibility of these concepts of futurity, encouraging a consideration of how colonialist, misogynistic, and homophobic

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humans as objects and, to some degree, the human subject in its most obtrusive forms" (43-4). See also Tim Matts and Aiden Tynan on the mediation of extinction in Lars von Trier's film *Melancholia* (2011).

regimes of oppression have contributed to exploitative and exclusionist historical processes. The texts use the insecurity of their narratives' future to interrogate the perceived inherent security of the future historically, highlighting how dominant systems of oppression have threatened certain groups and queried the presumption of an equitable future for all, through Erdrich's engagement with Indigenous histories, and through Drager's engagement with LGBTQ+ histories. I argue that by disrupting 'traditional' notions of futurities and posterity through considering extinction, the texts open up to alternative interpretations of archivy and intergenerational connection that can be productively utilised when considering the scales of the Anthropocene.

Chapter Four considers how these extinction narratives trouble anthropocentric thinking by decentring the human and drawing attention to the porosity of the binaries and boundaries that have positioned the human as separate and superior from the nonhuman world. I demonstrate how Alexandra Kleeman's *Something New Under the Sun* (2021) and Matt Bell's *Appleseed* (2022) deconstruct the understanding of the human as exceptional and separate by drawing attention to the human as instead being similar to and assembled with the nonhuman world. Elizabeth Parker notes that "[i]f we are to convince ourselves that the human and nonhuman are distinct, then we must necessarily buy into and fixate on the creation and maintenance of boundaries" (49). It is through the dissolution of these binaried boundaries that space is opened up for new connections and positive approaches to the natural world and its inhabitants, as opposed to attitudes of assumed domination. I argue that this non-anthropocentric framing can encourage an interconnectedness that is vital if humanity is to reconsider its relationship with the natural world and prevent further extinctions, whilst encouraging a disruption of dominant and oppressive hierarchical worldviews.

In the Conclusion, I address the potential criticisms of extinction fictions as being nihilistic, considering how fictions engaging with climate change may have varying affective responses. Ursula K. Heise argues that "biodiversity, endangered species, and extinction are primarily cultural issues, questions of what we value and what stories we tell" (*Imagining Extinction* 4). I explore this idea of 'what stories' are we tell and position extinction narratives as a form of restorying – a reframing of the dominant metanarratives of apocalypse and human exceptionalism that allows for an acknowledgement of humanity's imbrication with and responsibility to the natural world. By refusing to rely on presumptions of human mastery and

the assumption that a solution will be found in the future, the reader is left to consider the possibility of a future beyond humanity: a post-anthropocentric world.

CHAPTER ONE

TOWARDS A WORLD WITH NO FUTURE:

THEORISING AND NARRATING EXTINCTION

> does the last
>
> of anything
>
> know it's the last
>
> ~ Ash Davida Jane, *How to Live With Mammals* (2021)

> I suppose I haven't got any imagination […] it's the end of the world. I've never had to imagine anything like that before.
>
> ~ Nevil Shute, *On the Beach* (1964)

Theorising Extinction

Extinction poses unique problems both conceptually and narratologically: problems which stem predominantly from its inaccessibility. Firstly, the individual experience of death is unimaginable: Zygmunt Bauman argues that the experience of death is "the absolute *other* of being, an *unimaginable* other, hovering beyond the reach of communication" (2; emphasis in original), impossible to experience, conceptualise, or be accurately represented. Martin Heidegger describes existence as being *Dasein*, an understanding of being that depends on ongoing referential experience of the world and as such, alleges that it is impossible to conceive of death absolute; death is the absolute opposite of experience, a nothingness that is inaccessible to Dasein. It is only experienced through seeing the loss of other people; there is "no way of access to the loss-of-Being as such which the dying man 'suffers'", as death is "not something which we experience in a genuine sense; at most we are always just 'there alongside'" (Heidegger 282), only ever being able to observe another's death. Although death is assured for all, death can only ever be anticipated, never fully accessed or experienced. Therefore, for death to be imagined, it needs to be mediated via an external continuing perspective, even when that external perspective is our own: Sigmund Freud notes that "[w]e cannot, indeed, imagine our own death; whenever we try to do so we find that we survive

ourselves as spectators" (*Reflections* 41). Our capacity to imagine individual death only extends to the ability to imagine *around* our death, to place ourselves into the perspective of those who survive us and observe the effects of our individual passing, mediating it through an external observer. Anxieties surrounding mortality are often assuaged in ways that require the assumption of continuous human existence following individual death, such as death rituals, religious assurances, and general assurances of continued collective existence. When death is conceptualised through narrative, there is an assumption of a future reader that the author is writing towards: this assumption provides the author "a form of immortality" through literature, as the text is able to "[retain] memories of past lives and give them continuity" (Hakola and Kivisto ix). Yet this immortality relies on the continuation of humanity in some form: James Hatley discusses the concept of death narratives, the idea of narratives which exist in a sequence connecting to future generations and provide continuance following individual death: "what is important about a death narrative is that one's own passing away becomes a gift for those who follow, as well as an address to them" (212). Death narratives are "vocative; they call to one's survivors for some mode of response" (Hatley 212), a direct communication with a future that presumes that there are humans surviving who can be addressed.

Extinction, however, consists of multiple 'deaths' which contribute to its representational challenges. In addition to the death of each individual person, there is the collective death of humanity as a species, and the 'death', or annihilation, of the signifying system that humanity uses to define itself. The death of humanity means that there is no possibility of Freud's spectator, whether that imagined spectator is our own projected self, or is an imagined future human. Not only would there be no humans left to *experience* extinction, but all human markers which would ascribe meaning to humanity or to humanity's absence would lose their representational value, as no one would be remaining to understand them: a complete annihilation of the symbolic archive. Returning to Heidegger's concept of existence as Dasein, extinction means that there would be no referential world in which to ground oneself, no structure of signification that would enable the thinking of even the concept of death. The complexity of thinking extinction poses difficulties when authors approach the creation of a narrative which engages with the notion of extinction. Narrative is required in order to represent extinction textually, yet extinction requires the impossibility of representation – the annihilation of representation itself. This poses questions of how texts might approach mediating an experience that requires the eradication of mediation: arguably the only true articulation of extinction might be a text which destroys itself as the reader turns the final

page.[33] The texts I examine in this thesis confront the reader with the impossibility of experiencing extinction, and as such, take us up to the limits of human experience so as to encourage us to consider the world beyond those anthropocentric limits.

In this chapter, I establish the impact that extinction and the absence of a collective future has on understandings of existence and of narrative. Firstly, I map the paradoxical complexities of thinking extinction, demonstrating how it incites distinct anxieties as a consequence of the absence of a collective afterlife, and how the loss of retrospection and an inability to witness the moment of extinction results in a paradox of conceptualising the event. I then examine how this is articulated within narrative, arguing that texts which engage with extinction respond to these representational challenges through experimentation with narrative form: some see a distortion of temporality and tense, a refusal of narrative closure, and the removal of assurance that the narrative and the fictional world will continue beyond the limits of the text. I explore how extinction also impacts grieving and mourning practices, and how this can be read in line with feelings of environmental grief. Finally, I demonstrate how the paradoxical nature of extinction creates a sense of uncanniness and estrangement in the texts, and I examine how this can be read through Gothic modes of inquiry. Extinction narratives create a Gothic sense of dread, uncertainty, and alienation, evoking the sense of how it feels to live in the Anthropocene. I argue that the uncanny estrangement of humanity created in the process of approaching these texts can create a defamiliarization that can be constructively utilised when considering the Anthropocene and human assumptions of centrality and superiority.

Extinction profoundly impacts attitudes towards death and mortality. Death anxieties are predominantly managed through the assumption of a continuation of human existence following individual death, which in turn assures the preservation of our individual impact during life: whether via intergenerational continuation through family, or through the continued memory of our actions or influence, there is a requirement for a continuation of the collective. Ernest Becker argues that much of human activity is driven by conscious and unconscious attempts to deny death via various meaningful activities that will preserve the memory of us: "the idea of death, the fear of it, haunts the human animal like nothing else; it is a mainspring of human activity – activity designed largely to avoid the fatality of death, to overcome it by

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[33] Gee's *The Burning Book*, an extinction narrative concerning nuclear annihilation, reflects this possibility by having the front and back covers decorated with flames, as if the text is burning up along with the fictional world it represents.

denying in some way that it is the final destiny for man [*sic*]" (xvii). Becker refers to these activities as "immortality projects" (xiii): the human pursuit of things that will outlast individual death and therefore offer meaning, purpose and significance to individual existence. Yet these immortality projects require an assumption of continuation. This can be literally – stemming from a theological perspective that existence continues following death in some form of afterlife – or it can be through the assumption of the continuation of humanity as a species. We assume that the cultural groups we participate in will continue after individual death (through family, nation, and/or work), that the continuation of our lineage enables us to 'live on' through intergenerational continuation, or that our contribution to society is preserved through cultural or physical continuation – for example, things we may have made, knowledge we may have created, or general impact or influence we have had on other people. Extinction removes any possibility of these comforts. The annihilation of not only the individual, but of *all* individuals, removes the potential for symbolic continuation: we lose the reassurance that members of our familial or cultural groups will survive and grieve us, and that anyone will remain to observe the things we have created or to remember our actions and contributions to humanity.

Extinction threatens not just humanity, but the cultural structures and symbolic markers that define humanity and ensure its endurance. When considering extinction, it is necessary to imagine a world absent of human markers, which collapses understandings of existence and the assumption that humanity will persist indefinitely: the void of extinction "projects a human-shaped hole into the fabric of existence", revealing the precarious nature of our continued existence, and shattering the immortality projects that have been built up to comfort and assure human posterity and dominance (Sheehan 171). It is these anxieties that are touched upon – that our lives lack meaning and purpose, that assumed posterity is a myth – which mark the distinction between thinking death and thinking extinction. Beyond the difficulty in conceptualising a future with no continuation of humanity, there is the inherent paradox in thinking extinction. To truly think or experience extinction, all must become extinct; yet the moment this were to happen there would be no spectator to acknowledge or comprehend the extinction. Extinction can only really be theorised or anticipated, eluding full representation or conceptualisation. This paradox has been explored by a number of philosophers – as early as 1794, Immanuel Kant theorised a moment in time "in which all alteration (and with it, time itself) ceases" (224). Kant observes that

this is a representation which outrages the imagination. For then the whole of nature will be rigid and as it were petrified: the last thought, the last feeling in the thinking subject will then stop and remain forever the same without any change [...] such a life – if it can even be called a life – appears equivalent to annihilation, because in order to think itself into such a state it still has to think something in general, but thinking contains a reflecting, which can only occur in time. (224)

For Kant, extinction is at the absolute limits of human imagination. It cannot be thought, as thinking requires the human perception of the passage of time – and with the ending of human understandings of time as linear and related to human experience, so too ends any notion of thought, as thought requires a retrospective reflection that no longer can exist outside of time. The petrified nature Kant imagines resonates with Horn's observation of nature's destruction as a result of climate change: "[i]f nature is extinguished, all that will remain of the earth is a bleak lump without living processes, without plants, without seasons, without tides. The end of climate is a morbid standstill, the end of nature's temporality" (64). In discussing the prospect of absolute annihilation, Kant anticipates contemporary fears of climate extinction: the petrification of existence, of nature, of the human understanding of the passing of time. The end of the planet will result in the end of observable temporality, and this absence of time then denies the potential for thought, leaving space for only non-thought. Here lies the paradox in thinking non-existence – extinction is the epitome of the void, the horror of the abyss. Jean-François Lyotard similarly negotiates this paradox: he notes that "after the sun's death, there won't be a thought to know that its death took place" (75). True extinction can never have been experienced, as the requirement of extinction is the destruction of all and any spectators.

This impossibility of experiencing, and thus conceptualising extinction, has been defined by Eugene Thacker as a kind of "speculative annihilation" (4). When considering extinction, "[e]ither one successfully thinks extinction (but then the thought ceases to be adequate to the concept of extinction), or, quite simply, one stops thinking (thereby successfully thinking extinction)" (4). For Thacker, this paradox necessitates an important distinction: that extinction is the non-being of life rather than death. Extinction is negation, the abyss, the "horizon of thought" (Thacker 124) and the absolute limit of what we as humans can conceptualise, leading to what Thacker notes is "the real question […] not whether or not the world will end, but how this horizon of thought can be thought at all" (124). How can the void be thought? The void is the ultimate absence, yet even thinking absence contains a paradox. Lars Frers acknowledges "[t]he peculiar tension between absence and presence, which borders on the paradoxical […]

How can something that is absent be present at the same time?" (434). This paradox lies in the understanding that absence is not simply the non-existence of something – absence requires the knowledge and understanding that something is not present. Is extinction simply absence? How can it be if absence requires the knowledge of that which is missing? There is clearly a distinction between the known extinction of species, and the unknown extinction of species – species with no trace or remainder, no way to recall that which has disappeared. Oriol Batalla defines extinction as a wholly "negative phenomenon", as "even though it is framed as an event, extinction means the withdrawal from being as an inversion of existence" (2). To consider human extinction is to consider this version of absence – an inversion of existence, an absolute absence that cannot be identified or negotiated in relation to its presence. Considering the etymology of absence – 'ab-' (from, away) and 'esse' (to be) – Frers asserts that "absence necessitates a relation to a lived place-time" (435). Absence needs to be grounded in space-time – it needs to be materially experienced and negotiated by that which encounters it. Yet extinction is notably *outside* of space-time – it is the end of observable temporality, the opposite of experience. It is, instead, non-being, non-existence. Resultingly, texts which explore extinction must be structured around or towards an ending that is, by its very definition, inaccessible – they anticipate an absolute absence that cannot be fully experienced, let alone narrated.

Many of these philosophical complexities of theorising extinction seep into the complexities of *writing* an extinction text – the lack of a spectator and the paradox of thinking extinction results in a challenge to those who attempt to narrate the moment of destruction. How can the experience of extinction be mediated? How can a text observe and narrate this moment if that moment requires the destruction of any human-based understanding of what 'observation' means? There are additional consequences that disrupt commonly accepted notions of narrative – namely, tense, temporality, and closure. I turn now to explore how extinction troubles these characteristics of narrative, and begin to think how an extinction text might negotiate, explore, and depict these complexities of anticipating and narrating extinction, and to what end.

Narrating Extinction

Narrative is key to the structuring of human existence, helping to make sense of the seemingly random and chaotic facets of life. Peter Brooks argues that "[o]ur lives are ceaselessly intertwined with narrative […] [w]e live immersed in narrative, recounting and reassessing the

meaning of our past actions, anticipating the outcome of our future projects, situating ourselves at the intersection of several stories not yet completed" (3). Narrative has a structuring, sense-making function: it can provide structure through its following of a beginning, middle, and end, which can in turn provide comfort in ascribing that shape onto life itself. Narrative offers coherency, forward progression, and explanation for the unknown, and it is unsurprising that this sense of cohesion and purpose is appealing in all manner of aspects outside of the text. In the Introduction, I examined how the concept of apocalypse can offer a meaningful ending to humanity; here we can see how this framework can be understood narratologically via this sense of an ending. Yet key to this understanding of an ending – both apocalyptically and narratologically – is the assumption of a future *beyond* the ending in which we can look back and perceive what came before it. Kermode writes that this desire for an ending "reflects our deep need for intelligible ends", and that it requires us to "project ourselves – a small, humble elect, perhaps – past the End, so as to see the structure whole […] Apocalypse depends on a concord of imaginatively recorded past and imaginatively predicted future, achieved on behalf of us, who remain 'in the middest'" (8). This description of projection (particularly the "small, humble elect") is reminiscent of many post-apocalyptic narratives – reaching into the future to see an 'ending' that might offer meaning to the present, and provide comfort that a small, elite few will remain and survive. Extinction, however, removes this fantasy: not only in the denial of the prospect of survival, but in the blocking of access to that point in the future.

The notion of projecting oneself into the future so as to see the totality of a thing is also a requirement of *reading* narrative – reaching the end of a narrative requires this projection into the after, or else risks not experiencing full totality. This requirement of projection has been defined by Brooks as the "anticipation of retrospection", what he terms to be "our chief tool in making sense of narrative" (23). Narrative requires the assumption of retrospection, the expectation that the narrative that is being read will continue to a point at which we will be able to look back on it as a whole: "we are able to read present moments – in literature and, by extension, in life – as endowed with narrative meaning only because we read them in anticipation of the structuring power of those endings that will retrospectively give them the order and significance of plot" (Brooks 94). The anticipatory nature of narrative is tied up with the privileging of the notion of an ending; as readers, we anticipate the ending from which we can look back on the past in its totality.

Following Brooks, Mark Currie extends this notion to the *tense* of narrative, arguing that the experience of reading a narrative sits not in a present or a past tense, but rather in the future perfect: "the tense that refers to something that lies ahead and yet which is already complete, not what *will happen*, but what *will have happened*" (Currie, *Surprise* 1; emphasis in original). This positioning of *what will have happened* assumes and anticipates a future in which the present becomes the past. Currie identifies an inseparable link between anticipation and retrospection, stating that "[t]he present is the object of a future memory, and we live it as such, in anticipation of the story we will tell later, envisaging the present as past" (*About Time* 5). There is an inherent presumption in the telling of stories, and in the general passing of time, that the future will exist up to a point in which we can look back on the present. How then is this impacted if this future is removed? What is the consequence of a narrative that anticipates without a presumption of retrospection: with, in fact, the *removal* of any possibility of retrospection? As Richard Klein acknowledges, considering extinction means that "there will have been no future anterior – no future perfect" (84). Extinction not only disrupts existential and philosophical understandings of existence; it troubles understandings of tense and narrative progress.

In writing the Anthropocene, the present is often perceived as an object of future memory, as we look at human impact on the planet and on future generations. Drawing on Colebrook's observation that "the positing of the anthropocene era relies on looking at our own world and imagining it as it will be when it has become the past" (*Posthuman* 24), Stef Craps argues that "[t]he future anterior or future perfect tense is built into the notion of the Anthropocene itself, which proposes that human life will be readable as having had an impact" (484). This understanding of humanity from a geological perspective, as a lithic layer that can be read in the strata of the earth, still requires a spectator – a perspective that is projected into the future so as to look back on the Anthropocene and see it in as a whole. Craps too identifies the problem that this poses when narrating an extinction-level event – "[insofar] as climate catastrophe will cause mass extinction, including the human species, it cannot actually be represented, remembered, or mourned after the fact for the simple reason that there will be no one left to do the representing, remembering, or mourning – no human beings, at any rate" (484). One method of addressing this problem is by using a 'future-historian' perspective that offers an archivist's viewpoint of the present in the future. This method has been used in several forms of dystopian or apocalyptic narratives, both in reference to climate change and to other existential threats, such as the nuclear, and it offers a way around the difficulty in narrating the

end of humanity. Roshwald's *Level 7*, for example, begins with a preface from a future Martian who has found the text (a diary) in the remnants of planet Earth.[34] Roshwald writes that the preface "[offers] humanity a glimpse into its own autopsy" (xxxvii), allowing us to proleptically consider our collective demise. Yet Craps acknowledges the paradoxical nature of this type of narrative device, as although "they evoke the inhuman, the end of human existence, […] they do so from the point of view of a human being (or human-like being) who can somehow look back on the present moment from beyond (or at least very close to) the end" (484). Even when the 'spectator' is presumed nonhuman, they are still a human conception of nonhuman existence. Furthermore, this narrative device presumes the continuation and cosmic importance of human history, avoiding the possibility that in a posthuman world, humanity will have faded to irrelevance.

The disruption posed by extinction warps traditional ideas of linear temporality within these narratives. The texts anticipate the end of time itself, counting down to an unknown but anticipated endpoint that will render all prior human temporality meaningless. As previously established, the passing (or rather, the halting) of human-understood linear time is vital in thinking extinction, yet it is also drawn on in relation to theories and anxieties surrounding climate change. In addition to Horn's observation that "[t]he end of climate is a morbid standstill, the end of nature's temporality" (64), even thinking ecologically *within* nature's temporality requires thinking beyond human linear temporality. Thinking ecologically requires the consideration of timescales much larger than the human – Batalla notes that "[t]o recognise nature's own agency is to recognize that our perception of time when approaching nature needs to be shifted away from conventional temporal models", and that broadly, "[h]umans have failed to approach this matter due to their linear, anthropocentric perception of nature as a whole" (7). The human temporal scale is much smaller, linear, and centred around humans

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[34] The preface was included in Roshwald's original manuscript but was excluded from the first published editions owing to the publisher's concerns that it would be better to start the story with the diary, and that the preface "reveals the ending of the story, which takes away the suspense of reading it" (Roshwald xxxvvi). This raises questions surrounding readerly practice and notions of satisfaction, suspense, and endings in narratives of extinction. By including the preface (which Roshwald was able to do in later publications), the novel removes any fantasy of possible survival for humanity. The future-historian trope is common in science fiction narratives which do not directly explore extinction – for example, Margaret Atwood's *The Handmaid's Tale* (1985), or Naomi Alderman's *The Power* (2016), both which begin with text from a perspective of the far-future of the narrative's present – yet they remain distinctly ambiguous regarding what they reveal about the events of the primary narrative. Roshwald's preface (and any preface which acknowledges that it is written post-humanity) reveals the outcome of humanity's fate simply by the fact of acknowledging itself as being a posthuman perspective.

than the sprawling temporality of the natural world. This idea of the timescale of the natural world has been explored via Morton's concept of hyperobjects – things massively distributed in time and space, that involve "different temporalities than the human scale ones" and "exhibit their effects interobjectively" (*Hyperobjects* 1). Considering the long-term impact of climate change requires a different kind of thinking, a nonhuman and non-linear perspective that moves beyond the human scale and seems to stand at odds with anthropocentric narratives of linear history.

Many extinction novels engage with some form of temporal disruption: texts may feature halted temporalities, a sense of existing outside of time, non-linearity, and narratives bifurcating into multiple timelines. The disruption of temporality takes various forms: in Karen Thompson Walker's *The Age of Miracles* (2014), an ongoing event referred to as "the slowing" causes the earth's spin to slow, resulting in the gradual lengthening of days and nights which has unprecedented consequences (including environmental breakdown and the anticipated extinction of humanity). As a result of this shift in the length of days, there is a splitting of how people perceive and experience time – they either stick to standardised "Clock Time" or move to "Real Time", following instead the rise and fall of the sun. Clock Timers and Real Timers are described as inhabiting the same space but different existences, as if they are "two dimensions of time occupying a single space" (Walker 144). Those of the Real Timers who move to colonies are described as having "not only escaped the clocks but […] also managed to slip loose of time itself" (287), thus portraying time as something that is not fixed, but fluid and susceptible to shift. Drager's *The Archive of Alternate Endings* is also framed by temporality, using the trajectory of Halley's Comet as a narrative guide as it passes the earth every 80 years, the text jumping between each time in a non-linear and non-sequential fashion. The text uses a cosmological temporal perspective to structure its narrative, yet it also blurs the delineation of each time period within certain chapters, allowing the different times to seep into one another and confuse the linear trajectory of narrative. This results in a sense that "[t]ime feels like it is pleating, so that before and after seem somehow simultaneously now" (Drager 84). Tea's *Black Wave* warps temporality by presenting multiple worlds which include multiple iterations of Michelle-as-author and Michelle-as-protagonist, using various metafictive and metaleptic techniques to jump between worlds and times as annihilation approaches. *Black Wave* similarly confuses the timelines – at times it is unclear which Michelle is narrating, which time she is in, and which time is the 'true' time, resulting in the destabilisation of the authority of linear temporality. Erdrich's *Future Home of a Living God* features a form of time reversal

in the devolution: species, including the human, begin to start 'evolving backwards', creating an inversion of the timeline of human development and reversing the linearity of evolution. Kleeman's *Something New Under the Sun* includes an extreme acceleration of time in the final chapter as the narrative quickly jumps from the origins of humanity to a time beyond its extinction, and Bell's *Appleseed* similarly closes its narrative by jumping ahead to a time beyond humanity, whilst using three non-linear and overlapping timelines.

The texts take varied approaches to what tense in which to place the narrative. Some place the narrative firmly in the present tense so as to accentuate the way that extinction refuses access to the future: for example, Winters' *World of Trouble* uses a first-person perspective with protagonist Hank as the narrator, and the narrative is set in the present tense. This formal choice increases the suspense of the overarching narrative, as setting the novels in the past could imply that Hank had survived the event or that it was prevented. Winters explains that he had initially written the novel with a "traditional past-tense, third-person narrator", but that "it never felt right" ("Solving Murders" n.p.). He states: "[w]hat I realized is that when you're writing a series that builds up to most of mankind being destroyed, the whole convention, the literariness of the past tense becomes really glaring. I kept wondering, who is telling this story? And when?" ("Solving Murders" n.p.). Here Winters demonstrates the complexity of narrating, anticipating, and experiencing extinction, and his choice to shift from past to present first-person POV speaks to the questions this thesis raises of how to narrate the end of a world, and a narrative, with no future. This point is further emphasised in his response to a Tweet expressing a desire for a world where the trilogy has been adapted into a successful TV series consisting of nine seasons: Winters replied suggesting that "the last few seasons are just a still shot of the vastness of space" (@BenHWinters), emphasising the complexity of considering a world, or a narrative, 'after' humanity. *Future Home of a Living God* similarly has a first-person perspective, using a diary format that similarly accentuates the inability to access extinction, as there would be no way to write an entry post-extinction. These choices of tense and perspective accentuate the impossibility of extinction and the inability to access the moment after the event.

Other texts take a more distant third-person narrative perspective that allows a broader consideration of the human in a wider non-anthropocentric context. The third-person perspective of *Alternate Endings* allows the narrative to freely move around the different time periods, unconstrained by linearity. The use of tense is particularly notable, with extracts

sometimes alluding to events happening in the future tense – "The comet that *will come to be known* as Edmond Halley's is coming tonight, but *it is not yet his*" (Drager 24; emphasis mine). The chapter "Hansel's Lament" uses a tense of what the speaker wishes did *not* happen – "[o]ur father's house does not burn down when he is young because he remembers to turn off the gas range" (141) – resulting in a jarring narrative portrayal that negotiates the boundary between absence/presence and happening/not happening. The third person perspective paired with varying tenses situates the narration as being outside of traditional linear human time. A broader third-person perspective also allows the narrative to distance itself from humanity and comment upon human actions: in *Appleseed*, the narrative often comments critically on human action and abuse of the nonhuman world, providing a wider perspective on how human action has far-ranging consequences and critiquing said actions. As I have noted, the concept of extinction warps human understanding of time and existence, exceeding comprehension and decentring the human so as to resituate us in a larger, non-anthropocentric world. Experimentation with tense and temporality allows a more engaged consideration of this impact, scaling the concerns of the texts from the individual to include the planetary, the cosmic, and the lithic, and positioning humanity within deep time. Situating the human amongst these multi-scalar and flexible timescales encourages a nonanthropocentric way of thinking that stretches beyond human timescales and traditional narrative.

Disruption of narrative temporality also troubles the notion of narrative closure; with no future to situate oneself in, the end of the fictional world cannot be truly accessed, and so the notion of resolution is removed. The lack of an 'after' in these fictional worlds and the inability to consider 'what will have happened' disrupts the concept of both apocalypse and narrative as sense-making, resulting in narratives that veer from traditional teleological structure and refuse to allow the fantasy of a narrative world in which anxieties relating to possible extinction will be easily and comfortably assuaged. This manifests through a refusal of a traditional sense of closure in the texts, as they disrupt expectations of a solution to preventing the imminent disruption and deconstruct the paradigm of apocalyptic narratives that presumes to source meaning in 'the end'. Some texts finish with a vague or open ending that lack satisfactory closure: *Future Home of a Living God* and *The Age of Miracles* both close with the protagonists facing a bleak future in which extinction is expected to be inevitable. Others narrate up to the end itself: Kevin Brockmeier's *A Brief History of the Dead* (2006) and Tea's *Black Wave* both close as the text narrates the final moments before annihilation, and Drager's *The Archive of*

Alternate Endings depicts a world void of humanity through a blank page.[35] The most notable disruption of the security of closure occurs in Winters' *World of Trouble* (2014), which can be understood as belonging, in part, to the genre of detective fiction.[36] Although protagonist Hank achieves closure in the conventional sense of the detective novel, discovering the perpetrator of the murder of his sister, the overarching narrative thread of deflecting the meteor is left unresolved – the novel ends with Hank sat at a dinner table, watching as the light from the meteor strike appears across the horizon. The restoration of normalcy achieved in many detective novels is, here, impossible – the world itself has changed so irrevocably as a result of the imminent end, that there is arguably no 'normal' to which to return. Winters offers closure of one narrative thread, but in doing so, reveals the absence of closure in the text as a whole.[37]

The absence of resolution leaves the texts open-ended: yet Stefano Tani has argued that, by leaving the text with an open-ended non-solution, the text is left "alive" and "non-consumed", an "object of curiosity even after the end" (85). By withholding a solution or satisfactory justice, readers are forced back to the text to find meaning. As opposed to classical detective fiction in which, Wysten Hugh Auden observes, readers likely "[forget] the story as soon as [they] have finished it, and [have] no wish to read it again" (406), the open-ended nature of these texts mean that the narratives lack the "neat ending in which all questions are answered and can be forgotten" (Tani 151), instead demanding a return to the text to find answers and closure elsewhere. There is no consolation, as the only consolation can be experienced through external actions in preventing a similar ending. In denying a traditionally satisfactory ending, the novels instead require a return to the text that encourages a reconsideration of collective crimes toward the planet, suggesting the need to reverse unsustainable ways of living so that the final crime of extinction can be prevented.

Grieving Extinction

The absence of a future within these texts similarly causes a major disruption to the experience of grief and satisfactory mourning processes. How can characters grieve an event that is not only massive in scope, but is literally, by definition, inaccessible? Extinction's disruption of

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[35] This blank page is not, however, the final page of the text, as will be discussed in Chapter Three.
[36] Chapter Two explores in more depth the genre classification and genre hybridity of the extinction texts examined in this thesis.
[37] Chapter Three continues this discussion of closure and detective fiction tropes in Winters' novel.

both temporal structure and teleological understandings of existence has consequences for understandings of mourning practices and processes. Satisfactory mourning has a temporal requirement, a movement from the inciting moment of initial grief through the stages of mourning, resulting (ideally) in satisfactory mourning processes: Freud argues that "we rely on [mourning] being overcome after a certain lapse of time" (*Mourning* 252), as we are able to transfer attachment to new objects, becoming "free and uninhibited again" (*Mourning* 253). Yet with extinction, there is no after in which time can pass; no remaining objects to reattach to. Not even the inciting moment is accessible, nor is the knowledge of what will have happened. Jacques Derrida argues that mourning requires, above all, the knowledge of the loss:

> One has to know. *One has to know it. One has to have knowledge.* […] to know
> *who* and *where*, to know whose body it really is and what place it occupies […]
> Nothing could be worse, for the work of mourning, than confusion or doubt.
> (*Specters* 9; emphasis in original)

In the case of extinction, knowledge of the event is simply inaccessible: the specific moment of extinction can never be known, because as soon as it were to come to pass, no one would be there to know it. Extinction is the absolute absence of knowing, existing beyond human ontologies: not only do we not now know, we will *never* know. Extinction is, by definition, an inaccessible future loss that can never be moved past, troubling the possibility of satisfactory grief. This results in a disruption to the timeline of grief, which Paul K. Saint-Amour defines as being a "traumatic earliness" (65). This is a "phantasmatic dread of a future catastrophe, a mourning in advance of loss because the loss to come will permit no aftermath in which to mourn" (Saint-Amour 65). In thinking and writing about extinction, an event must be considered that has not yet happened; there is mourning for a world not yet lost. The disturbance struck by extinction onto temporality disrupts this attempt to know, ontologize, and move through collective grief – because, by its very definition, extinction will always be a future event. As such, thinking extinction displaces a melancholic sense of loss onto the present: loss that cannot be worked through, as we will never access the event from which mourning can occur, and we cannot have the time after the loss in which to rework the relationship to the lost object. Extinction is unthinkable, and the thought of the inability to adequately mourn extinction is unbearable.

Grieving extinction shares many of the complexities as grieving environmental losses; indeed, as mass extinction is the potential final end point of anthropogenic climate change, trying to grieve it narratively is perhaps the sole way to engage with the impossibility of coming to terms

with such grief. The difficulty of grieving present and future environmental losses has been examined at length by climate theorists: terms such as ecological grief, climate trauma, solastalgia, climate pre-TSD, environmental melancholia, ecosickness, and tierratrauma circulate as possible ways to conceptualise and work through grief that is directed towards the planet.[38] There are many reasons why environmental loss is difficult to come to terms with, why it "overwhelms our emotional capacity" (Zhiwa Woodbury 1). Firstly, there is its massive impact and scale – the loss is not directed towards one individual, but to sprawling numbers of both human and nonhuman beings both present and future, and towards more abstract concepts in the loss of a secure future. Secondly, there is the complexity of grieving for the nonhuman world: environmental spaces and nonhuman bodies have historically been positioned as inferior and of lesser value, and as such, grief directed towards the environment and nonhuman bodies is complex. As Catriona Mortimer-Sandilands asks in a consideration of queer environmentalism and melancholia, "how does one grieve in a context in which the significance, the density, and even the existence of loss is unrecognized?" (339), posing questions of how to successfully move through stages of mourning when that loss is culturally invalidated.

The loss experienced is also ongoing, continual, and often future-oriented, which troubles the temporality generally required of mourning processes. This can be seen as a form of anticipatory grief: feelings of grief relating to an impending loss that cannot yet be experienced or moved through, something close to Saint-Amour's concept of traumatic earliness. Anticipatory ecological grief can be directed towards the loss of known impending losses (such as awaiting the extinction of an at-risk species), the loss of presumed impending losses (such as the presumption that a particular natural space may one day become irrevocably polluted or damaged), or a general sense of grief directed towards the loss of a secure future for all species and environments. Ashlee Cunsolo and Neville R. Ellis argue that "anticipatory ecological grief may also constitute a form of 'ambiguous grief', as it is likely to be particularly difficult to articulate a sense of grief felt over the loss of the future" (278), locating its complexity in its ambiguity and the difficulty in being able to pin down the grief or move through the stages of mourning. The complexity of future-directed grief can be identified in the recent memorial for

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[38] For some (non-exhaustive) examples of explorations of grief and affective responses to climate change and environmental loss, see Ashlee Cunsolo and Karen Landman (2017), Heather Houser (2014), Renee Lerzman (2015), Glenn Albrecht (2019), Zhiwa Woodbury (2019), the *Ecological Grief* special issue of *American Imago* (2020), and Hannah Stark (2023).

the death of the Reykjavik glacier: in August 2019, the glacier Okjökull became the first Icelandic glacier to lose its status as a glacier. A memorial plaque was erected in remembrance of the glacier, yet it also stands as an anticipatory memorial for future glaciers. The full plaque reads: "Ok is the first Icelandic glacier to lose its status as a glacier. In the next 200 years all our glaciers are expected to follow the same path. This monument is to acknowledge that we know what is happening and what needs to be done. Only you know if we did it" (qtd. in Henley n.p.). Speaking to future generations, it acknowledges the possibility that future losses are imminent, and that action must be taken to prevent further loss of glaciers, stating that only future generations will know if present generations were successful in reducing carbon emissions. This memorial also speaks to the paradox of considering extinction – total extinction can only be conceptualised as happening in the future, as if it were to transpire, there would be no survivors to experience it. Subsequently, only future generations can know if present-day actions succeed in preventing mass climate change, and if they fail, there may be no remaining witnesses to grieve.

Being in the midst of the climate change means that our surroundings assure us that the loss has not yet fully occurred. Martin Jay notes that despite the loss implied in apocalyptic thinking, the inability to mourn is a result of the "continued presence in what we might call the real world of the object whose apparent loss we cannot mourn" (42). He notes that in the case of individual loss, "the passage of time is enough to allow the realization of genuine absence to achieve its work of consolation", yet with the loss of the earth, this cannot be the case:

> For the earth, however wounded by our depredations, is still around to nurture us.
> There is no reality testing that permits us to let go of the libidinal investment we
> seem to have in an object that has not fully disappeared. (42)

This can be extended to both climate change and human extinction: whilst both humans and the planet persist, despite being threatened, it is impossible to realise the absence of the lost object and come to terms with the related grief. The presence of our surroundings reassures that total environmental degradation has not yet fully occurred, despite the knowledge that it may indeed do so in the near future. Paradoxically, this inability to mourn environmental catastrophe can also result in its perpetuation. Owain Jones, Kate Rigby and Linda Williams argue that failure to come to terms with and "fully and consciously enter into the grief of extinction" results in the continuation of actions that threaten the environment and human and planetary continuation, thus "[contributing] to the perpetuation of ecocidal practices" (398). As opposed to individual loss, where the passage of time may be sufficient in satisfactory grieving

processes, for environmental catastrophe, the passage of time may in fact be detrimental and result in increased loss, so long as we as a species do nothing to remedy it.

Extinction narratives often engage with these difficulties of mourning. Some of the texts ascribe specific terms to the feelings of loss experienced, similarly to the way terms have developed to give a name to environmental loss: *Black Wave* features "Compound Environmental Malaise" (19), and *World of Trouble* describes "astromania" or "delusional interstellar psychosis", a response to the incoming collision described as a "debilitating obsession with the gigantic asteroid" (15) which Hank notes would be included in the DSM-IV if it "were still being updated and applied" (15). *Something New Under the Sun* features a refuge where people can go to work through the grief directed towards environmental losses, and *Future Home of a Living God* specifies feelings of grief felt towards both environmental losses (such as the loss of snow or lost species) and cultural losses (such as the anticipated loss of poetry, literature, and science). The lack of narrative closure discussed earlier in this chapter combines with the lack of closure in relation to grief, so that ultimately, both the characters of the text and the texts themselves are unable to narrativize this instance of grief.

These narratives position extinction as a massive future loss, encouraging a consideration of what it would be to grieve something so extensive. Craps argues that mourning future losses proleptically has the potential to prevent those losses from coming to pass, acknowledging how such mourning can be politicised and "[mobilised] […] as a possibly revolutionary force" (489). Attempting to grasp the massive extent of losses of the environment and, potentially, all of humanity, might incite readers to realise the extent of anthropogenic climate change and prevent the manifestation of what we read in these texts. Yet the impossibility of successfully grieving this future inaccessible event also encourages a re-evaluation of what *is* grievable, exploring those attachments that have been historically deemed non-grievable. 'Grieving' a fictional extinction pushes us to think beyond the political and cultural demarcations of what is and is not grievable. Considering the susceptibility of the human species to extinction reminds us that humanity is an animal species like any other species that has gone extinct before us, and those species should be equally grieved: Donna Haraway argues that "[g]rief is a path to understanding entangled shared living and dying; human beings must grieve with, because we are in and of this fabric of undoing" (*Trouble* 39). Exploring the complexity of mourning within these texts is a way to recognise our own finitude, as well as those of the nonhuman that

will suffer from our (in)actions, but also see ourselves as connected and similar to those nonhuman beings, understanding them as equally worth grieving for.

Furthermore, the conceptualisation of the extinction of the fictional human species within the texts evokes a sense of defamiliarization and alienation. As readers, we see the fictional human species go extinct, whilst we, the human species within reality, remain; consequently, the fictional human species becomes something alien and unfamiliar. These feelings of alienation and defamiliarization are something that emerge when considering the Anthropocene: Hannes Bergthaller argues that that the consideration of the human species "as a force of nature […] radically negates the human as understood by traditional humanism, that is, of the human as the master of its own fate, a rational, self-determined being" ("Humans" 213). Instead, seeing the human as a geological force "is to see ourselves as on the same level with the cyanobacteria and methanosarcina. We encounter ourselves as an alien force" (Bergthaller, "Humans" 213). Considering the Anthropocene in this way creates a defamiliarization of the human species that encourages us to reframe how we think about ourselves in relation to other beings. In the next section, I look to how this defamiliarization can be understood as a manifestation of the uncanny, and how this uncanniness emerges within the texts.

Uncanny Extinction

The concept of the uncanny was theorised by Freud, who defined it as that which evokes feelings of discomfort, dread, and unease, and is specifically located around the feeling of something having qualities both familiar and unfamiliar: *heimlich* and *unheimlich*. Uncanny experiences emerge at times when something feels familiar yet strange, in the sense that something might feel somehow *wrong*: examples include dead bodies or disembodied limbs, representations of death such as ghosts, things that look 'not quite' human such as dolls and CGI, or experiencing something that is familiar but is in some way altered (such as busy spaces that are abandoned, or familiar things or spaces that have been changed in some way). Encountering these things can create feelings of disorientation and foreboding: a sense that something is wrong or unsettled owing to the feelings of uncertainty they provoke, threatening one's grasp on reality.

There are multiple ways in which the Anthropocene can be understood as uncanny, and looking at the Anthropocene through the lens of the uncanny can help to unpack the complex and

paradoxical feelings that emerge when considering the far-reaching impact of human activity. Indeed, writing of the uncanny in relation to the Anthropocene, Amitav Ghosh argues that "[n]o other word comes close to expressing the strangeness of what is unfolding around us" (40). The uncanny manifests with the Anthropocene in several ways. It can be identified in the strangeness with which the effects of anthropogenic climate change materialise: Nils Bubandt observes that the anthropogenic environmental disturbance has resulted in an increase in things deemed uncanny. He argues that "the valley of the uncanny has been widened by the accelerated industrial and scientific production of unnatural nature", listing examples of the environmental uncanny such as "[j]elly fish blooms, freak storms, and factory chicken", things that he deems examples of "denaturalized nature that produce a new kind of uncanniness" (70). Related to this is the sense of unfamiliarity that occurs when human activity transforms the natural world to such an extent that the environment and climate begin to shift away from their norms, becoming unrecognisable: extreme temperatures and unexpected weather events such as flash floods and tornados create an unfamiliarity within the world around us, as do their physical impact on landscapes, such as rising sea levels affecting the boundaries of landmasses, wildfires burning forests to the ground, and glaciers melting into the sea.[39] Freud describes the uncanny feeling of becoming lost whilst walking in an unfamiliar city, his path somehow taking him three times back to an unknown street: he describes being "glad enough to abandon my exploratory walk and get straight back to the piazza I had left a short while before" ("The Uncanny" 87), returning back to the familiar. In the case of climate change however, there is no getting back to the familiar streets; no way to relocate oneself in the landscapes and climates that have become irrevocably changed.

There is also a pervasive sense of haunting within the Anthropocene: considering environmental collapse conjures ghosts of species gone extinct, ecosystems destroyed, and landscapes fallen into disarray or transformed beyond recognition.[40] Traces and reminders of extinct species remain after they have gone: van Dooren describes extinct Hawaiian crows as "haunting a dying forest" ("Spectral Crows" 186), their "spectral presence […] *inscribed* in the […] landscape" ("Spectral Crows" 190, emphasis in original); discussing the threatened

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[39] Indeed, this past summer has seen several parts of the Northern Hemisphere experience extreme heatwaves, with temperatures reaching record highs and wildfires spreading across countries in Europe and North America.
[40] See Shane McCorristine and William M. Adams (2020), who examine spectral framings within biodiversity loss; see also Gan *et al*. (2017) who consider the framings of various hauntings and monstrosity within the context of the Anthropocene.

extinction of leatherback turtles, Michelle Bastian speaks of "oceans thick with hauntings" (156). The secure home of the planet becomes ridden with ghosts, a haunted house. We are also haunted by our actions, often repressed: the present is haunted by past violences perpetuated against the nonhuman world, by present and ongoing losses currently being experienced, and by the losses predicted to come in the future, an anticipatory haunting that situates the Anthropocene ghosts everywhere in time, revenants returning to remind humanity of its crimes. Furthermore, we are haunted by lost futures that are no longer sustainable: Elaine Gan *et al.* argue that "Anthropogenic landscapes are […] haunted by imagined futures. We are willing to turn things into rubble, destroy atmospheres, sell out companion species in exchange for dreamworlds of progress" (1). This haunting is of lost futures: futures that were promised by metanarratives of indefinite progress and expansion, that will never come to pass. Jeffrey Andrew Weinstock argues that the Anthropocene is "uniquely haunted by the prospect of its own undoing" (7). He explains that

> the Anthropocene is doubly haunted: first, by the nagging suspicion that we Anthropos are not quite the masters of the planet the name 'Anthropocene' supposes and, second, that […] we are sowing the seeds of our own destruction. (7)

The Anthropos holds an "active complicity" in its own end: "what defines the era we name after ourselves is our implication in its conclusion", a paradox that haunts every discussion or consideration of the Anthropocene (Weinstock 7). Finally, the consideration of the human species being present in the geological strata creates a feeling of being haunted by our own selves in the future: thinking the Anthropocene means that "we are conjuring ourselves as ghosts that will haunt the very deep future" (Farrier, "Uncanny Future" n.p.), imagining ourselves as leaving a spectral (as well as literal) presence on the earth after we are gone.

This guides us to a final component of the Anthropocene uncanny: the return of the repressed, or, specifically, the repression of the nonhuman and material world and our connection and responsibility to it. Anthropocentric ideology separates the human from the nonhuman world, positioning it as separate, other, and inferior. As I have noted, the understanding of the human species as a geological force causes us to re-see ourselves as an animal species like any other: as McFarland argues, "Global climate change and mass extinction […] make the imbrication of the human as an animal abundantly clear. Definitional dualisms become irrelevant; humans are nonetheless animals, as embroiled in climate change as any other creature" (4). This realisation provokes feelings of the uncanny, distorting presumptions of human supremacy: as

Keridiana W. Chez argues, the nonhuman world "causes an always already uncanny rift in human assumptions about reality and the supposed dominance of the human" (9). Acknowledging humans as an animal species provokes a disruption in presumed truths of human supremacy; the Anthropocene provokes a confrontation with the susceptibility of the human species as being susceptible to extinction, and the truth that the human species is a species as any other, a fact frequently repressed in anthropocentric cultures. Ghosh argues that the uncanniness of the Anthropocene "lies precisely in the fact that in these encounters we recognize something we had turned away from: that is to say, the presence and proximity of non-human interlocutors" (40). Acknowledgement of the Anthropocene requires an engagement with the nonhuman world, and an awareness of our own status as connected to that world: as being also animal. This return of the repressed knowledge of humanity's animality incites feelings of alienation and defamiliarization as it shifts understandings of human mastery and humanity's place within the wider material world.

Extinction narratives cast a spectral shadow across the texts, with both characters and readers haunted by the future loss of the species and the loss of the future. Extinction shares the uncanny spectrality of considering humanity as a geological layer – thinking extinction requires defamiliarization, requires thinking the unthinkable, the unknowable, pushing past beyond human capacities of experience. The uncanny "derives its terror not from something external, alien, or unknown but – on the contrary – from something strangely familiar which defeats our efforts to separate ourselves from it" (Morris 307). Extinction narratives contain a world highly familiar to the reader, yet that world becomes disturbing as we come to realise its imminent ruin.[41] David Punter argues that ruins are an uncanny reminder that "history […] is constantly under the threat of erasure", speaking of history as "inevitably involved in specific modes of ghostly persistence" (105). Many of the texts feature literal ruins or spaces in the becoming of ruins, but there is also a sense of a symbolic ruin: of human knowledge, of human history, and the ruin of the text (and the very *idea* of text) itself. Extinction thus sees the familiar 'home' of the planet literally become *unheimlich*, as it will no longer be our home, both in that it may become uninhabitable as a result of the extinction event, and that it will, by definition, no longer be home to the human species as the human species will no longer exist.

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[41] Already our planet contains ruins: Cal Flyn's *Islands of Abandonment: Life in the Post-Human Landscape* (2021) explores the current ruins on our planet, abandoned places once exploited by humanity that have been left uninhabited, and how nature has been able to "work unfettered" and grow back (5). Examples include Chernobyl, the Buffer Zone in Cyprus separating the north and south of the island, and the Five Sisters slag heaps in Scotland.

Despite this unfamiliarity of the fictional world, we are unable to fully separate ourselves from it as we recognise the potential shared fate of our own planet and environment. Freud identifies the double as a form of the uncanny which results from the double originally being "an insurance against destruction to the ego", an attempt to deny death which results in the self becoming "duplicated, divided and interchanged" so as to become "a preservation against extinction" ("The Uncanny" 86). This double becomes uncanny: having "once been an assurance of immortality", it turns into "the uncanny harbinger of death" (Freud, "The Uncanny" 86). In a sense, writing fiction is a form of doubling as death denial, a path to posterity that retains a memory of the individual beyond the annihilation of individual death. Yet in the case of extinction narratives, the doubled planet and the doubled human species become that uncanny harbinger of death. These texts invite us to consider ourselves as a member of the human species as we see a fictionalised double of that species succumb to extinction, inciting extreme feelings of uncanniness that are exacerbated by the awareness that the threat of extinction is already present and haunting our own world outside of the text.

One way these feelings of the uncanny manifest in the texts is through the Gothic. Gothic narratives are characterised by how they create an atmosphere of dread and unease; they often explore themes of ambiguity, alienation, and defamiliarization, which both evokes and conveys feelings of the uncanny. The uncanny commonly operates within Gothic narratives in order to emphasise instability within identities, socio-cultural structures, and within the text itself.[42] Gothic fiction often responds to socio-political fears and concerns, becoming a site where anxieties can emerge, and also articulates the idea of being haunted by past actions. It is therefore unsurprising that texts which engage with anthropogenic climate change might draw on the Gothic tradition. Justin D. Edwards *et al.* argue that the Gothic's interest in transgression, excess and monstrosity "makes it a supremely suitable chronicler of the violence of climate change and of the human being's tentacular connection to all uncanny, damaged life on this planet" (xi). Fictions responding to the Anthropocene and exploring environmental breakdown

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[42] Gothic fiction developed in late eighteenth-century England, gaining prominence with Horace Walpole's *The Castle of Otranto* (1765) and spreading through Europe and the Americas. Features of the genre include a general sense of fear and terror, dark imagery that evokes ruin and decay, the playing out of psychological trauma and mental disintegration, a preoccupation with human mortality, immorality, and irrationality, and recurring physical features such as ruined castles, subterranean labyrinths, desolate landscapes, threatening weather, and elements of the supernatural.

can utilise Gothic imagery and tropes in order to articulate and explore the feelings that these topics incite.

Indeed, this intersection of Gothic and environmental breakdown has led to the coining of the term ecoGothic, broadly understood as a "literary mode at the intersection of environmental writing and the gothic" that "illuminates the fear, anxiety, and dread that often pervade those relationships [between the human and the nonhuman]" (Keetley and Sivils 1). Scholars of the ecoGothic have identified a particular sense of Gothicity in the way we experience and speak about the ongoing threat to the environment and the nonhuman world.[43] Elizabeth Parker and Michelle Poland observe that "from climate crisis and collapsing permafrost to mass extinction and microplastics inhabiting our bodies, Gothic depictions of Nature seem to have slipped, uninvited, into reality while we were busy making other plans" (1). In response to the disavowal of the human/nature connection, ecoGothic features often draw attention to the reliance humans have on nature and their ability to be harmed by it, or by its destruction. These features emerge in both fictional and nonfictional articulations of climate crisis and environmental collapse; Parker and Poland observe that the language used to describe such events continually features "numerous reiterations of monstrosity, spectrality, uncanniness, sublimity, dystopia, death, displacement, disintegration, decay and ultimately fear", observing that the "knowledge about and encounters with human-caused environmental transition are increasingly being expressed in terms tied to a distinctly Gothic lexicon" (6). The repressed history that returns is, on one hand, the past and ongoing actions that humanity as a species have contributed to climate change, yet there is also, as Keetley and Sivils argue, an emergence of an evolutionary past which "marks us in particular as animals" (5). The return of this repressed history draws awareness to our connection with the nonhuman world which is at threat, and marks us as equally susceptible to extinction as any other nonhuman being.

David Del Principe argues that the ecoGothic "[questions] the affirmation of human dominion over nature, proposing an ecocritical awareness to challenge human-centered views and expose the monstrous anthropocentric gaze" (2), revealing the atrocities and violences of anthropocentrism and querying anthropocentrism as inherent. By positing the idea of human extinction, extinction narratives challenge these human-centred views, exploring the possibility

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[43] The concept of the uncanny and Gothicity within the Anthropocene also has been engaged with via other terminologies, such as Clark's use of the phrase "Anthropocene horror" to describe "a sense of horror about the changing environment globally" ("Ecological Grief" 61).

of the end of the Anthropos and creating texts that draw on the Gothic mode in order to highlight the collapse of anthropocentrism. The concept of an event which threatens the entirety of the human race has distinct Gothic themes in that "any writing that has to do with the 'end', whatever shape or form this 'end' may take, will have a natural affinity with one of the strongest themes within Gothic writing" – that of the threat to ancestral lineage (MacArthur 6). Previous Gothic texts have included plots surrounding threats to a character's ancestral line, to their ancestral home, or more frequently in the American Gothic, the threat being sourced in the ancestral heritage itself.[44] In extinction texts, the ancestral line is expanded to that of humanity's line in its entirety, and the individual ancestral home is replaced by the broader ancestral home of the planet; there will be no continuation of ancestry or descendants, and the ancestral home of the planet loses its designation as 'home'. The ancestral line equally includes the heritability of ideologies which have positioned humanity as separate and superior: ideologies of mastery, dominance, and anthropocentrism which are lost when facing extinction. Fear also stems from the awareness of the inescapability of extinction: from the knowledge that the continuation of humanity is threatened, and that humanity will lose their ancestral heritage of dominion over the planet as a result of their collective demise.

The inaccessibility of the moment of extinction creates an additional form of Gothic terror – the encroaching presence of something that cannot be fully experienced (as it requires complete annihilation) can be understood as a spectral presence: something unseen but unrelenting that encroaches on the characters and on the text itself. There is also a feeling of entrapment in extinction narratives, as the character becomes aware of the inescapability of the extinction event: Chris Baldick argues that, in order for the Gothic effect to be attained, "a tale should combine a fearful sense of inheritance in time with a claustrophobic sense of enclosure in space, these two dimensions reinforcing one another to produce an impression of sickening descent into disintegration" (xix). The fearful sense of inheritance in time emerges from the aforementioned loss of ancestral inheritance of the planet, in addition to the awareness of the past in the present, as extinction provokes an awareness of the past lives and memories of these lives that will be lost once humanity becomes extinct. The "claustrophobic sense of enclosure

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[44] An example would be Edgar Allan Poe's "The Fall of the House of Usher" (1839), which features, as Fred Botting describes, "an architectural ruin set in a desolate and gloomy landscape and a family equally in decay, dying from an unknown and incurable disease" (79), the ruin of the house mirroring and underscoring the ruin of the family. Threats emerging from ancestral heritage and histories in American literature also feature in Nathaniel Hawthorne's *The House of the Seven Gables* (1851) and Toni Morrison's *Beloved* (1987).

in space", which in some Gothic fiction may emerge through literal entrapment in houses or castles (whilst also being related to existential or societal entrapments),[45] expands to an entrapment on the planet itself – there is no way for humanity to escape the threat of climate change, no replacement planet to relocate to. There is an extreme sense of inescapability and claustrophobia, of no-one being able to prevent or avoid the coming extinction as the planet itself becomes an enclosed space from which there is no escape. The secure space of the planetary home becomes a place of entrapment, and ultimately, a grave.

Extinction texts can therefore be understood as being inherently Gothic through their exploration of the inescapable end of the human species and disruption of the familiar world. They also manifest these ideas through Gothic imagery: images of ruin and collapse emerge through abandoned buildings, environmental decay, and recurring notions of both characters and text being 'haunted'.[46] The hauntings of the texts are multifaceted: they are the ghosts of those who will die in the extinction event, the ghosts of those who will never be born owing to the extinction event, and the spectre of the concept of humanity itself, soon to be lost to the void. Extinction texts can be seen as anticipatory ghost stories: Simon Hay sees the ghost story as being "concerned with suffering, with historical catastrophe and the problems of remembering and mourning it" (4). Ghost stories are "a mode of narrating what has been unnarratable […] of making narratively accessible historical events that remain in some fundamental sense inaccessible" (4). Extinction narratives subvert this format, instead becoming concerned with the problems of accessing and mourning future events, whilst also exploring the difficulty of coming to terms with and grieving ongoing environmental catastrophe.

By exploring how these texts manifest elements of the Gothic, we can analyse how the invocation of uncanny feelings can mobilise a reframing of the security of a humanity that is

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[45] Examples include Poe's *The Masque of the Red Death* (1842), Washington Irving's "The Devil and Tom Walker" (1824), the scenes featuring characters lost in the foggy mazes of Shirley Jackson's *The Sundial* (1958) and their eventual enclosure within the ancestral house, and Sethe's entrapment in the house haunted by the ghost of her dead child in *Beloved*. Examples from British Gothic fiction include Jonathan Harker's entrapment in Dracula's castle in Bram Stoker's *Dracula* (1897), and the entrapment of Jane Eyre in the red room and Bertha in the attic in Charlotte Brontë's *Jane Eyre* (1847). Physical entrapment is often related to existential or societal entrapments, and many of these physical entrapments emphasise a character's mental state.
[46] In Chapter Two, which focuses specifically on genre, I explore the Gothic in more detail in relation to Tea's *Black Wave*.

separate and superior. Sharae Deckard details how the ecoGothic can be politically utilised to "[express] critique of the domination of nature in late capitalism, criticising dualist myths that separate notions of the human from nature rather than embracing humanity-in-nature" (174-5). The defamiliarization of these texts and their uncanny framing of nature encourages a reconsideration of human/nature relations. They mobilise the propensity of Gothic narratives to "[draw] attention to the entwined nature of these categories [of human/nonhuman] and the porousness of this imagined border" (Edwards *et al.* xxi), approaching the category of the human as unboundaried. Nicholas Royle argues that the uncanny "involves feelings of uncertainty, in particular regarding the reality of who one is and what is being experienced. Suddenly one's sense of oneself […] seems strangely questionable" (Royle 1). This uncertainty emerges in these extinction narratives through the individual character's breakdown of their sense of self, and through more literal breakdowns of the definition of the category of the human.[47] Extinction narratives thus query the formation of the human subject as distinct, unified, and unique, evoking an uncanny re-engagement with the natural world.

Conclusion

Extinction narratives reflect the sense of being thrown off kilter in a world that is doomed to environmental collapse at our own hands. They demonstrate the all-encompassing impact of extinction and environmental collapse: on understandings of being, on narrative, on grief, and on the human place in the world. This notion of being thrown off kilter can be utilised productively – a way to defamiliarize the self so as to purposefully reframe perspectives and problematise distinctions between the human and the nonhuman that have contributed to destructive worldviews. The uncanny estrangement of humanity created in the process of approaching these texts collapses problematic distinctions between human and the nonhuman that have contributed to perspectives leading to anthropogenic climate change, instead encouraging a more radical understanding of human connection and entanglement with the world.

As discussed in the Introduction, we are currently in an extensive extinction crisis as a result of human action. Extinction narratives acknowledge the devastation humanity has had on the

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[47] Chapter Four will examine in more detail the question of the breakdown of the unified human subject and hybrid subjectivities.

natural world and the extensive loss of ecosystems, whilst extending the possibility of extinguishing out to include complete totality, the entire signifying system which enables us to consider and engage with the world. Extinction narratives allow us to consider a world without human referents, a purely semiotic world outwith the symbolic structures of humanity. From this, there is a possibility of rethinking how we structure the world, how we see the world, and how we see our place in the world. Extinction narratives become a catalyst, allowing us to reframe our thinking about humanity's position on the planet, our connections with the nonhuman world, and our responsibility to the nonhuman world and to future generations. In the following chapters, I use the framing of extinction that I have established in this chapter to develop my readings of how the troubling nature of extinction emerges within the text: via breakdown of genre, via breakdown of intergenerational connection, and via a breakdown of the category of the human itself. Ultimately, I argue that these extinction narratives promote a reframing of destructive and dominant metanarratives and ideologies: a reframing that is vital to thinking through, and thinking beyond, the Anthropocene.

CHAPTER TWO

UNSETTLING GENRE IN BEN H. WINTERS' *WORLD OF TROUBLE* (2014)
AND MICHELLE TEA'S *BLACK WAVE* (2015)

The idea of the disappearance of humans may seem like a science-fiction nightmare, but eventually, there will come a day when this occurs: a day when people no longer walk the Earth.

~ *Life After People*, directed by David de Vries (2008)

What literary genres are adequate to representing such permanent annihilation? Can there be genres that portray the decimation of genres?

~ Srinivas Aravamudan, "The Catachronism of Climate Change" (2013)

Genres of the Anthropocene and Genres of Extinction

The challenges of conceptualising and comprehending both the Anthropocene and anthropogenic climate change has raised questions concerning which genres would be best suited to articulate their complexities. As established in the Introduction, the difficulties of articulating and communicating concepts related to the Anthropocene means that they are not easily represented in narrative form. How might texts respond to these complexities? And what kind of impact might these complexities have on generic forms? This chapter responds to these questions by examining genre experimentation in two extinction texts: Winter's *World of Trouble* from *The Last Policeman* series (2012-4), and Tea's *Black Wave*, both of which feature genre experimentation, blending and breakdown. The texts play with genre conventions and expectations in a way that both distinguishes them from and critiques narratives of human exceptionalism; instead, they engage with the potential reality of an extinction-level event, refusing the notion of a last-minute save and challenging the presumption that humanity will endure indefinitely. The texts can be understood as hybrid genres, blending the 'apocalyptic' genre with another one; yet the features of these additional genres are also distorted, the presence of the extinction event frustrating expectations for resolution and questioning the surety of the elements of these genres in the first place. I argue that this accentuates the impact of the threat of extinction – not only on individual lives, but on broader symbolic concepts and frameworks, such as genre itself. In this chapter, I survey the debates surrounding genre, climate change and the Anthropocene. I then explore how the extinction texts discussed in this

thesis use genre hybridity and genre breakdown in order to articulate the multifaceted nature of the Anthropocene, the extent of anthropogenic climate breakdown, and the impossibility of conceptualising extinction.[48]

Narratives depicting ecological change are not exclusive to the era of the Anthropocene: Adam Trexler and Adeline Johns-Putra classify ancient religious narratives such as the flood in the Book of Genesis as historical examples of climate fiction, owing to their exploration of ecological shift and extreme environmental threat (186). Science fiction has been a space for exploring possibilities of ecological change and climate manipulation, whether on other planets or our own. Novels such as Arthur C. Clarke's *The Sands of Mars* (1951) and Frank Hubert's *Dune* (1965) feature the intentional manipulation of alien environments through the act of terraforming, and texts such as J.G. Ballard's *The Drowned World* (1962) imagine future versions of Earth suffering from environmental collapse – in the case of *The Drowned World*, solar radiation has caused increased temperatures which leads to rising sea levels, rendering much of the planet uninhabitable. Adam Trexler notes that "[e]arly climate change novels tended to focus on the theoretical malleability of global climate", and it was not until the 1990s when more "sustained, speculative explorations of climate change in fiction began to emerge" (9).[49] The number of narratives engaging with climate change increased in the 2000s and 2010s, distinguishing themselves from early climate narratives through their attempts to more specifically address anthropogenic climate change and its potential consequences. Trexler argues that "[t]he concept of the Anthropocene helps explain the widespread phenomenon of climate change fiction" (9); in other words, the growing awareness of the impact of humanity

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[48] The concept of genre is generally understood as an organising principle by which similar narratives can be grouped. Genres are categorised through their shared conventions, adhering to certain criteria that may relate to content, tone, or formal characteristics, and sharing similarities in reappearing tropes, ideas, images or characters. Genres are not, however, purely prescriptive: although genres are defined through these similarities, they are not identical, and are open to variations in characteristics. Categorisation of genres is also increasingly complex: there are discussions of whether certain groupings can qualify as a genre, or if they are better defined as a mode or form. Daniel Chandler notes that "[t]he classification and hierarchical taxonomy of genres is not a neutral and 'objective' procedure", and that "[o]ne theorist's *genre* may be another's *sub-genre* or even *super-genre* (and indeed what is *technique, style, mode, formula* or *thematic grouping* to one may be treated as a *genre* by another)" (1; emphasis in original). I allude to this difficulty in classification later in this chapter in relation to climate fiction and environmentally-related crime fiction.

[49] There are novels published before this time which explored the negative human effect on the environment in some form (for example, Ballard's *The Burning World* [1964], which sees a drought caused by industrial waste polluting the oceans), yet these are limited in number compared to the plethora of climate change novels which have emerged since the 1990s.

on the environment has led to the increasing emergence of climate change narratives which explore this topic.

Science fiction's ability to envision new worlds and futurities seems to align it with the imaginative thought and experimentation required when articulating the effects of climate change and the complexity of Anthropocene thinking. Ghosh, however, argues that climate change "resists science fiction" owing to the fact that science fiction narratives often feature an "imagined 'other' world" often "located in another time or another dimension" and are therefore not well suited to articulate the immediacy of our real world crisis (72-3). Part of Ghosh's concern is related to the idea that the term 'science fiction' carries connotations of being fantastical and futuristic, and therefore risks situating climate change as a problem for a far-future humanity rather than the here and now.[50] Yet science fiction narratives often endeavour to extrapolate real world trends in order to envision possible futures, sometimes with the hope of preventing ourselves from reaching that worst-case scenario; as Brent Ryan Bellamy argues, science fiction's capacity to imagine retroactive futures encourages us to ask the question: "if we begin to behave differently *now*, how might this change affect the future of the Earth-system?" (417; emphasis in original). Furthermore, the experience of seeing a world similar yet not wholly identical to our own within science fiction allows us to look at our own crises from a new angle, recognising them but simultaneously experiencing them as distinct – a defamiliarization that has the potential to offer new perspectives. Indeed, Darko Suvin defines science fiction as a "genre of cognitive estrangement" (372), owing to its ability to render strange familiar worlds, concepts, and stories. As mapped in Chapter One, the Anthropocene itself incites elements of uncanny estrangement, and as such, it is unsurprising that science fiction can be seen as being particularly suited to the Anthropocene. Heather Anne Swanson *et al.* specifically argue that the Anthropocene itself is "a science-fiction concept […] that pulls us out of familiar space and time to view our predicaments as if they belonged to a distant land" (149). Anthropocene thinking requires defamiliarization, a thinking of the human story in a different context: one that the science fiction genre is well-suited to creating.

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[50] Ghosh's argument has been queried for the particular and constrictive definition of science fiction it uses: countering Ghosh, Ursula K. Heise argues that "science fiction of course always addresses its audiences here and now through the detour of imagined futures", and that "[d]enying this connection to the present, as Ghosh does, implies an oddly literalist misunderstanding of the genre […] [r]eaders […] seem to have no trouble in translating the imagined worlds of science fiction to their present" ("Climate Stories" n.p.).

Conversely, there is an argument to be made that realist narratives might be able to communicate the impact of the climate crisis in a more relatable and accessible way: realist fictions, generally set in the present world and centred in reality, are able to depict people's lived experiences of the impact of climate change, exploring the characters' individual emotional responses to the reality of these threats. An issue with realist fiction, however, is its inherent anthropocentrism – critics have questioned whether the focus on human experience and human timescales that is often a feature of realist fiction is appropriate in novels exploring the Anthropocene.[51] If realist fiction centres on human stories, does it have the capacity to articulate the less typical nonhuman stories, or articulate the nonanthropocentrism required in order to consider the vast scales of the Anthropocene? As Heise has noted, "climate change poses a challenge for narrative and lyrical forms that have conventionally focused above all on individuals, families, or nations, since it requires the articulation of connections between events of vastly different scales" (*Sense* 205). Might realist novels lack the representational capacity to communicate the multiscalar and multitemporal expanses of the Anthropocene?

Within this debate surrounding the compatibility of genre to climate change is the development of specific subgenres that define themselves primarily in relation to their engagement with environmental breakdown. One of the more common of these is climate fiction, a subgenre coined by Dan Bloom in 2010 and broadly defined as texts that "deal with climate change and global warming concerns" (Bloom n.p.). Climate fiction is perceived as a "sister genre to sci-fi" (Bloom n.p.), yet the parameters of climate fiction are broad; narratives defined as climate fiction can appear extremely different to one another, seemingly better defined with a secondary clarifying generic definition such as thriller, fantasy, crime fiction, weird fiction, young adult, or literary fiction.[52] Critics have raised doubts about whether the extensive diversity of climate fiction challenges its classification as a genre: Schneider-Mayerson notes

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[51] Ghosh argues that "the Anthropocene [resists] the techniques that are most closely identified with the novel", asking: "[w]hat is the place of the nonhuman in the modern novel? […] Can the literary imagination refrain from being radically centered on the human?" (66). Clark also questions the ability of realist fiction to successfully represent elements of the Anthropocene, noting that genres containing some form of gothic, myth, or science fiction "may well seem more interesting than a new novel displaying the latest subtleties of nuance in psychological or social observation, confining itself, that is, to the anthropocentric and arguably illusory world of conventional realism" ("Post Nature" 81). See also Heise (2019) for an analysis of science fiction in the context of Anthropogenic time scales.

[52] Examples of each of these in turn: Liz Jensen's *The Rapture* (2009), N.K. Jemisin's *The Broken Earth* trilogy (2015-17), *The Healer* by Antti Tuomainen (2010), Jeff VanderMeer's *The Southern Reach* trilogy (2014), Austin Aslan's *The Islands at the End of the World* (2014), and Jenny Offill's *Weather* (2020).

that genres "contain observable generic structures and conventions in which both authors and readers locate themselves", and yet the breadth of narratives found within climate fiction lends to it as better being understood as "[m]ore a *category* than a *genre*" ("Climate" 312; emphasis in original). Despite arguments surrounding its taxonomic status, the experimental and diverse nature of climate fictions shows a desire to try to articulate the complexities of climate change and the Anthropocene,[53] and reflects the belief that climate change poses representational challenges which "[push] writers toward literary innovation and to move beyond genre conventions" (Mehnert 225), encouraging writers to write outside of generic boundaries.[54]

Indeed, these debates illustrate how narratives that respond to the Anthropocene inherently trouble notions of genre. Bergthaller acknowledges how genres rely on "the tacit knowledge of a community" of that genre ("Cli-Fi" 123), the presumption of a collective knowledge of a pre-existing and known template that the genre will prescribe to. Consequently, he argues, it is "not in the least surprising that the Anthropocene disturbs not only weather patterns or ecological equilibria, but also established genre conventions", as it "confronts us with a situation for which there is no precedent in recorded history" ("Cli-Fi" 123). The unprecedented nature of the Anthropocene provides us with no known responses or generic templates. Additionally, as Trexler argues, the narrative difficulties posed by the Anthropocene "threaten to rupture the defining features of genre" (14). Trexler observes how even when such fictions "draw on the tropes of recognizable narratives", those narratives are inherently changed by the presence of the Anthropocene: "literary novels bleed into science fiction; suspense novels have surprising elements of realism; realist depictions of everyday life involuntarily become biting satire" (14). This argument is helpful in considering the climate and genre debate: the 'appropriate' genre may be difficult to ascertain if genre itself becomes changed by the very presence of the Anthropocene. How might the Anthropocene cause narratives to vary their genre classification? Atwood has famously proposed the term speculative fiction to demarcate between science fiction which includes "things that could not possibly happen", and

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[53] Stephanie LeMenager argues that the openness of the definition of climate fiction is a way to keep discussion surrounding climate change ongoing: "Genres intend to call publics into being. This is what I understand to be the larger goal of activists such as Bloom. My own position toward cli fi as a genre remains anarchic. Whenever I have been asked if a book or film is cli fi, I have said 'yes,' hoping to keep the parameters of the genre open, which I also think the discussion of what it means to be a climate change public ought to be, to keep that discussion lively" ("The Humanities After" 476).
[54] There are also other terminologies concerning texts that deal with the environment in some way, many of which overlap with climate fiction and with each other, including (but not limited to): environmental fiction, eco-fiction, Anthropocene fiction, green fiction, and ecological fiction.

speculative fiction which includes "things that really could happen but just hadn't completely happened when the authors wrote the books" (6). Novels exploring the possible consequences of climate change could therefore be defined as speculative fiction: yet how to demarcate the line between what is possible and what is impossible when it comes to the effects of the Anthropocene? A narrative which may have historically been understood as firmly in the category of science fiction might now be seen as speculative, or even possibly realist, as the extent of anthropogenic environmental degradation materialises. Indeed, Rebecca Richardson identifies the sense of uncanny familiarity which may be felt when contemporary readers come across historically distant texts that now seem particularly apt: in Richardson's example of Shelley's *The Last Man*, readers may find familiarity in Shelley's portrayal of a world in crisis, with a world-wide pandemic and rising sea levels resonating with current experiences of the COVID-19 pandemic and ongoing environmental threats. Richardson argues that "Shelley's novel offers uncanny parallels with our own environmental crises", identifying this feeling as an "eco-historical uncanny" (1063). Reading these texts from a contemporary perspective can shift our understanding of their genre and incite an uncanny sense of recognition and awareness, and a particular acknowledgement that what might have once felt like science fiction's worst-case scenario is now a reality.[55]

The genre bleeding that Trexler describes means that such novels "cannot be easily placed into discrete generic pigeonholes" (14). They might be better defined as being hybrid genres – texts which share features of more than one primary genre. Hybridisation can be done with the intention to develop further interest, evoke surprise on the level of a plot twist, incite a sense of satisfaction in the reader as they recognise familiar scenes, characters or images, or it can be used as a marketing tool to attract readers of both genres.[56] However, hybridity can also be a response to sociological change: genres "often shed light on the aesthetic, economic, and social

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[55]Another example of this uncanny shift is Octavia Butler's *Parable of the Sower* (1993) – the novel received renewed interest in 2020, reaching *The New York Times*' bestseller list 27 years after its initial publication, in part owing to its contemporary relevance. Butler's novel has been described as containing a "prescient vision" (Aguirre n.p.) owing to its exploration of a near-future United States ravaged by climate crisis and economic breakdown, even featuring a president whose intention to "make America great again" had resonances with Donald Trump's 2016 presidential campaign.

[56] Kerstin Bergman argues that hyper-bestsellers such as Dan Brown's *The Da Vinci Code* (2003), a 'whodunit' political thriller/serial killer thriller, and Stephanie Meyer's *Twilight* series (2005-8), a young-adult paranormal romance, gained mass success in part because of their genre-hybridization, and that the appeal of genre hybridity lies in the readers' "conscious or unconscious awareness of the various genres […] readers gain the delight of recognition as they read something that feels familiar in form […] to be able to recognize elements from different genres, as well as references to specific works of popular fiction, might even constitute part of the attraction for the reader" (108).

dimensions of the particular conditions under which they were made and which they represent respectively" (Ritzer and Schulze 9), and so as these dimensions change over time, genres change with them. In a discussion of climate change and genre, LeMenager discusses the sense of "genre trouble" that she identifies in contemporary fiction – the blending, blurring, and renegotiating of generic conventions and boundaries – and notes that genre trouble is primarily sociological: "artistic genres are fraying, recombining, or otherwise moving outside of our expectations of what they ought to be because life itself is moving outside of our expectations for what it ought to be" ("The Humanities After" 477). In turn, this shift encourages "new representational regimes" (LeMenager, "The Humanities After" 477), such as is the case with climate fiction. Genre hybrids can have the effect of allowing further experimentation and pushing readers to think from different perspectives, disrupting potential expectations for the narrative and reflecting the complexities of the Anthropocene.

Anthropocene narratives might also challenge genre conventions and expectations in order to critique said conventions and call attention to their inadequacy when exploring the consequences of anthropogenic climate change. For example, many popular narratives which engage with the idea of a global catastrophe, such as apocalypse, post-apocalypse, and disaster narratives, often follow a single or small group of characters who are experiencing a planet-threatening event as (or after in the case of post-apocalypse) it happens. The narrative focus is on the event itself and attempts to prevent it, on how people experience and survive the event, and/or how the survivors are able to persist and live on in the 'after'. These texts often feature human exceptionalism in the face of existential threat on both small and large scales: disaster narratives may follow a singular character who sees the disaster before it happens and either is amongst or is able to inform a small group of survivors, enabling them to escape the initial catastrophe.[57] Others feature the more substantial technocratic save, where the catastrophic event is able to be prevented or postponed, thus emphasising human exceptionalism in the face of world-ending crisis.[58] Apocalyptic or post-apocalyptic narratives often follow a small group of characters who attempt to survive during or after the event, creating a sense of

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[57] For example, in Emmerich's *2012*, science fiction writer/chauffeur Jackson Curtis learns of the imminent catastrophe via a conspiracy theorist, and is able to defeat the odds and get his entire family across the country in time to board secret Arks which the government have built in preparation for the flooding, whilst billions of others on Earth die in worldwide disasters.

[58] An example is Jon Amiel's *The Core* (2003), which sees the world's molten core stop rotating, causing the Earth's magnetic field to begin to collapse. The U.S. government launch a vessel to drill to the centre of the core and plant a nuclear bomb, which successfully restarts the core's rotation.

exceptionalism of the 'everyday' protagonist who is somehow able to persist in a hostile environment, sometimes despite any training or preparation.[59]

When considering the impact and repercussions of climate change, the pertinence of these tropes of human exceptionalism, individualism, and the technocratic save becomes questionable. Climate change cannot be fixed by a single person or group's heroic actions, there is no single technological act that can restore the planet to its prior state or prevent further destabilisation, and it is unlikely to be something that can simply be endured and outlasted. However, the invocation and disruption of these tropes can draw attention to their inadequacy, and can make a point about the dangers of relying on such tropes. This is apparent in Adam McKay's *Don't Look Up* (2021), a satirical climate change film which explores the lead-up to an asteroid impact. The film was described by McKay as an analogy for climate change, and it alludes to many of these aforementioned tropes and conventions. The desire for a protagonist and the belief in the technological save is articulated through a plan to knock the asteroid off-course; although this could be done remotely, President Orlean states that they "need a hero […] a pilot [with] real guns", as Washington "always gotta have a hero" (McKay 51:56-52:04), alluding to the commonality of such texts featuring a conventional heroic protagonist who will save the day. A scene shows the world watching and celebrating the 'saviour launch', as the pilot flies towards the asteroid, accompanied by multiple nuclear missiles. Yet the launch is interrupted, and the rocket and the missiles begin turning round, halting the climactic moment of resolution. It is then revealed that Orlean decided to stop the launch as she had been informed that the asteroid contains valuable minerals that could be harvested for profit. The film implodes the expectations for the genre by ending the film with attempts to prevent the asteroid failing as a result of capitalist greed and a desire for profit (a move which calls to mind corporate refusal to shift to more sustainable but less profitable environmental practices). This disruption of generic conventions and expectations draws awareness to their insufficiency when responding to and articulating anthropogenic climate change, whilst also critiquing the real-life perspectives that inform such tropes and conventions.

By ending without resolving the catastrophe, the extinction texts examined in this thesis disrupt generic conventions of catastrophe narratives that presume a happy ending – or at the very

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[59] Some examples of the everyday protagonist enduring the post-apocalypse appear in King's *The Stand*, Cormac McCarthy's *The Road* (2006)*,* Josh Malerman's *Bird Box* (2014), and John Krasinski's *A Quiet Place* (2018).

least, an ending which promises the continuation of human existence. They experiment with genre with the effect of reframing the experience of existential threat and catastrophe in narrative, shifting away from an anthropocentric perspective that positions humanity as the central and only protagonist that will always endure. There is a certain self-consciousness within these texts: an awareness of genre that enables them to play with genre expectations and thus engage in a critique of such expectations. This is enacted through a refusal to align with the narratological patterns expected of many fictions of catastrophe, rejecting apocalyptic exceptionalism primarily by their openness to end with or consider the likely possibility of extinction; however, they also refute these expectations throughout the narrative by evoking and rejecting the generic tropes expected of a more 'apocalyptic' narrative, and in doing so, draw attention to their inadequacy in this pre-extinction state. The texts focus primarily on the quotidian experience of the end of the world rather than the heroic, and, instead of constructing post-apocalyptic hero narratives which "reveal the undiscovered heroic potential in the most ordinary of us" (Renner 206-7), narrative emphasis is directed towards the mundanity of the end of the world and the everyday experiences of the lives of the people who experience it. As opposed to an articulation of apocalypse which focuses primarily on the spectacle of destruction or a re-imagining of society post-apocalypse, these texts reject an assurance of human exceptionalism by demonstrating the inadequacy (and indeed, the potential risks) of relying on apocalyptic tropes when considering planetary threats such as climate change. They refuse the assurance of closure, the notion of clear-cut human protagonists/antagonists, clear distinctions between before and after, and ultimately, the promise of human continuation and redemption. In refusing these generic expectations, these texts question the appropriateness of such narrative conventions when engaging with environmental collapse, critiquing the assumption that climate change may have a similar 'happy ending'.

Many of the texts I consider in this thesis also speak to Trexler's notion of genre bleeding. The texts can be understood as hybrid genres: they are science fiction in that they technically exist in worlds that are different to our own, yet the worlds share enough similarities that they can be considered as possible futures. The narratives are set in the contemporary rather than a far future event, creating the sense of proximity and the possibility that such an extinction event could happen in the now. Yet they also more explicitly include a mix of genres by featuring a concurrent plot that has the characteristics of a secondary (and sometimes tertiary) genre: for *Something New Under the Sun*, this is crime fiction; for *Future Home*, Indigenous fiction and thriller; for *The Archive of Alternate Endings*, realist/literary fiction and fairy tale; and for

Appleseed, eco-thriller, historical fiction, and fantasy. The hybridity of these texts result in the extinction event impacting not only the characters, but the secondary genres. For example, in Walker's *The Age of Miracles*, the threat to humanity is the slowing of the rotation of the Earth; nights and days begin to lengthen until, at the end of the novel, they last for weeks at a time. *The Age of Miracles* focusses primarily on protagonist Julia, as she navigates the difficulties of high school, her budding relationship with her friend Seth, and her father's infidelity. The text sits between genres – in one way, the novel is a bildungsroman, yet by setting the narrative against the backdrop of environmental breakdown, the presence of extinction counters the expectations of both the coming-of-age novel and the (post-)apocalyptic genre. Temporality is key to the coming-of-age genre in that novels in this genre presume and detail the passing of time: yet here, time is distorted, stretched out, and disrupts the traditional structures. Julia struggles to distinguish between the impact of the slowing and the experience of growing up:

> [I]t seems to me now that the slowing triggered certain other changes too […] the tracks of friendships […] the paths toward and away from love. But who am I to say that the course of my childhood was not already set long before the slowing? Perhaps my adolescence was only an average adolescence, the stinging a quite unremarkable stinging. (Walker 44)

Aware of the psychological consequences of the slowing, Julia looks back to her youth and considers the possibility that the slowing impacted her experience of growing up, yet she cannot assert this – instead she links the consequences of the slowing to the everyday experiences of growing up that are detailed in genres such as the coming-of-age novel. The lines between these genres become blurred, leaving uncertainty as to which impacted which, and disrupting the expectations of both: as there is no solution found to the slowing, the novel ends with the assumption that Julia, along with everyone else, will soon die. This hybrid coming-of-age novel refuses to allow the main character to 'come of age', as her future is cut short as a result of the extinction event.

Through this generic mix, the novels move away from more conventional narrative structures. The generic hybridity combined with the disruption of generic expectations demonstrates how all-encompassing anthropogenic climate change can be, even impacting the conventions of genres seemingly unrelated to climate fiction. Yet they also speak to the danger that environmental threat and potential extinction has on broader notions of human posterity. In a fictional world in which fiction and the 'archive' of literature itself will soon be gone, the function of genre within the texts – both within their overall narrative form, and through

internal metafictional references – haunts each text as it builds towards its own demise, acting as a reminder of the imminent loss of the world and the symbolic order that allows us to understand the world. The subversion and destabilisation of genre speaks to and reflects the destabilisation of humanity and the planet we inhabit. Often these texts include direct mention of the difficulty of coming to terms with the loss of permanence and posterity, and how imminent extinction refuses the assumption of permanence. The distortion of the text's secondary genres thus further emphasises the impact that extinction poses, as it encroaches on the stability of genre itself. Extinction threatens the entire symbolic archive, assuring that no one will remain to read or know any form of narrative: the presence of extinction in the narrative of these texts thus threatens the concept of genre, and genre breaks down.

I will now move to discuss this genre disruption within Winter's *World of Trouble* and Tea's *Black Wave*. These texts invoke and disrupt features of apocalyptic narratives in order to emphasise their inadequacy when anticipating extinction, establishing the absence of redemptive features and the marked lack of closure in their narrative. In doing so, the texts can be used to consider how such narratives of redemption and reassurance are insufficient when considering the impact of anthropogenic climate change. I examine each text's secondary genres and show how the presence of extinction encroaches on and destabilises the features of these genres. I consider how this genre-mingling and breakdown can be seen as a symptom of and a way to work through Anthropocene thinking.

Disrupting Detection in *World of Trouble*

Winters' *The Last Policeman* trilogy follows the experiences of Detective Hank Palace in the lead-up to the impact of a world-ending asteroid colloquially known as Maia. The first novel, *The Last Policeman* (2012), begins six months prior to impact and sees Hank investigate the alleged suicide of Peter Kell: although the majority of Hank's colleagues assume that Kell's death was a suicide incited by the knowledge of the imminent asteroid strike, Hank becomes convinced that the death was murder, and the novel follows his attempts to unveil the truth. The second novel, *Countdown City* (2013), picks up 77 days prior to impact: no longer an official detective due to the dissolution of Hank's unit in the Concord New Hampshire Police Department, Hank is approached by his former babysitter who asks him to help find her missing husband. The third and final novel, *World of Trouble*, picks up two weeks before impact:

Hank's final investigation becomes more personal as he seeks out his younger sister Nico, who has become involved with a radical conspiracy group and has gone missing.

Many of the characters, and even Hank himself at times, hope that the asteroid will miss the planet or that the government or scientists will figure out a way to shift its trajectory or destroy it. Yet this hope is to no avail, and the final novel of the trilogy ends with Hank waiting for Maia to hit, watching the sky flare up as the asteroid permeates the atmosphere. The trilogy refuses the possibility of redemption and renewal more commonly found in (post)apocalyptic narratives, whilst also staying fully secular and denying any sense of teleology or purpose in the event. Hank contrasts apocalyptic narratives of redemption and renewal with the reality of the asteroid, first imagining "what a peaceful world this'll be when the people are gone, when the paved expanses are reclaimed by wildflowers and the birds have the full use of the sky" (91), conceptualising a post-impact world that is akin to pastoral post-apocalyptic narratives in which the world is wiped clean, giving people a chance to begin anew as they leaving behind their collective sins. Yet he is very aware that the reality contrasts with this image:

> I know, of course, that this is just another dream, another piece of widely held wishful thinking: the virginal and pastoral postapocalyptic world, wiped free of mankind's dirty cities and loud machines. Because those auburn Midwestern trees are going to burst into flames in the first burning moments […] What is about to happen is not the reclaiming of Earth by a triumphant Mother Nature, a karmic repudiation of humanity's arrogant ill stewardship. Nothing we ever did mattered one way or another. This event has always been in the cards for man's planet, for the whole scope of our history, coming regardless of what we did or didn't do. (91)

Hank acknowledges the 'fantasy' of this concept of apocalypse – there will be no revelation of the reason for the asteroid, and the asteroid will not be shown to be a punitive response to humanity's failures. This extinction event is not anthropogenic, but is wholly nihilistic: a meaningless, random occurrence that positions humanity as irrelevant in the wider place of the universe. This passage also highlights that the destruction of the planet is not solely a destruction of humanity – it is also a destruction of the nonhuman beings that inhabit the world. Hank describes how "the clouds of ash will block the sun, put a hard stop to photosynthesis, snuff out all lushness", how "[t]he squirrels will burn up, the butterflies and the flowers, the ladybugs crawling in the tall grass" (91). By contrasting the image of a peaceful posthuman world with violent images of animals and vegetation drowning and burning, no longer able to

survive in a world covered in clouds of ash that prevent photosynthesis, this passage emphasises apocalypse not as a possibility for pastoral renewal, but as an annihilation event.

The thematic and structural focus of the novels follows the processes expected of variations of crime fiction: Hank takes on a case and searches for the answer, which he discovers and reveals at the end of the novel. Yet the formulaic tropes of the novels are disrupted by the presence of the secular extinction event. Tzvetan Todorov describes the typical whodunit plot as containing "not one but two stories: the story of the crime and the story of the investigation" (44). To this, Winters adds a third story – the story of awaiting extinction – and it is this addition that causes disturbances to the primary genre and its conventions. Hank faces a multitude of challenges as a result of the apocalyptic shifting of the social order, and despite solving the case, closure is never fully attained. The three novels invoke readerly expectations of the crime genre, only to ultimately frustrate them as a result of the inability to 'solve' the secondary crime of the apocalypse, refusing a meaningful resolution. By subverting generic tropes and expectations, the texts create a frustration of these genres by juxtaposing them with the stark reality of extinction.

Very broadly, crime fiction is expected to contain a crime, an investigation, and a solution; yet just as with other genres, crime fiction does not embody a singular typology. There are many subgenres, hybrid genres and variations: as Heather Humann observes, "crime fiction has always been an elastic literary form" (57). Crime narratives often reflect sociopolitical concerns or contain sociopolitical critique, which results in crime fiction being "both malleable and responsive to changing times" (Humann 57): the events of crime fictions' narratives, and the very category of the genre itself, shift in line with current concerns and anxieties. One way that this manifests is through genre hybridity: Humann observes a trend of authors "[borrowing] from and [blending] techniques used in other literary genres" in order to innovate and create something new, but also as a way to create a hybrid form that is "a more suitable vehicle to call into question existing social norms, raise awareness about global issues and critique prevailing sociopolitical structures" (59). Crime fiction can become a "[n]arrative vector for exploring range of wider social, political, cultural or philosophical issues that do not necessarily have anything to do with crime in themselves" yet are "significantly implicated and framed by the criminal/investigative plot" (Gulddal and King 15). In Winters' trilogy, the crime narrative becomes a vehicle for exploring concerns related to the possibility of extinction and planet-threatening crises, asking broader philosophical questions that in turn query certain elements

of the crime genre itself: what use is solving a crime when there is no way to enact justice? What purpose is finding the answer to a mystery when soon no one will remain to know it? What place does reason have in a world that is condemned to a meaningless and unreasonable end?

Crime fiction's malleability, adaptiveness, and engagement with broader social and moral questions has meant that it has also been used to more directly engage with the subject of climate change.[60] Yet crime fiction which engages with climate change must "inherently [push] the limits of its own genre" (Puxan-Oliva 369), destabilising presumptions of the crime genre: as previously noted, climate change troubles clear demarcations between protagonist and antagonist, with no single person at fault, and no single 'detective' able to resolve. Climate change is not a single act that needs solving, and furthermore, it cannot be singularly solved – there is no clear way to return the world to its former state. Even the consequences of the 'crime' aren't easily ascertained. Climate change has diffuse effects and disparities in impact: in a discussion of Deborah Rose's positing of the emergence of an "Anthropocene noir", Farrier observes that Rose "[s]ignificantly […] does not flatten this picture: guilt, suffering, and responsibility are by no means equally distributed in the Anthropocene", acknowledging that the "primary human casualties of the Anthropocene are and will continue to be indigenous peoples, small island nations, and the global poor, who bear the cost of the developed world's carbon largesse" ("Anthropocene Noir" 877). The varying impact and consequences of the Anthropocene mean it is on one hand difficult to directly ascertain the clear consequences to specific 'crimes', yet also vitally important to understand and engage with how these crimes are of collective concern.[61]

Evidently, the questions and themes engaged with by crime fiction, such as culpability, justice, and guilt, are relevant to discussions of climate change, but they are also troubled by it. Sarah Dimick asks:

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[60] Similarly to how fiction relating to the climate has been given multiple names, crime fiction relating to the environment has also been allocated several different names, such as environmental crime fiction, eco-thrillers, ecological detective fiction, crimate fiction, and Anthropocene noir. For more on the topic of crime and climate/environmental fiction, see Stewart King's examination of crimate fiction (2021), Farrier's analysis of animal detectives and the Anthropocene noir (2018), and the *Crime Fiction and Ecology* special issue of *Green Letters* (2018).

[61] In Chapter 3, I will go into more detail on the unequal consequences of environmental damage, specifically to indigenous cultures.

> In a time when we, as humans, are collectively but disproportionately capable of
> altering the atmosphere, how do we reconceptualize culpability? How do we
> understand concepts like intentionality or guilt when agency is distributed across a
> species instead of contained within a single individual? How do we narrate and
> respond to an offense for which we are – to some degree – collectively responsible?
> (20)

Climate change destabilises the understanding and application of notions integral to crime fiction – as noted in the introduction, both the cause and the consequences of climate change are unequally distributed, posing challenges to designations of guilt or culpability. How then does this troubling of notions of criminality in the real-world seep into genres which are structured around criminality? Crime novels engaging with the topic of anthropogenic climate change might feature a breakdown or subversion of genre expectations in order to attempt to respond to these questions, demonstrating how in addition to troubling certain functions of narrative, climate change also troubles certain genres.

Although crime fiction narratives are not homogenous, tropes of the genre often recur across texts, and readers approach the texts with certain generic expectations and anticipations: whether that is of the general structure of someone investigating and solving a crime, or specific recurring tropes such as red herrings, an isolated location, or the 'big reveal' at the narrative's end. Winters' novels employ many of these tropes and expectations, yet they also demonstrate the genre's overall breakdown in the text's pre-extinction state. The narrative of the classical detective novel is traditionally driven by the methodical and rational investigation of a criminal event. John G. Cawelti defines the established pattern of a classical detective story as following these steps:

> The classical detective works by ratiocination (logic) and solves the mystery with
> his intellect. Such stories use six main phases […] (a) introduction of the detective;
> (b) crime and clues; (c) investigation; (d) announcement and solution; (e)
> explanation of the solution; (f) denouement. (81-82)

On discovering a transgression, the detective's role is to identify its source and ultimately eradicate it, thus restoring the disrupted social order. The detective figure is often an amateur with impressive intellectual and deductive skills who uses the ratiocinative method to follow the clues and investigate, discovering and explaining the solution. This figure originated with Poe's C. Auguste Dupin, and was popularised by Arthur Conan Doyle's Sherlock Holmes, Agatha Christie's Hercule Poirot, and Dorothy Sayer's Lord Peter Wimsey. At the novel's end,

the detective commonly unveils the truth of how the crime was committed, subsequently revealing the meaning behind the clues that have previously confounded both characters and reader. Winters' novels foreground the ratiocinative method, prioritising the deductive style of reasoning that has come to define the detective tradition. Each clue leads to the next step in his investigation, one "fact implies a second fact, which leads [him] on to a third" (Winters, *The Last Policeman* 267), following a structured path of rational thinking which allows him to "see the outlines of the next phase of [his] investigation" (101), the clues leading to the solution. His investigations are often challenged by red herrings, include narrative twists, unlikely suspects, and Hank is even assisted by his loyal sidekick, the dog Houdini.

Despite the prevalence of murder and disorder, there is a well-established comfort found in detective narratives: P. D. James identifies the reassurance experienced through the genre's restoration of justice, resulting in an assertion of "the belief that the universe, underneath it all, is rational. They're small celebrations of order and reason in an increasingly disordered world" (83). David Geherin argues that these kinds of reassuring narratives emerged in response to anxieties following World War One, as these texts "operated on the naïve assumption that all mysteries could be explained by the right kind of detective", and that the promise of a solution at the end would "restore a sense of order to a temporarily disturbed world" (160). They offer comfort that the disruption in the real world might be similarly resolved, in spite of the disorder experienced. In Hank's world, the desire for 'order' and 'reason' stems from the disordered and unavoidable presence of the asteroid: Hank's dogged attempts to solve the crimes and mysteries in the novels stems in part from a desire to (re)solve the secondary crime: the death of the planet and of humanity. Yet there is no similar promise of resolution or restoration of order: distanced from the revelation of the teleological apocalypse, this apocalyptic event has no purpose to be revealed, no answer to the mystery, and no opportunity for redemption in the after.

The novels also contain elements native to the police procedural. This subgenre distinguishes itself from the classical detective novel in its focus on the investigative journey of an officer (or officers) within a police force: early examples include Ed McBain's 87th Precinct novels, which feature a group of detectives on the police force of Isola, a fictional version of New York City, and foreground the procedures of the precinct's detective squad, stressing the collective nature of policing. Philippa Gates notes that the distinctive feature of the police procedural is "the emphasis on teamwork, professionalism, and investigative technology" (90). The police

detective relies on "the procedures of the organized police force and his own wealth of experience from years on the force", and "[represents] an idealized image of masculinity as organized, methodical, and driven by duty" (Gates 90). In the first novel, Hank works for the Concord New Hampshire Police Department, and much of the narrative involves the meticulous process of police investigation, including forensic and scientific analysis of crime scene evidence, post-mortem medical investigation, and an emphasis on Hank's use of police jargon. Hank describes in detail each aspect of the investigation, and relies (in part) on his colleagues, primarily Trish, a uniformed officer who helps him solve the crimes, and Dr. Alice Fenton, a forensic pathologist who provides the medical analysis required in Hank's cases.

Yet owing to the socio-political breakdown in the face of the threat of the asteroid, the normal structures of police investigation are failing. Many officers have left the force and those who remain often refuse to help Hank, mocking his attempts to continue to solve crimes and uphold the failing social order in the face of an extinction-level catastrophe. The end of the first novel sees Concord's investigative branch shut down completely, as it is deemed "relatively unnecessary, given the current environment" (*The Last Policeman* 89). Hank continues his investigations yet loses the professionalism and teamwork of belonging to an organised police force. He still uses forensic analysis where he can, at one point noting that he could "pull prints with Scotch tape and gunpowder" in lieu of dusting powder (255), but he no longer has the full investigative technology or the force behind him. He often makes references to the absence of the technology that would help in his investigation which is now lost to him: he describes how "at this point a simple blood test is a concept from an alien universe, it's science fiction. Mass spectrometry and immunoassays and gas-liquid chromatography, all of it belongs now to a bygone world" (63). In referencing the loss of these features, the text emphasises how these generic elements are no longer sufficient or even possible, appearing now to even belong to another genre, in a way that recalls the shifting nature of generic boundaries within the Anthropocene.

Despite losing his official position as a police officer, Hank remains driven by a sense of morality and justice, taking on an unofficial case in the second novel and becoming more aligned with the role of the solitary private investigator from hardboiled crime fiction. This subgenre rose to eminence in the 1920s and 1930s in America, with popular figures including Raymond Chandler's Philip Marlowe in *The Big Sleep* (1939) and Dashiell Hammett's Sam Spade in *The Maltese Falcon* (1930). These novels distinguished themselves from other

iterations of crime fiction in their detective figure: the protagonist was commonly a private investigator who would often be "drawn to cases the police cannot or will not solve", motivated "by a personal code that demands that justice be served and a wrong be right" (161). The detective was portrayed as more cynical and detached, and more likely to engage in physical force and violence as they investigate the crime. As a result of the societal breakdown experienced in the novels, police officers are much less likely to take certain cases, especially following the shutdown of Hank's police force. When he is approached by his former babysitter at the beginning of *Countdown City*, he explains that "a missing-persons investigation is especially challenging in the current environment" (15), explaining that there are no longer the structures in place that would help in finding a missing person (such as ability to issue an APB or check federal and local databases), clarifying that "the CPD as a matter of policy is no longer pursuing such cases" (16). With the state collapsed and law and order dissipated, there is no longer importance placed on protecting individuals who may be at risk. Despite this, Hank agrees to take the case, and in doing so reflects the long history in American fiction of the morality of the private eyes who take cases that the police refused. He remains motivated by a keen sense of morality akin to that seen in hardboiled detectives, who are driven "by a personal code that demands that justice be served and a wrong righted" (Geherin 161), determined to help the innocent and discover the truth, "rescuing damsels in distress and working on behalf of the helpless and the needy" (Geherin 162).[62] In the latter two novels, Hank often goes beyond the bounds of police duties, getting in fights and near-death experiences with potential suspects, evoking the hardboiled detective whose involvement in cases would "often require him to get his hands dirty and sometimes his nose punched while he scrambles around employing his wits and street smarts to find the clues that enable him to identify the guilty party" (Geherin 161). Hank remains focused on the investigation, but becomes less likely to follow the police 'rules' required of him.

Hardboiled detective fiction distinguishes itself from classical detective fiction in its assumption of resolution. Although both share the desire for an answer to a mystery, it is less likely that solving the mystery can restore the world to rights: the hardboiled detective knows "that they can do nothing to restore innocence to a fallen world" and that "success is not

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[62] Hank's morality and attempts to save several 'damsels in distresses' can be read intertextually in line with the notion of a masculine saviour myth: see William F. Nolan's reading of the plot of *The Dain Curse* as typical of a knightly task in a chivalric romance (1983), Stoddard Martin's reading of *The Maltese Falcon* as a Grail narrative (1983), and Charles J. Rzepka's reading of Gothic chivalry in *The Big Sleep* (2000).

guaranteed: Failure is a real possibility" (Geherin 162). Geherin argues that this stems from a sense of disillusionment after World War One; hardboiled detective fiction offers less of an assurance of pure resolution and restoration at the novel's end. The first-person narration often common in hardboiled fiction also lends to a "highly stylised first-person commentary on the peculiarities and idiosyncrasies" of the world the protagonist inhabits, and thus the detective becomes "not just […] a crime solver", but also "a sharp-eyed social commentator" (Geherin 162). The first-person narrative of the novels allows Hank to comment on and critique the increasing breakdown of society, whilst he simultaneously tries as much as he can to solve crimes and 'restore' the world to order.

Hank's experiences throughout the trilogy take him through different subgenres, as he takes on different aspects of the investigator's generic identity – he begins as an officer in a police procedural, then is 'employed' as a private eye to investigate Brett Cavatone's disappearance, then finishes as a solitary investigator who loses his sense of identity as a detective as the structures of society collapse. Despite losing his position as police officer, he still finds himself falling back into the conventions of detective and police work, noting that his body is "itching to perform the familiar rituals, to flip the picture open to strangers – 'Have you see this girl?' – to improvise a set of discerning follow-ups and follow-ups to the follow-ups" (26), referencing the steps of the investigation that would be familiar to readers who are aware of the genre. He finds himself still abiding by the conventions of policework, describing a conversation where he "[falls] into my old favourite rhythm of conversational police work – the laying out of a fact pattern, the straightening out of details in my own mind so they can be vetted by a fellow officer" (280). Yet the closer he gets to the asteroid strike, the more he becomes aware that the actions he is performing are tropes of a different world, as the imminence of finitude as a result of Maia impacts Hank's search for answers, meaning, justice and closure, and detection is made increasingly difficult, and ultimately redundant.

The difficulty stems in part from shifts in the structures of law and order which make detection and justice physically more challenging. When Hank's department closes down at the end of the first novel, Hank loses the structures that would support him in solving the crime: there is no longer a traditional justice system, meaning that the final stage of the formulaic crime structure is missing. In the first novel, Hank captures the perpetrator Littlejohn and takes him to the police station, only to find out that the station is being shut down and he is being made redundant. He is made to leave Littlejohn at the station, with no idea what will happen to him

as the justice system is on the brink of collapse. He no longer knows what the next steps are of the journey from crime to justice – whether Littlejohn will face trial, or whether he will receive fair treatment whilst imprisoned. This disruption to the stages of justice is described metaphorically as the steps leading up to the police station: Hank states that "under normal circumstances this top step is the next in a long and complicated journey that begins with the discovery of a corpse and ends ultimately at justice" (*The Last Policeman* 299), but now Hank is no longer aware of what is entailed in the final stage, and he apologises to Littlejohn, realising that he has no control over the perpetrator's fate. These 'steps' towards justice can simultaneously be read as the 'steps' expected of the genre: the path of crime, discovery, investigation, solution and resolution has been disrupted, and so the text shows how despite following the established pattern of crime fiction, there is no longer a way to satisfactorily conclude the narrative within the landscape of this destabilised and disestablished social order.

The requirement that the detective solve the crime and restore normalcy is further complicated by a shift in motives, providing an additional challenge for the detective who follows the laws of ratiocination. The pre-extinction society in Winters' trilogy is disordered and increasingly unjust as the characters have been sentenced to annihilation, left unable to comprehend their imminent mortality and the irrationality of the universe. Each novel sees society deteriorate further as the reality of the asteroid impact becomes more tangible and the moment of impact gets closer. Hank describes how people have started going "Bucket List", quitting their jobs and leaving their responsibilities to instead go and complete the list of things they wish to do before they die. At the start of *World of Trouble*, America has fallen into decline: Hank describes "rolling blackouts" (25) over the country as those working in energy had long since left their jobs; he notes that acts of violence and riots are "occurring at an accelerating rate" (41) and describes encountering "communities that had fractured into chaos and lawlessness" (41). He details the decline of accessible information as news channels and newspapers "blipped off the radar, one by one", soon followed by the disappearance of "television, the whole concept of television, and the Internet with its ceaseless froth and churn, all of it just gone" (69). Even before the asteroid strikes the planet, the world has already fallen into disarray.

As such, individual motivation has shifted, and behaviour that once may have seemed abnormal or suspicious is the new norm. Hank notes that when the asteroid appeared, it "[transformed] the lives" of people (271), shifting their motivations and their actions; therefore, "the very idea

of motive must be re-examined in the context of the looming catastrophe. Because people are doing all sorts of things, for motives that can be difficult or impossible to divine clearly" (*The Last Policeman* 114). The imminence of the asteroid has shifted understandings of morality, and the detective must re-examine the reasons behind certain behaviour. The texts emphasise this through the difficulties Hank faces investigating the cases in each text – the first focuses on a suicide that Hank deems suspicious, yet suicide has become increasingly common as people wish to avoid the anticipation and eventual impact of the asteroid, as emphasised when Hank's colleague Detective Andreas commits suicide by jumping in front of a bus. The second novel has Hank investigating a missing person, yet people going 'missing' has become increasingly common as people choose to quit their jobs, leave their partners and families, and go "Bucket List", and so Hank struggles getting people to take his missing person investigation seriously. The people Hank comes across are often dismissive of his investigations as cases that would have previously been deemed serious (such as suicides and missing person cases) are now commonplace and reasonable under the new circumstances.

The drastic shift in the social order ultimately means that, in contrast to detective fiction that might offer comfort in the restoration of a disturbed society, it is impossible for this world to return to its previous state as it has been so irrevocably distorted by the knowledge of imminent annihilation. Towards the end of *World of Trouble*, Hank articulates the key purpose of solving a crime, and how this is made impossible in a pre-extinction world:

> Solving a murder is not about serving the victim, because the victim is, after all, dead. Solving a murder serves society by restoring the moral order that has been upset by the gunshot or knife strike or poisoning, and it serves to preserve that moral order by warning others that certain acts cannot be committed with impunity. But society is dead. (295)

There is no way to restore the social order in Hank's world, as the structures and social contract which governed society no longer exist. His role as detective now seems futile, as it is society itself which has transgressed. Even if the laws *had* remained in place, there will soon be no future world in which society could be re-established, raising questions of the purpose of detection in a world awaiting extinction. With the security of futurity in peril, the question is raised of what purpose detection now has. With no law system in place to punish, and no way to fully restore the social order, what is the reason for detection? Hank is constantly asked why he is investigating these cases – not only because there is no way to enact justice, or to restore the world to what it once was, but because there is no future in which solving the cases will

pay off. In a secular world in which "the idea of long-term consequences has magically disappeared", where the notion of a future itself is being called into question, what outcome will arise from discovering the answer to a mystery? This is a question frequently posed to Hank: before he goes to look for his sister, Hank's colleague Officer McConnell states "Well, you won't find her. Also, if you do? So what?" (23). After finding Nico dead but not knowing who did it, Hank's sidekick Cortez expresses sympathy but tries to convince him to drop the investigation in lieu of hiding out underground, saying: "I'm so sorry about your kid sister […] But Henry, the world is about to die" (254), emphasising that there is no reason for Hank to put himself at further risk to find answers when the world is about to end.

So why does he do it? Hank's preoccupation with solving the crime reflects a desire to prescribe rational meaning to the irrational and secular apocalyptic event. The formulaic and reassuring steps of the detective timeline is a way to both deny and postpone the reality of apocalypse, and also an attempt to process an anticipatory grief that he will never be able to successfully process similar to that delineated in Chapter One – grief for both his sister, and for humanity. He describes how "[t]here is an aspect of my character that tends to latch on to one difficult but potentially solvable problem, rather than grapple with the vast and unsolvable problem that would be all I could see, if I were to look up, figuratively speaking, from my small blue notebooks" (*Countdown City* 28), emphasising how focusing on the smaller investigations provides a distraction from the unsolvable nature of the apocalypse and its resistance to narrative. By placing a structural and thematic focus on the processes of the investigation, Hank's desire for a solution for the primary crimes mirrors a desire for a solution to the secondary (inevitable) 'crime' of the apocalyptic event.

Although Hank solves the primary investigations, he is ultimately unable to solve the broader 'crime' of apocalypse, resulting in an absence of closure in the text. Closure is a key element of crime fiction: analysing the structure of the detective genre, Brooks observes that "the ultimate determinant of meaning [lies] *at the end*" and that narrative desire "is ultimately, inexorably, desire *for* the end" (52; emphases in original), demonstrating the anticipation of discovering meaning in the narrative's conclusion. Eyal Segal argues that the detective plot's ending is perceived as being a "paradigm case of strong closure", with the "overall narrative structure and effect of the detective story [depending] on the ending" (154). He highlights the importance of curiosity to the experience of reading a detective novel, and that often a narrative will build suspense in order to release it with the satisfaction of that curiosity at the end, by

revealing that which was previously hidden to the reader (Segal 164). In Winters' trilogy, each novel follows a primary investigation that builds this suspense and curiosity, with a revelation of the answer to the primary crime at the end; yet this revelation, supposed to offer closure, is overshadowed by the overarching 'crime' of the imminent asteroid strike, to which there cannot be any closure. Hank is successful in his primary investigations, solving the mystery and revealing the solution, yet there is no way that 'justice' can be carried out in the way that the social order at the heart of the crime narrative demands, as a result of the aforementioned distortion of the justice system and the social order itself. More crucially, his success in solving the crime is undermined by his inability to prevent the broader 'crime' of the unavoidable apocalypse. The lack of closure does not stem from denying the reader a satisfactory narrative solution to the primary investigation as in some other detective novels which feature a non-solution;[63] the absence of closure stems from the realisation that none of it seems to matter.

The text alludes to this lack of closure in several ways, inciting generic expectations for closure only to refuse them. This is seen most clearly by the revelation that the conspiracy that scientists had been working on a plan to divert the asteroid was fake. The group that Nico runs away with are led by a criminal named Astronaut, who is led to believe that a scientist called Hans-Michael Parry has discovered a way to break the asteroid apart using a standoff burst. However, for reasons currently unknown to both the characters and the reader, this information is being suppressed and Parry is being held in a military prison. This storyline is set up in the first and second novels, with Hank and Nico arguing about the veracity of this information; Nico and her group are convinced of its truth, and are working to find Parry, free him, and help to create the standoff burst and destroy the asteroid. Hank is doubtful of the story: he sees it as much too neat, explaining the conspiracy and emphasising how it seems too convenient a storyline:

> Of course the information about the standoff burst is being suppressed by the evil government, for purposes unknown – and of course there is this one rogue scientist who knows how it's done, and of course he's being held by the government in a military prison somewhere. And – of course, of course, of course – Nico and her pal Jordan and the rest of the cabal have a plan to set him free and save the world. (*WOT* 36)

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[63] For example, Rhys William Tyers examines the notion of a non-solution in Haruki Murakami's fiction, exploring how the absence of a solution works to deconstruct the detective genre and highlights "the impossible search for meaning" (78).

The repetition of 'of course' underscores how Hank sees this story as adhering to tropes of similar apocalypse or disaster narratives, so much so that it is unbelievable, emphasising the anticipated 'beats' of the story and accentuating how the storyline is too neat, too perfectly manufactured to the point that it would be unbelievable in real life.

Yet even Hank starts to gain hope. Having lost contact with Nico at the start of *World of Trouble*, Hank spends the novel trying to find her, the investigation eventually leading him to a deserted police station with a sealed basement. He discovers evidence which leads him to the conclusion that Nico's group have moved underground to wait for the next stage of the plan, and he breaks through the sealed concrete leading underground. As he descends, he considers how

> [s]ome idiot part of me was expecting to find a hum of activity. A rogue government scientist in a white coat barking out orders. Last-minute preparations for launch. Beeping consoles and screens filled with maps, a world beneath the world, humming along, preparing for action. Something from *James Bond*, something from *Star Wars*. *Something*. (236, emphases in original)

Despite his scepticism, Hank's inner desire for some form of resolution to the asteroid has led to him developing a sense of hope: "[a]t some point without meaning to, [he] had allowed some faint bubbles of hope to form and rise" (236). His imagination grasps at generic conventions from spy movies and science fiction films where protagonists are able to save the day by following conventional generic formulas.[64] Yet when he enters the basement, there is no sign of these familiar tropes that might signify salvation. He finds "nothing […] just plain nothing" (236), repeating the word several times over the next few pages – "nothing. Cold darkness; a bad stink; spiderwebs and dirt" (236); "it's all nothing, boxes full of nothing, except it's more like a parody of nothing" (250). The repetition emphasises the contrast between his expectations for a solution and his disappointment when they do not play out. As he moves

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[64] The discussed quotation alludes to features present in many disaster and science fiction narratives. A common scene is that of a room of (often government) scientists in front of consoles, working on the final mission to prevent disaster: examples include Mimi Leder's *Deep Impact* (1998), in which a spacecraft is directed to land on an incoming comet and plant nuclear bombs to destroy it; Amiel's *The Core,* in which NASA pilots launch a vessel to drill to the core of the Earth and restart the core's rotation; and, Emmerich's *Independence Day* (1996), where the US military leads an attack of fighter pilots against alien invaders. Finally, there is (employed satirically) the aforementioned scene in *Don't Look Up* with the aborted launch to destroy the incoming asteroid. The specific mentions of the *James Bond* and *Star Wars* series also both feature heroic characters who, despite all odds, are able to save the day.

further into the basement, he discovers that it contains worse than nothing: a room contains the dead bodies of Nico's group, who appear to have committed suicide by drinking poison.

Following this, Hank runs into a surviving member of one of Nico's group, Jordan, of whom Hank was largely suspicious and whom he believes killed Nico. In a twist revelation, Jordan reveals that the plan was fake all along; Jordan's real name is Agent Kessler, and is a member of the FBI who had been assigned to the case to distract Astronaut from enacting any "last-ditch antigovernment violence" (270), keeping him busy with false purpose until the end. Hank describes the fake plan as being "a better story, much easier to swallow" (271) than the reality of the asteroid, and emphasises the desire for meaning and purpose behind the 'story' of the end of the world: he observes that "[p]eople are continually looking at the painful or boring parts of life with the half-hidden expectation that there is more going on beneath the surface, some deeper meaning that will eventually be unveiled; we're waiting for the saving grace, the shocking reveal" (268). This speaks to generic expectations of both detective fiction and apocalyptic fiction, particularly the language of 'unveiling' and 'revealing' – the general assumption is that the answer to the mystery will be revealed, or that the apocalypse will be revealed to have purpose and meaning, alluding to the word's etymological roots of 'uncover' or 'reveal'. Yet this apocalypse, this mystery, has no deeper meaning – there is no scientist able to produce a standoff burst, no government conspiracy for the protagonists to unveil. As Hank asserts, "[a]lmost always, things are exactly as they appear […] A massive asteroid really is coming and it will kill us all. That is a true fact, hard and cold and irreducible, a fact that can be neither diverted nor destroyed" (268). Hank uses the language of detection almost ironically here, describing the knowledge of the end as a cold, hard fact: a fact that will be of no use in the face of this final crime.

The language used by both Jordan and Hank when discussing the fake plot emphasises how it is rooted in fictional structures of narrative. Jordan describes his work as constructing a "fantasy world" (277), explaining how Astronaut became fully immersed in the story, convinced that "he was the drug-dealing robber who had turned into an action hero" (275) and following the steps of a script – yet as Jordan notes, "we were writing the script, and the script ended with them sitting in the middle of nowhere, not bothering anybody, waiting for someone who doesn't exist, until lights out" (275). The setup of a script that ends with a lack of resolution or closure is further emphasised by the ironic code name for the scientist – "Resolution". This name emphasises the desire for a resolution, whilst also highlighting its absence – the scientist,

like the promise of closure, will never arrive, and thus the possibility for resolution is denied. Attempts to create a comforting narrative emerge in the language used: Hank describes writing down a timeline from an interviewee, trying to "[structure] the narrative" (202), and he also describes the overall plan in relation to the tropes it invokes, noting that it's "a good story. The kind of story that I like, the story of a well-conceived and well-executed law-enforcement operation, carried out by diligent operatives staying on the job to keep decent people safe even in the most difficult circumstances. A slow-play sting with a clear intention and a simple strategy" (273-4). The text thus sets up the 'story' and 'resolution' that might be expected of crime or disaster narratives, but ends with them having being artificially manufactured. The 'constructed' story contrasts with the 'real' story – one which is disappointing to Hank in its lack of meaning or resolution.

Desire for meaning and closure is emphasised further once Hank discovers the identity of his sister's murderer: Hank learns that Astronaut planned to move his followers into the basement of the police station once it appeared that the scientist had not arrived, yet Nico, still fully convinced by the story, was determined to wait it out. Nico left the station, intending to find her brother Hank, and Astronaut moved his followers into the basement with the intention to poison them as soon as it was sealed. As a final 'test' Astronaut tells his followers that Nico escaped and that a young woman in the group, Lily, must follow her and kill her in order to be 'worthy' and gain a place in the basement. Lily, who has been drugged with hallucinogenics, chases Nico into the woods and slits her throat, then returns to the basement only to find that Astronaut has gone against his word and sealed the basement entrance without her, leaving her trapped outside. Lily cuts her own throat in a failed suicide attempt, wanting to end her life rather than wait it out until the asteroid hits.

Hank's singular purpose throughout the novel is to find out who killed his sister and why, yet when he finally hears the full story from Lily, he feels no sense of closure or satisfaction: although Lily is adamant that what she has told Hank is "the whole story", Hank demands that "there must be more, I have to have *more*" (302; emphasis in original) emphasising his need for a complete story that makes sense, has clear answers and resolution, and that allows him the closure he needs to move on. He states that "[t]here are pieces missing. There has to be a reason, for example, that a slitting of the throat presented itself as the logical method" (302). Even having heard the full story, Hank feels no resolution in the answers, demanding more of Lily as if it would provide him the closure he desires, both for the loss of his sister, and for the

loss of the world. He notes that "I can't solve the crime unless I know everything and the world can't end with the crime unsolved, that's all there is to it" (302), linking the action of solving the crime with the end of the world. The "can't" of the second clause can be read in two ways: that he is unable to accept the possibility that the world might end with him not knowing the full story, but also as a refusal of the reality of the world ending – as long as he is pursuing the answers, the world cannot end. By linking the crime of Nico's murder to the end of the world, the text emphasises the impossibility of finding true closure and meaning behind senseless murder, the impossibility of finding 'meaning' behind the senseless apocalypse, and Hank's refusal to accept the reality of both deaths.

Hank's preoccupation with the investigation can be understood as a way to find purpose and seek distraction from this anticipatory and inescapable grief: solving the case is a way to distract himself from the reality of extinction, and he finds satisfaction from adhering to the rules of society and detection, providing him with a reassuring way to deny the reality of the imminent apocalypse and allowing him a degree of stability in an unstable and uncaring world. This evidences his desire to find purpose and meaning despite the brutality of the apocalypse, and his determination in continuing his investigations demonstrates his underlying desire to find a satisfactory and meaningful resolution. Yet ultimately, despite having solved the crime, Hank "[feels] nothing, he feels numb", and the thought of "the whole thing being over rolls over him, inevitable, joyless, cold" (*The Last Policeman* 282). In his investigations, Hank was able to replicate (as much as he can) the actions of normal society, and as such, postpone the reality of the imminent catastrophe; once there is no crime left to distract him, Hank succumbs to existential dread.

As a result of these failures of generic tropes, Hank struggles with his sense of self in relation to his identity as a police officer: having identified with the role of detective for so long, and with the purpose of detection now gone, he feels intense anxiety about his sense of self. He thinks about how much the presence of the asteroid has changed him and his identity, noting that "[i]t's weird to think back now, to think about who I was then" (223), and in the final showdown where he discovers the murderer's identity, instead of feeling more secure in his position as detective, the discrepancy between who he used to be and who he is now is made even more clear. Hank gives chase, yet he notes that "I don't yell 'Police!' because I'm not a policeman anymore, I haven't been for some time now" (295), referencing a scene that would be recognisable to those familiar with police procedural fiction, yet distancing himself from it

as a result of his difficulty in identifying himself as a police officer. When he reaches her, he describes seeing a "form of myself, floating up out of my body and running to get her a blanket, lift her gently, get her water, protect her […] but what I'm doing is nothing" (298). Hank imagines a ghostly version of himself enacting the role he is supposed to embody, moving through the motions expected of him by the genre, yet he is unable to make himself do anything. He is haunted by his past self who would be able to play this role, and also by the expectations of the genre – the genre which has by this point demonstrated its inadequacy when facing extinction. In this way, the novel articulates elements of uncanny extinction mapped out in Chapter One – the genre itself becomes defamiliarized, no longer wholly recognisable as the world it describes alters irrevocably. The genre is recognisable as following the familiar steps of crime novel, yet those steps are truncated, the generic framework is altered, and Hank is haunted by the uncanny reminder of the idealised detective figure who would be able to successfully solve the crime.

The text utilises elements of the Gothic in order to emphasise the breakdown of the social order and of the genre itself. Baldick argues that "Gothic fiction is characteristically obsessed with old buildings as sites of human decay" (xx), correlating the image of the building with the decay of humanity in some form – whether this is rooted in morality, civilization, or individual mental decline. Images of ruin occur throughout the novel, with abandoned police stations appearing frequently in the text: evidence rooms filled with "thick coatings of dust", "filing cabinets turned over and emptied out" and "[o]dors of must and mildew" (22). Hank highlights the loss of the security of detection when he considers this room, noting that there now is "[n]othing good, nothing helpful or hopeful" remaining – both in the police station, and in the act of policing. These spaces are left exactly as they were when they were active and signs of previous life remain: an "ancient sandwich" left "half eaten and crawling with ants", a "plastic water bottle on its side, half crushed" (24), a "long-dead flowering plant" (24), and even the scent of cigar smoke, evidence of those who lived and worked there in the time before, now existing as ruins. Martin Prochazka discusses how certain ruins appear as if "everything has been left almost as if the original residents were still there", containing "[m]aterial objects [that] still exist but the people who used them are gone" (31), just as can be seen in the items left behind in the police station. Prochazka argues that such places "may be said to produce feelings of the suspension or even the end of time" (31), an effect which occurs within these deserted police stations – as Maia and the end approaches, the ruins of the police station appear to anticipate the coming end of time itself.

The basement of the police station, the location where Hank discovers that there is no resolution and no plan to save the planet, is a mirror of the police station above: he describes it as being "like the world down here is the corpse version of the world upstairs, the decaying mirror image of what's above. Like the building died and was buried down here, underground" (238). This comparison underscores the notion of the 'death' of the police station above, an uncanny double that haunts the ruins of the station from below: as humanity is coming to an end, so too are the structures (both literal and symbolic) which guide humanity, Hank, and genre itself. Hank begins to describe himself in a similar way to the ruined buildings, aligning his crumbling sense of identity with the decaying police station.[65] When talking with Lily, he thinks about how the "composed and even casual demeanour" he is showing her "is all artifice", whilst inside he has the feeling of

> having been exploded – like all of the things that for so long have defined me, all of my habits and memories and idiosyncrasies, everything that I have built up around whatever core there is of me, all of it has turned out to be plaster, and now it has been blown up and I am watching the powder drift in the atmosphere and settle slowly on the ground. (207-8)

Just like the abandoned police station with the "decaying mirror image" underneath, Hank feels as if his internal sense of self has disintegrated, exploded into "powder" which settles on the ground similarly to the dust which covers the whole of the police station. Before he finds their bodies, Hank wonders whether Astronaut's group had gone into the basement and "disappeared, dissolved into patches of dust or shadows" (240), aligning his own feelings of disintegration with those who have sought shelter in the decaying police basement, only to find no hope for salvation or rescue, only remnants and decay. Hank is haunted by the expectations for him by the genre, expectations that he cannot satisfy in this pre-extinction state. He often imagines ghosts from his past: his family, but also his colleagues who offer him guidance in moments of distress, telling him to "[g]o on and get to work" (191), or to locate his entrances and exits as he examines a crime scene (194). These ghosts are representative of the actual losses he is experiencing or will experience: the anticipatory ghosts of people who will soon meet their collective demise, as well as those who already have. Yet they also stand to represent the 'ghost' of the detective force, and thus the genre itself, threatened just as much by Maia as humanity is.

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[65] In *Countdown City*, Hank describes himself as feeling like "a house full of burned-out rooms" (217).

By inserting the presence of extinction into the detective genre, the text includes a crime that can be solved, and a 'crime' that cannot. Hank's inability to come to terms with, or 'solve' the apocalyptic event resonates with the difficulty in conceptualising and resolving the incomprehensible nature of anthropogenic climate change: there is no one singular perpetrator that can be punished, and no way to restore the environment to how it was. Through a consideration of the annihilation of genre in the face of extinction, *World of Trouble* encourages a rethinking of generic conventions whilst also postulating a considering of a world beyond genre – a world beyond humanity.

Blurring Fiction and Reality in *Black Wave*

Tea's *Black Wave* follows protagonist Michelle in San Francisco and Los Angeles in the 1990s, exploring queer subcultures, her experiences with drugs and alcohol, and her relationships with partners, friends, and family. *Black Wave* is autofiction, a term used to describe a piece of work that is both autobiographical and fictional: part fiction, part memoir, the text describes parts of Tea's life, yet situates the autobiographical moments within a fictionalised version of the past, one in which climate change reached even more catastrophic levels in the 1990s. Midway through the narrative however, the text takes a turn: Michelle makes the decision to move from San Francisco to Los Angeles, and the Los Angeles section opens with a writer version of Michelle making the decision to 'delete' part of the story from the prior San Francisco section. From this point, the 'reality' of the book becomes less clear: multiple versions of Michelle are described, timelines overlap, and Michelle often discusses amendments she is considering making to the text. Narrative strands run alongside one another, blending and blurring and creating confusion over which is the 'real' narrative strand within the text. 1999 Michelle learns that the environmental breakdown has reached such a level that the world is due to end in one year's time; yet there is also a 2016 Michelle who lived in a world with no apocalypse and is writing the story of 1999 Michelle. There is uncertainty as to who is the 'true' Michelle within the fictional world of the novel – whether 2016 Michelle is writing 1999 Michelle, or whether 1999 Michelle is imagining an alternative world where she lives on to become future Michelle, and additional iterations of Michelle complicate matters even further.

Siddharth Srikanth argues that narratives which blend fiction and memoir "call attention to conventions governing our interpretation *of* fiction or nonfiction *as* fiction or nonfiction […]

they attempt to subvert such expectations […] [doubling] up as commentaries on the very conditions of possibility of generic forms such as the novel and memoir" (348; emphasis in original). Autofiction inherently plays with and draws attention to conventions of both fiction and memoir, and *Black Wave* specifically draws attention to its status as a fictional work, blurring the line between fiction and reality as it does so. As autofiction, the text is already a hybrid genre as it blends fiction and nonfiction; yet it also draws on other generic tropes in order to destabilise the notion of environmental catastrophe as something easily narrativized. The text deploys elements of apocalypse narratives in order to highlight their inadequacy and dispute the idea that environmental apocalypse is something to outlast or overcome. Tea also employs elements of the Gothic, highlighting the ruins of the environment, whilst also alluding to the 'ruin' of the fictional world and the text itself. Gothic fiction is already "malleable and unpredictable", its malleability "[allowing] gothic texts to merge with other forms"; this stems in part from its long history of "hybridity, migration, cross-pollination infection, and contamination", allowing it to "[seep] into places where it ought not to be" (Edwards *et al* xii). The Gothic elements of the text emphasise its hybridity and creates a sense of liminality, which ultimately results in the text itself feeling fragmented and without solid boundaries. This liminality is often represented through a disturbance of Michelle's sense of self: Michelle is aware of the generic conventions that she 'should' be abiding by, yet her awareness of their insufficiency and impossibility leads Michelle-as-writer to play with these conventions, experimenting with different iterations of herself and troubling the notion of genre itself. A consequence of this is a metafictional awareness of the text as a text and its editability, and the collapsing of the borders of the text itself, mainly its temporal and metaleptic boundaries. The porosity of the boundaries of the text, combined with the text being autofiction, blurs the lines between reality and fiction and exacerbates the uncanny feelings of extinction delineated in Chapter One. The boundaries of the text are depicted as blurry and permeable, inciting an uncanny feeling of possible infection: that the destabilised environment and extinction event in the text will seep through the text and 'infect' our own reality.

Black Wave's apocalyptic event is described as an environmental breakdown caused by human-driven climate change. In many cities, the "killer sun" has "charged the pollution in the skies into a smoggy cocktail", causing people to work later in the day to avoid the heat and pollution (6). Glaciers had "long ago melted into floods" (37), "[m]ost native plants and trees were gone, leaving hardier invasive species" (8), and much farmland is no longer sustainable, "[t]he water […] too ruined for effective farming and the animals […] out of whack" (133), resulting in

food scarcity. The crisis is positioned as something that builds incrementally in the background, a slow violence that escalates to a point of no return, and half-way through the novel, Michelle learns that "[t]he problems, the oceans, we've passed some point where it's going to accelerate" (197). The world has a year remaining before it becomes fully uninhabitable; all humanity is expected to die as rising sea levels contribute to an extreme tidal wave that will spread across the planet. In contrast to narratives which might end with the discovery of a way to reverse the effects in a technocratic save, there is no solution found for the environmental breakdown in *Black Wave*: Michelle notes that "*scientists can't reverse anything*" (197; emphasis in original), and much of the latter half of the text explores attempts to come to terms with humanity's imminent annihilation. The final pages depict Michelle writing her story as she waits for the world to end, "telling it until the words before her vanished and the very world around her was gone" (325). There is no reassurance of a resolution or survival, only an ending that anticipates extinction.

The text invokes features that are present in similar narratives of catastrophe and existential threat, and Michelle refers to these features as if they were guidelines to follow, discussing how different characters might have responded in fictional situations similar to her own. Following the announcement of the imminent apocalypse, Michelle recalls how "[i]n every apocalypse movie she had ever seen, people needed guns" (262), using the framework of an apocalyptic movie as guidance, a script to follow that will enable her to survive. Later she refers to herself as "cold as a gun-toting avatar in a video game" (270), continuing this framing of her experiences through a form of media that allows her to distance herself from reality and provide her with the strength and penchant for survival that a video game character might have. Other experiences are also described through the language and metaphor of story and film – towards the end of the text, she runs into the actor Matt Dillon and has sex with him in the book shop, as "the day [takes] on the sharp focus of an apocalypse dream" (273), offering a sense of fictionality to the experience. Michelle describes feeling "like she was a dying little girl granted one last wish by a benevolent organization […] to be in a movie with Matt Dillon and here they were in a sex scene, his prop pistol against her head" (273). She describes Matt "[beginning] his denouement", "[lifting] the gun above Michelle's head and [firing] it into a wall of books" as he finishes, then declaring "*There [...] Act Two*" (274; emphasis in original). The language of narrative and film – the prop gun, denouement, the release of orgasm, the "climax" of shooting the gun, and the declaration of the end of an act – frames the experience as a scene from an action movie. For Michelle, it becomes easier to experience the events of apocalypse

through fantasizing a narrativized understanding of it, considering it as a structured formula which might offer clear protagonists and antagonists, demarcated climaxes, closure, and resolution. By attempting to narrativize her experiences, she seeks to follow a secure storyline which offers comfort and assurance that she will survive the end, just like the characters of an apocalypse narrative.

However, it is the invocation of these tropes that draws attention to their inadequacy in this pre-extinction state. The text focuses primarily on the quotidian experience of the end of the world rather than the heroic; instead of constructing post-apocalyptic hero narratives which "reveal the undiscovered heroic potential in the most ordinary of us" (Renner 206-7), emphasis is directed towards the mundanity of the end of the world and the everyday experiences of the lives of the people who experience it. The day after the announcement that the world only has one year left, "[o]n the first day of the end of the world", the mundane remains central: "Michelle got out of bed, walked into the kitchen, and smacked some roaches" (201). The use of bathos here invokes expectations of post-apocalyptic endurance narratives, beginning the sentence with a phrasing that incites expectations for action and survival, then leading to an anti-climax by detailing the 'action' as waking up to exterminate some cockroaches.[66] Later in the day, Michelle "[realizes] the end of the world might actually be profoundly tedious. That story hadn't occurred to her" (211), accentuating the expectations for apocalyptic action versus its mundane reality. The text most clearly distances itself from expectations of the genre in Michelle's call with her brother, who works in L.A. as a filmmaker's assistant: as he informs her of the imminent apocalypse, she queries the validity of his assertions that the world is coming to an end. Kyle similarly uses filmic language, stating that they have "passed some point where it's going to accelerate and become like some sort of horrible like sci-fi movie where we all start eating each other and bands of crazed rapists roam around murdering each

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[66] It also highlights an anthropocentric perspective, with Michelle destroying cockroach life with little thought of them as living beings. Ironically, cockroaches are known to be a particularly sturdy species, having outlasted several extinction-level events: Stanley M. Aronson describes cockroaches as having "defied the remorseless inroads of Darwinian extinction and have persevered through the successive Paleozoic, Mesozoic and Devonian Extinction crises" (11). Despite the fact that "[t]housands of creatures, vertebrate and invertebrate, have been rendered extinct during those many apocalyptic intervals", the cockroach "has quietly survived" over millions of years (Aronson 11). Richard Schweid notes that cockroaches are "built for survival" (6) and have the capacity to survive extremely high doses of radiation, with cockroaches reported to have survived the nuclear disasters in Hiroshima and Nagasaki. Their resilience has contributed to a popular myth that cockroaches may be the only survivors of a potential apocalypse. By specifically using cockroaches in this section, there is a layer of irony in Michelle's actions: despite her power over the cockroaches in this moment, it is the cockroaches that are likely to outlast her and all humanity, subverting the presumption of human supremacy.

other" (197), drawing connections with expected tropes of post-apocalyptic/sci-fi narratives.[67] Michelle questions whether Kyle is telling the truth, asking "This Isn't A Treatment For A Film You're Casting?" (197), affirming the notion that apocalypse belongs solely in the world of fiction, only for Kyle to respond: "*No, I wish. Bruce Willis is not coming to save us*" (197; emphasis in original). This phrase asserts how these narratives distinguish themselves from expected tropes – rather than a post-apocalyptic hero narrative with a clear-cut protagonist who prevails, this apocalypse refuses a satisfactory solution that follows the 'steps' of an action-driven apocalyptic narrative.[68] Expectations and invocations of these narratives are raised so as to juxtapose this notion with the stark reality of environmental apocalypse. By invoking these tropes and expectations, the texts incite a frustration of generic expectations, refusing the redemption, renewal, and closure that may be anticipated.

The text also establishes that Michelle is not a conventional 'hero' as may be expected in similar narratives. Michelle describes feeling the need to universalise herself, writing herself into a character she believes would be more palatable and accessible to readers. She deletes the first part of her manuscript, her computer "daring her to try again, to tell a universal story" (139), and she thinks about why the part of her story where she takes drugs might not 'work':

> What made those crack stories work? What made them, um, universal? Michelle suspected class. The suburbanites wanted to shake off the strangling yoke of prosperity and good behavior. Michelle imagined if the characters were black or gay the story wouldn't work as well. The characters wouldn't be able to risk it, their foothold on suburbia tenuous as it was. […] he was successful, that was

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[67] Examples of the post-apocalyptic narratives Kyle is referring to here include the *Mad Max* movie franchise (1979-2015), which feature scenes of extreme violence, sexual assault, and conflict between rival gangs; McCarthy's *The Road*, which features scenes of violence and gangs of people who have resorted to cannibalism; and *The Walking Dead* television series (2010-22), which frequently positions the protagonists in violent conflict with other rival groups (at least one of whom are confirmed to be cannibals).

[68] The Bruce Willis reference is to Michael Bay's *Armageddon* (1998), an American disaster film in which an asteroid is set to hit earth and destroy all life. Willis plays Harry Stamper, an oil driller who is recruited by NASA with his crew to fly to the asteroid and drill down into its core so as to plant a nuclear bomb that will destroy it. The film epitomises the notion of the exceptional every-day hero – NASA tried and failed to successfully develop a drill that would work on the asteroid, nor were they able to successfully train their astronauts in drilling. Stamper and his team are able to do what NASA cannot, correcting the design of the drill and rushing through twelve days of astronaut training to save the day, with Stamper ultimately sacrificing himself to ensure the bomb deploys. Willis often plays the figure of an everyday saviour in his films, including the *Die Hard* series (1988-2013), Terry Gilliam's *12 Monkeys* (1995), Luc Besson's *The Fifth Element* (1997), M. Knight Shyamalan's *Unbreakable* (2000), and John Suits' *Breach* (2020).

crucial. People seemed to enjoy stories in which someone who Has It All almost
Throws it All Away, but doesn't. Redemption. For the crack narrative to succeed,
the character has to be starting out on top, with a place to fall from. […] Readers
anticipate the rungs descended. […] For Michelle's story to be universal, it can
only go in one direction, and crack does not further that trajectory. (139-40)

Michelle again discusses this concept in relation to narrative, imagining a reader anticipating
the trajectory of the story and the story following a set path towards redemption. By referencing
the requirement of redemption, this passage also recalls the theme of redemption that is found
in many apocalyptic narratives, thus drawing attention to its absence in the apocalypticism of
Black Wave. Michelle's awareness of the specificity of a certain *type* of protagonist (white, cis,
male, straight) speaks to Mitchell and Chaudhury's points about how post-apocalyptic
narratives secure the future only for a similar type of saviour/survivor, emphasising the idea
that there is only posterity for a specific narrative. Having considered this, Michelle "[strives]
to universalize herself", building a "straight, male, middle-class Michelle who did not drink
and did not do drugs" (162), yet she struggles, and "the more she thought about it, the less
universal she became" (161), as the real and fictional parts of herself clash against one another.
Michelle notes her inability to abide by certain 'universal' expectations: she states that "[i]t is
so hard for a queer person to become an adult. Deprived of the markers of life's passage, they
lolled about in a neverland dreamworld. They didn't get married. They didn't have children.
They didn't buy homes or have job-jobs" (21). Michelle describes her queer experience as one
where she refuses heteronormative and capitalist markers of adulthood, drawing awareness to
the fact that these markers are not universal and are to some, inaccessible.

The text also subverts expectations of the cities Michelle inhabits: MaryKate Eileen Messimer
notes that Michelle's experience of living in San Francisco and Los Angeles "opposes the
traditional contemporary understanding of those locations as utopian spaces where people go
to pursue fame, wealth, technological innovation, social progress, or environmental harmony",
and that Michelle's experience instead "opposes the urban utopia of the American cultural
imagination" (93). The Mission, the neighbourhood in which Michelle lives, is described as
having undergone gentrification: "[e]very time [she] blinked a familiar place had shimmered
into an alien establishment", replaced by "[r]estaurants she could not afford to eat in" (3) and
bringing in new and wealthier clientele. Michelle describes this as "a chain […] a cycle" of
which she could "sense its churn" (3-4), demonstrating awareness of how this displacement
occurred in prior generations, observing that "the Mexican families who had been there forever

had watched Michelle and her scrappy ilk invade the streets years earlier" (4). Michelle describes a bar she used to frequent, Chameleon, as being a place of comfort and security, Michelle's "first home in San Francisco" where she read her first poem to an audience. The Chameleon eventually went under as a result of the owner's drug habit, and the bar was bought and renamed Amnesia. Michelle notes the irony of the name, saying it was "so perfect it was cruel" (3); the name alludes to the 'forgetting' involved within gentrification, in displacing past inhabitants and repressing the consequences of the act. The bar is also described by Michelle as being "its own ecosystem" (3), which connects the 'destruction' and monopolisation of the bar with the destruction and domination of the environment.

By drawing attention to concerns surrounding class, race, and poverty, the text notes the ways in which environmental breakdown often impacts privileged groups more than others, drawing attention to the capitalist structures which have contributed to the environmental crisis, and how those structures result in a particular disjuncture between experiences of said crisis. Michelle describes a contrast between San Francisco's "nicer neighborhoods [where] people with money had converted their yardscapes to pebble and driftwood, stuck here and there with spiny succulents", versus her neighbourhood, the Mission, where dying trees would topple into the land: "nobody could afford to uproot the giants and so they eventually would tumble, crashing through a fence and onto the street, hopefully not killing anyone, blocking the sidewalk until the city came and dragged it away" (28). The experience of people with privilege is contrasted with those who have less privilege, accentuating the inequitable consequences of environmental devastation: a poetry competition sees teenagers sharing poems that were "channelled into rage against injustice. People were mad: at racism, at the cops, at teachers and parents, at the prison industrial complex and the criminalization of poverty. These kids hadn't had a glass of water in months. Their families couldn't afford meat" (22). The text accentuates the understanding that climate change has inequitable consequences, and not everyone has the ability to abide by these fictional markers of what it means to 'survive' an apocalyptic event as a protagonist.

The text uses Gothic tropes in order to explore the fears and anxieties related to the notion of extinction and the threat of environmental catastrophe. As mapped in Chapter One, extinction narratives create an inherent sense of Gothicity in the texts, owing to their invocation of the uncanny, their concern with 'the end', and the spectral presence of extinction. There is also an inherent contrast between the blending of the Gothic and the invocation (and rejection) of the

redemptive and teleological apocalypse, and thus narratives of human exceptionalism. Charles L. Crow observes how American Gothic often contrasts with to the U.S.'s dominant narrative of "social, economic, and technological progress" that "also asserts the doctrine of American exceptionalism", as well as "the belief that the country's essential innocence and its destiny place it above the constraints and judgments of other nations and of history" (xviii). He argues that the Gothic offers a "counternarrative" to this, providing "an alternative vision, recording fear, failure, despair, nightmare, crime, disease, and madness", and expressing "that which is left out […] our great national failures and crimes" (xviii). *Black Wave*'s deployment of imagery and language typical of that found in Gothic writing exemplifies the distinction this vision of apocalypse has from narratives of redemption, whilst drawing awareness to human culpability – the failures and crimes of allowing the environment to decay to such a devastating and irreconcilable state.

The instability of the future and the presence of environmental degradation within *Black Wave* is articulated through the use of Gothic imagery, which incites anxieties surrounding both the absent future within the fictional narrative, and humanity's own potentially damaged futures in reality. Images of ruin and decay, ghostly doubles and hauntings, and an instability of the lines of fantasy and reality occur throughout the text. Similar to *World of Trouble*, the ruins in *Black Wave* signify human and societal decline, as well as environmental. The sites of decay are the cities and the environment that are in the process of collapse; as society disintegrates as the end gets closer, people stop working (just as in *World of Trouble*), and so places become deserted and unable to function. Freeways are unusable, full of "busted cars and bodies" (297), "towns were abandoned. A gas station had been torched" (133), and Michelle describes how "[t]he shops were empty, the faucets were dry. There was a sensation that things were shutting down, switch by switch" (313). As the world comes to an end, the spaces in the novel are in the process of becoming ruins, falling into disarray and losing their intended human function. Prochazka argues that "ruins frequently unsettle the discourses of redemption, progress, and other ideological versions of histories and testify to the failures of modern economic or technological power" (29). Images such as busy cities and packed freeways, that were once a sign of human progress, architectural innovation, and population expansion, instead become signs of the degradation of humanity. Seeing these spaces lose their intended function and begin to decay emphasises the destabilisation of narratives of progress and human eminence, as they instead become a sign of the deterioration of humankind.

There is also a clear sense of decay and deterioration in the description of the text's environmental surroundings – Michelle describes walking through a neighbourhood that used to be thriving with wildlife, but is now "lined with trees in various death states", some "eaten from the inside out by invading beetles" and some "burned to stumps in an attempt to stop the outbreak"; some "starved of water by the drought" and some "so shrivelled they had toppled over and smashed like plaster" (88). Michelle describes rushing through the neighbourhood, wanting to get back to her apartment in the Mission, as it "never had much wildlife in the first place and so was not as depressing as these doomed, once-green neighborhoods" (88). These descriptions portray the trees as delipidated versions of what they once were, positioning them as sites of environmental decay similar to the sites of architectural decay often seen in Gothic fiction. Natural spaces have become tainted and degraded by human pollution: farmland is described as "dry, even charred […] the water was too ruined for effective farming", fields full of "sickly crops [that] had been abandoned" and "mangled stalks" (133). This degradation of the environment is directly linked to human action, most notably in the description of the garbage heap at the top of Michelle's apartment stairs, where normally "feng shui tradition suggested you place an altar to welcome guests and purify outside energies" (103). Michelle observes that instead

> it was a feng shui altar for their era. If nature had mostly been replaced by garbage then wouldn't a 'natural' altar be sort of phony, nostalgic even? The trash pile evoked the shores of Ocean Beach, where the tide brought industrial wreckage on the sand with the blind generosity of a pet cat leaving a kill on your pillow. The ocean wanted only to give and had been wrecked of its ability to bring anything but regurgitated garbage. Michelle thought everyone should live with a giant trash heap in their homes. They deserved it. (104)

This extract accentuates humanity's accountability in polluting the sea: the tide unearthing the repressed knowledge of human destruction of the environment, the pile of trash replacing a spiritual altar to underscore how the environment has been destroyed. The above extract also ascribes a degree of agency and reciprocity to the ocean – a reciprocity which has been tainted by the thoughtless actions of humanity.

Descriptions of the ocean in the novel add to the atmosphere of the Gothic: Jimmy Packham and David Punter observe that "to think about oceanic depths is to already be thinking in Gothic terms" (17), establishing how the ocean's "multiplicity and 'ungraspable' qualities" align it "with ways of speaking about that keystone of Gothic thought, the uncanny" (18). The sea is

"a quintessentially indeterminable medium" (Alder 4), eternally fluid and constantly changing, hiding unknown secrets and nonhuman life within its depths. The novel's name of *Black Wave* and the final threat to the planet being that all waves will "become tsunamis", and "the ocean [will eat] the land" (197), means that the narrative is haunted by the very presence of the ocean: the threat of the ungraspable, uncontainable and all-encompassing black wave crashing over the fictional world and the text itself. Descriptions of the ocean are often grotesque, described as "a giant toilet lapping at San Francisco's edges" (133), the water "clotted, a vast dumpster" (159), emphasising the mix of water and waste. The descriptions of the ocean as something viscous and 'clotted', contaminated by pollution, describes a state of viscosity, which, Mary Douglas argues, repels as it is a "state half-way between solid and liquid", and so "to touch stickiness is to risk diluting myself into viscosity" (47). The in-between state of the viscous and contaminated water poses a threat to the stability of borders, implying that the contamination could potentially spread – not just to other waters, but to the human body as well.[69] The sea is also "the repository of the past" (Alder 2), a hider of shipwrecks, bodies, bones and waste – a repository of past (and present) extractive and pollutive human practices that threaten to return, as in the case of the tide "[bringing] industrial wreckage on the sand", returning to the land the "regurgitated garbage" (Tea 104) that humanity have disposed of.

The uncanny and Gothic descriptions of the environment as being decaying, indeterminable and permeable is paired with a similar Gothicization of the human body, figuring it as something equally porous and susceptible to infection and distortion by outside contaminants. Fear of infection and contamination is a key feature of Gothic fiction: Poe's "The Fall of the House of Usher" (1839) and "The Masque of the Red Death" (1842) feature characters' attempts (yet ultimately their failure) to protect themselves from infection by a mysterious disease. Threat of contamination also stems from a fear not only of potential death, but of the body becoming irrevocably changed, such as in vampire narratives like Stoker's *Dracula*, where contamination of blood would lead to a person changing into a vampire, or zombie narratives where a bite can lead to a person becoming undead. This incites fears of the uncanny – the familiar body becoming unfamiliar, the boundaries of the body being susceptible to contamination, and the body itself being susceptible to transformation. Indeed, McFarland

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[69] Notably, Batalla describes capitalism itself as being both viscous and viral: "[v]iscous in the sense that capitalism as a hegemonic structure attaches to everything at its reach […] and viral in the sense that, through this viscosity, it manages to stretch itself to a global entity that infects everything at its reach" (9).

argues that "[i]nfectious disease creates a fascinating ontological status, the microscopic viral and bacterial infestations of our human selves an imbrication with nonhuman agency, frighteningly intimate with our fleshy bodies yet existing largely beyond our self-awareness" (91). Infection, and our susceptibility to infection, highlights our status as bodily, creaturely selves imbricated with the nonhuman world, porous and non-discrete. In *Black Wave*, the Gothicization of the human body reflects fears that the ways that humanity has damaged the environment can also damage human bodies (such as through pollutants, air- and water-borne illnesses, and indirect consequences from lack of clean air or drinking water). Simon Bacon argues that the "Gothicization of the human body [....] seems an appropriate environmental response to the kinds of human exceptionalism that is arguably at the core of mankind's mistreatment of the planetary ecosystem", and that "no matter how much we feel humans are separate from the world around us […] we are and always will be intimately entangled with it" (7). The Gothicization of the human body in these texts demonstrates that in spite of exceptionalist perspectives that presume a separation from the nonhuman that may keep us 'safe' from the detrimental effects of environmental abuse, humanity is equally as susceptible to these effects as nonhuman beings and spaces, as we are equally connected with the material world and not exempt from the negative consequences.

Language in the text often emphasises the permeability of the boundaries of the body and its susceptibility to infection from the landscape, both literal and figurative. Michelle notes how in San Francisco she begins to feel that "the city had bad vibes and they'd infected her" (85), which motivates her to move to Los Angeles. The pollution in the air is described as being particularly able to infect and remain in or on the body, Michelle observes a "smell in the air all the time, the tinny stink of environmental collapse", presenting as a "fog [which] clung to Michelle's glasses and wouldn't come off, her view of life perpetually smeared" (98), impacting her both literally, in that she can smell the fog and see it on her glasses, and figuratively, in that it is ever present and 'smears' her experience of life. On the drive to Los Angeles, Michelle describes seeing a mass of cows, detailing how the smell of cow faeces creeps into the van and lingers around them until eventually they can no longer smell it even though they know it remains. Michelle describes this in language of infection and contamination, stating how it "was creepy to know the horrible shit cloud was still with them, entering their bodies. They would try to locate it, pulling air through their noses […] but they smelled nothing, nothing at all" (134-5). These moments can be read metaphorically: humanity becomes 'smeared' with reminders of the damage caused to the planet, unable to escape these

reminders of the extent of environmental damage even if they try to ignore it. The fear of the smell invading the body is made doubly alarming by the awareness that it remains even though they can no longer smell it, which can be read as a form of denial similar to climate denialism. Porous boundaries are also established by the linking of the interior state of the characters with the external landscape, as the individual experiences of the characters reflect the apocalypse and decay of the land. Michelle wakes from a hangover and describes "the inside of her mouth [as] an apocalypse" (11), and later describes "[t]he black wave of vomit stirring inside her [commanding] she pause in the middle of the sidewalk to lean against a street sign" (238), the "wave" foreshadowing the final wave that is set to flood the planet at the end of the text. Descriptions of landscapes in Gothic fiction often mirror the mental distress of the protagonists, and this use of apocalyptic language to describe the self can be read as an inversion of this: the distressed and destabilising landscape mirrored in the descriptions of the characters.[70]

The potential for contamination or infection is also referred to more literally in the description of 'Compound Environmental Malaise': Michelle describes how the "the world [is] making people sick", a seemingly incurable illness causing people to experience "fatigue, ache, anxiety, and depression", their "joints [creaking]" and their "blood seemed to sag in their veins" (19). Although the illness is understood as being a consequence of the state of the world, there is uncertainty as to the exact reason:

> It was suspected to be the Internet. It was suspected to be computers, generally. Probably it was chemicals, in particular ones lodged in the air. It was the lack of water, how everyone was so dehydrated. It was time, which passed faster and, therefore, more abusively than it once had. It was the death of God. It was how meaningless everything was. It was the lack of trees and foliage, it was the animals made extinct and the sludge of the sea. It was all the wars being fought in far away places so that Kym could crank the air conditioning […] It was the heat. It was the heavy rains and the black mold festering in the walls like a tormented psyche. It was Compound Environmental Malaise. No one knew how to treat it. (19)

These speculations share similarities with the consequences of environmental collapse: chemicals polluting the air, water pollution leading to water shortages, loss of flora, fauna and

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[70] The language of apocalypse similarly emerges in *World of Trouble*, particularly in the repeated use of celestial language relating to the trajectory of the asteroid. Hank describes trying to pull facts together as they sit like "[s]tars in a distant sky […] almost in a constellation but not quite taking shape" (247); his thoughts "rotating and spiraling and orbiting each other in patterns" (121); he "[circles] the lid in the floor like an orbiting star" (48).

animals, and climate pollution causing shifts in weather. They also relate to the fear of non-teleological extinction – the meaninglessness of an apocalypse devoid of purpose or reason, with no God to provide redemption or revelation. The above description also relates the notion of physical infection and decay impacting people's interior state – the black mould that festers like a tormented psyche, inciting both images of abject decay and the possibility of this decay infecting the mind.[71] Through this, the text emphasises the potential physical consequences of environmental collapse, as well as the potential psychological consequences as explored in Chapter One.

This Gothic porosity of bodies within the text is mirrored by a Gothic porosity within the text itself. The textual breakdown in the text contributes to a metafictionality which generates a sense of textual instability. This is primarily explored through the fracturing of Michelle into multiple versions of herself. The genre expectations of apocalypse dictate that Michelle should embody the cliché of a gutsy heroine who has the potential to become the saviour figure. Michelle is aware of the generic conventions that she 'should' be abiding by, yet her awareness of their insufficiency and impossibility leads Michelle-as-writer to play with these conventions, experimenting with different iterations of herself and playing with the notion of genre itself. As Michelle tries to edit and rewrite herself to fit in to different 'ideals' of narrative, she fractures herself further as the timelines splinter and the demarcations of different Michelles become less clear. This fracturing causes uncanny moments of self-estrangement, and she often describes herself in somewhat ghostly ways, "[catching] a ghost of her reflection in the dark van window" (9). Her apartment in San Francisco is described as haunted, and Michelle sees herself as being intrinsically linked with the apartment somehow, initially thinking that "maybe *she* had died in such a room once", describing the "sickly gray green" as being similar to the colour of her skin, the "greige shade of a drugged-out white person" (67; emphasis in original). She begins to dream that "her room was haunted and the spirits wanted her dead" (86), and

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[71] As noted in Chapter One, the concept of an unidentified illness emerging in relation to the apocalyptic event emerges in other extinction texts, such as the "astromania" or "delusional interstellar psychosis" in *World of Trouble*, a response to the incoming collision described as a "debilitating obsession with the gigantic asteroid" (15). Hank meets a woman who is suffering from this disease, who is convinced that there is "toxic […] cosmic dust" in the air that can "burn your lungs" (15); she demands that Hank "[k]eep [his] *tongue* in [his] *mouth*", in case he tastes the infectious dust and catches the illness (15; emphasis in original). There is a double layer of 'infection' here – the impact that the presence of the imminent collision has on the mental state of the characters (Hank describes the woman as "disintegrating" (15), emphasising a breakdown of self), and the imagined 'infection' of the cosmic dust. Unidentified and incurable illnesses also emerge in *The Age of Miracles* in the form of the slowing syndrome, and in *Something New Under the Sun* in the form of the WAT-R illness.

even when she moves to LA, the ghostliness of the apartment remains: Michelle describes her "gruesome apartment" as having a "vibe of wrongness" (178), and she "[moves] through her bathroom gingerly as if through a haunted house" (204). This haunting can be read as a reflection of her psyche as she struggles to secure her pre-extinction sense of self, but can also be read more broadly as a 'haunting' of the expectations for her – from both life, and from readers. At one point, the ocean is described as having "an eerie fog [coming] off it like something out of a Stephen King story" (159), referencing a particular kind of contemporary Gothic horror genre and emphasising how the memoir and apocalyptic elements of the novel are becoming 'infected' by the Gothic, the genres bleeding together.[72]

By featuring elements of the apocalyptic and Gothic genres, the already-hybrid form of autofiction becomes even more hybridised. Yet a consequence of this hybridity combined with the emphasis on porous boundaries means that the text itself appears open to further blurring – blurring with reality itself. By setting the text in the real past, establishing it as being partly factual insofar as it describes Tea's personal experiences in the 1990s, the line between fiction and reality already appears blurry, yet Tea threatens that line even further by her inclusion of 'writer' Michelle who is able to amend and rewrite parts of the narrative. This raises questions as to what is true and what is false within the narrative, emphasising the ease with which it can be rewritten and creating uncertainty as to where reality begins and ends. This self-editing has emotional consequences on 2016 Michelle: after deleting the first pages, 2016 Michelle describes "[feeling] like she'd deleted her stomach, something vanished in her" (139). Michelle's partner Quinn begins to feel anxious as 2016 Michelle tells her of the amendments she has made to their fictionalised life story:

> *Wait, I'm really confused.* Quinn felt a rising panic as she sat there on the carpet of Michelle's studio apartment. *What do you mean we haven't met?* An existential chill ran through the girl. It felt true. Something about this whole connection had felt otherworldly, like Quinn was experiencing everything through a shallow pool of water. Life wavered. She'd thought it was the drugs. (145; emphases in original)

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[72] Stephen King is famed for his horror fiction, many of which include Gothic elements: *Salem's Lot* (1975) features vampires in a small town; *The Shining* (1977) follows a family living in an isolated hotel in the winter, includes numerous ghosts, and ends with the mental breakdown of protagonist Jack who attempts to murder his family; and *Pet Sematary* (1983) sees the revival of deceased animals (and eventually deceased children) after they have been buried in an ancient burial grounds. For a detailed engagement with the Gothic in King's work, see John Sears (2011).

Both Michelle and Quinn begin to feel this sense of unreality, an uncanny instability underlying their experiences. There is a recurring sense of the characters feeling haunted by alternate versions of themselves: towards the end of the 1999 narrative, the characters experience dreams of the lives they might have lived had they all survived. Michelle's future partner, Ashley, visits her in a dream and describes being able to 'hack' into the dreams they are having and stay there, the dreams eventually becoming another world where "[t]here are still problems but everything isn't so ruined […] some alternative life, a second-chance world" (292), one where the world does not end. She gives Michelle a folder with the details of her life if she were to survive – her 'real' unedited life, including her 8-year relationship with her previous partner Lucretia. Jumps in time cause the lines between realities to become even less discernible, resulting in a blurring between 2016 Michelle's existence, and that of the Michelle in pre-apocalyptic 1999: her mother Wendy asks a question about her current relationship, prompting Michelle to note that she "couldn't remember which version of the story she was in. Was It A Teenager Or A Married Woman?" (157). Although this chapter is set in the 2016 time, the apocalyptic atmosphere of the 1999 era seeps in: she discusses the "brutal constancy of the Southern California sunshine" and the potential need for a visor or a sun umbrella, and she describes her apartment as housing a "strange parade of end-time insects doing their last waltz underneath the kitchen sink" (145). This has the effect of making the threat of environmental breakdown present over the entirety of the narrative, regardless of the time period or if the scene is 'real' or 'fictional'.

The breakdown of the metaleptic layers of the text emphasises the breakdown of the environment and the threat of extinction – the requirement of the fracturing and combining of genre in order to articulate the complexity of environmental breakdown. It also speaks to the threat that environmental extinction poses to the symbolic archive in which Michelle as a writer is attempting to secure herself. This anxiety emerges when Michelle begins to wonder the point of writing a novel when the world is coming to an end:

> What was a story if you didn't even exist? Michelle observed the way she told the same stories about herself, thereby cementing this false idea of self harder and harder in her psyche. It was all ego. There was no Michelle, so how could there be her memoir? (152)

Michelle identifies the false sense of self she is creating through writing her story, and goes further to directly link herself to the text – if there is no self, there is no text; correspondingly, if there is no future, what use is a story if no one will read it? Sherry R. Truffin identifies this

self-awareness and identification of author with text in "self-conscious, metafictional postmodern works that examine the discourses by which subjectivity is constructed", arguing that such texts feature author-protagonists who "fear what they create because their creations are re-creations, projections of their creator's anxieties, some conventionally Gothic (the multiple or split self) and others specific to postmodern conceptions of subjectivity in general and authorship in particular" (57). Truffin notes that the texts imply that "the writing life is a Gothic trap: if the author is identified with his text, if he exists only in writing, then writer's block is the threat of annihilation. At the same time, so is the successful completion of the text" (57). This type of Gothic trap is evident in *Black Wave*: Michelle finds herself being created and recreated, her anxieties portrayed on the page as she attempts to universalise herself and seek posterity, frequently raising concerns relating to the authority of authorship and other people's attempts to control what she writes. Yet these anxieties also stem from general concerns about environmental breakdown in reality: environmental emotions such as Albrecht's solastalgia describe the distress experienced when a person's home and environment shifts to such an extent that it becomes unrecognisable. How might people's sense of self become eroded when the space where that sense of self was created has disappeared?

Black Wave ultimately becomes a Gothic trap exemplified: the text ends with 1999 Michelle sitting down to write the events of the novel: "Michelle opened a blank document. She imagined a girl whose openness to everything was its own current, pushing her into life. She began to type" (325). The first line she types is the first line of the novel itself ("*Michelle wasn't sure when everyone started hanging out at the Albion*."). By looping back to the beginning, there is an implication that the text Michelle is writing is the one the reader finds in their hands. This incites a sense of ephemerality and an awareness of the insecurity of the symbolic archive – the reader becomes aware that the text itself, held in their hand, could be understood as the final remainder of a fictional world. Michelle is identified with her text, and the successful completion of the text correlates with literal annihilation in the form of apocalypse. Yet Michelle cannot even rely on the security of the in-text text continuing when the metafictional Michelle is destroyed, as her world will not continue. The text ends in a doubled symbolic dissolution. By emphasising this liminality specifically in a work of autofiction, the metaleptic boundaries of the text itself appear similarly open to transgression; that the environmental apocalypse of the novel can equally 'slip' into the world itself. This liminality exacerbates the uncanny feelings incited by extinction narratives: of reading the experience of a familiar world to our own succumbing to annihilation. The uncertainty between fiction and reality alongside

the blurring of the frame narratives creates an uncanny sense that the final frame of the text (that of reality) may collapse too, allowing the environmental collapse to infect our own past and present. The text provokes a sense that our own world, beyond the fictional one of *Black Wave,* could be equally susceptible to decay and dissolution: and in fact, draws attention to the knowledge that it already is.

Conclusion

With the realisation of the extent of anthropogenic climate change and the Anthropocene, comes the understanding that certain ways of viewing the world are no longer sustainable if humanity is to remedy the damage already done and prevent further collapse into annihilation. Certain prevalent ideologies, such as human/nature binaries or the presumption of human exceptionalism and guaranteed human prevalence, are troubled by, and indeed *should* be troubled by, the awareness of humanity's impact on the planet. As such, it is unsurprising that genres which may have traditionally followed particular guidelines may also begin to falter in the scale of such long-ranging and incomprehensible devastation. As argued in this chapter, genres which might have traditionally been focused on smaller scales – the interiority and human-centric nature of memoir, the specifically located timeline and human investigation of detective fiction, the individualism and exceptionalism of the apocalyptic narrative – begin to expand out to include the global, the planetary, and the nonhuman. The presence of extinction in these texts pushes the generic parameters to their limits, encouraging a reframing and rethinking of conventional understandings of genre.

Indeed, as I have mapped in this chapter, extinction narratives are often haunted by the genres' past iterations. As Punter notes, ruins can act as an uncanny reminder that "history that is constantly under the threat of erasure" (105). These extinction narratives imagine the possibility of human history being erased, and consequently, they become haunted by the symbolic ruins of genre itself: the generic frameworks haunting the text in a "ghostly persistence" (Punter 105). The tropes, scenes and themes that are familiar to a reader are made unfamiliar, reflecting the sense of being off kilter that occurs when considering the Anthropocene; intertextual references and metafictionality ground the narratives in order to then emphasise their unmooring. Extinction narratives become a genre of the uncanny: unbound, fracturing, *heimlich* yet *unheimlich*, and ultimately, approaching the void. Yet, as I noted in Chapter One, feelings of the uncanny can be politically motivated, utilised as a way

to refute and reframe destructive constructions of reality. The collapse of genre in these narratives can be aligned with the desire to intentionally collapse those ideologies which have contributed to climate change: ideologies which create hierarchical separations, configuring humanity as having mastery over the nonhuman world, instead of acknowledging its integration within it. These novels refuse to adhere to specific parameters, instead featuring a genre seeping, a genre mutation, a genre entanglement that reflects the reality of the entanglement of the world.

CHAPTER THREE

INTERGENERATIONAL (DIS)CONNECTION IN
LOUISE ERDRICH'S *FUTURE HOME OF A LIVING GOD*
AND LINDSEY DRAGER'S *THE ARCHIVE OF ALTERNATE ENDINGS*

'Everyone must leave something behind when he dies,' my grandfather said. A child or a book or a painting or a house or a wall built or a pair of shoes made. Or a garden planted. Something your hand touched some way so your soul has somewhere to go when you die, and when people look at that tree or that flower you planted, you're there.

~ Ray Bradbury, *Fahrenheit 451* (1953)

Whatever man has done for good or ill has been done in the knowledge that he has been formed by history, that his life-span is brief, uncertain, insubstantial, but that there will be a future, for the nation, for the race, for the tribe. That hope has finally gone except in the minds of fools and fanatics. Man is diminished if he lives without knowledge of his past; without hope of a future he becomes a beast.

~ P.D. James, *Children of Men* (1992)

Speaking to the Future; Listening to the Past

Assurances of meaning and purpose are often derived from connection with past and future generations, through the awareness of being a link in the chain of generational and temporal succession. Hatley describes this as being in a *genos*, which involves being "a member of that group in which relationships are articulated by means of an engendering and nurturing through time, the mothering and fathering of succeeding generations" (60). This status as being part of a genus relies on the inherent presumption that as a generation dies, they will be followed by a subsequent generation who "takes up with the lives of the preceding generation" (Hatley 60). Beyond the literal genealogical connection of reproductive succession, generations are connected through the traces they leave behind: whether this is knowledge, history, cultural norms, or indeed, stories. People can "[pass] on one's wisdom, memory and traditions, even as one passes away", connecting the past and the future through a legacy that contributes to cultural identity and memory: indeed, "the very existence of wisdom, memory and tradition in

oneself is itself an inheritance one has received from those who have lived before one's life" (60). People are both products of and carriers of history, and connection to other generations can contribute to shaping individual and collective identity.

Literature and stories are a vital element of inheritance: they play a key function in communicating across generations, and can help with influencing, and understanding, cultural identity. Allan H. Pasco considers how although literature may not "be an exact mirror or have a one-to-one relationship with objective reality", it is still a "response to reality, whether by reflection or reaction", and as such, can be seen as a "cultural repository" (374). Literature can give insights into what a culture deemed important, or highlight cultural prejudices, fears and anxieties. Engagement with literary works creates a dialogue between present reader and past author, or present author and future reader – a way to remember and understand the past and communicate to the future. Literature can also influence social and cultural identity: Hakolo and Kivisto state that "literary works continue to shape the culture long after their authors' deaths" (xiii), contributing to cultural memory and shaping beliefs and values across generations. Literature is a way of ensuring the transmission and survival of culture, history, and posterity.

But what happens when the presumption of posterity is removed, and when there is no future generation of readers to write towards? When the very presumption of continued human culture is destroyed? Extinction troubles the security of the future, which in turn troubles the way we think about history, memory, and connection with both past and future. Postulating two thought experiments that consider potential human responses to extinction events, Samuel Schleffer argues that the assumption that there will be a collective afterlife beyond our individual annihilation underpins how we ascribe meaning and importance to the actions we undertake in our lives (43).[73] Our assumption of having had a meaningful human life "relies on an implicit understanding of such a life as itself occupying a place in an ongoing human history, in a temporally extended chain of lives and generations" (Schleffer 43). The assurance that individual life exists as a link in a chain of intergenerational connection relies on the assured continuance of that chain. When humanity is threatened by the possibility of extinction, the assurance of continued legacy and posterity is removed. The annihilation of not only

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[73] The first is the doomsday scenario, where the subject imagines that all of humanity will be destroyed by an asteroid 30 years after their individual death, and the second is the infertility scenario, where the human race becomes collectively infertile, resulting in imminent and inevitable human extinction.

individuals, but of *all* individuals, denies the assumption of continuation, both genealogically in human lineage, and symbolically in culture, heritage and memory. The connection to the future is severed; the promise of remembrance denied.[74]

This chapter explores the complexity of this strained relationship with the future and the past as it arises in extinction narratives, exploring their engagement with intergenerational connection through the notions of reproductive posterity and archival preservation. I discuss the presence of intergenerational connection within two extinction texts, Erdrich's *Future Home of a Living God* (hereafter *Future Home*) and Drager's *The Archive of Alternate Endings* (hereafter *Alternate Endings*), examining how these texts rely on notions of intergenerational connection during a threat to humanity's posterity; yet when facing extinction, these concepts become inherently troubled. In exploring the possibility of extinction, the texts draw awareness to the fallibility of these concepts of futurity, which in turn encourages a consideration of how the concepts of futurity are already fallible and susceptible to manipulation. Gan *et al.* observe the importance of looking to the past when considering the impact of anthropogenic climate change: "[o]ur era of human destruction has trained our eyes only on the immediate promises of power and profits. This refusal of the past, and even the present, will condemn us to continue fouling our own nests. How can we get back to the pasts we need to see the present more clearly?" (2). It is important to look at the past in order to consider how oppressive and hierarchical ideologies, such as those sustaining capitalism and colonialism, have contributed to exploitative and exclusionist historical processes which often linger in the present: perspectives that have equally contributed to the abuse of the planet. The texts discussed in this chapter use the insecurity of their narratives' future to interrogate the perceived inherent security of the future historically, unearthing the fallacy of the assumption of an equitable future for all: for Erdrich, this is through an engagement with Indigenous histories, and for Drager, through an engagement with LGBTQ+ histories. I look to how considering extinction

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[74] This idea of the importance of each individual as a link in a generational chain is explored in Kevin Brockmeier's *A Brief History of the Dead* (2006), in which the dead move to a form of afterlife referred to as 'the City', yet they only stay there for as long as they are remembered by someone still living on Earth. When all those who remember a person die, that person is extinguished, disappearing into oblivion. The novel begins in the midst of a global epidemic, which is swiftly killing all human life on Earth. Initially the number of inhabitants in the City expand rapidly, as the high numbers of the dead are sustained and remembered by similar numbers of the living. Yet as the numbers on Earth dwindle, so too do those remembered in the City, until only one human is left alive, a wildlife specialist isolated in the Arctic, and the only dead left in the city are those remembered by her. Laura ultimately succumbs to the dire conditions of the Artic, and as she does, the City and those who inhabit it disappear for good.

offers an opportunity to consider alternative and potentially more productive approaches to notions of futurity through their exploration of and engagement with the nonhuman, and I argue that these approaches are vital when considering and reversing catastrophic climate change.

Inherently linked to the presumption of a future for humanity is the presumption of the reproduction of future generations, an assumption that is often emblemised through the image of the child. Rebekah Sheldon argues that the child is a "generational promise" (84) in which hopes for the future are invested; when the future of humanity is threatened, so too is the assurance of that promise. Concerns about humanity's future are articulated through concern about future children and children's futures: this manifests in narratives of apocalypse and catastrophe which often foreground the importance of saving children or preserving the world and culture for future children, as well as more broadly in cultural and political discourse which foreground the importance of saving the future for our children.[75] The image of the child offers hope, both literally and symbolically, that despite potential threats, there will be a future in which the child can grow up, and that that future will have resolved any present threats or concerns.

The child often emerges as a significant symbol within apocalyptic and dystopic fictions: Sheldon explores the presence of this image in apocalyptic and dystopic narratives, asking "why, when we reach out to grasp the future of the planet, do we find ourselves instead clutching the child?" (vii). Such narratives feature the figure of the child as a beacon of hope that promises continuation of the human race.[76] The image of the child offers a reassurance of a secured future for the present, presuming an endless continuation of human reproduction that will safeguard the relevance of human pasts, presents and futures. This can be seen literally, as in Alex Proyas' *Knowing* (2009) where an alien species saves a young boy and girl from a collapsing Earth to take them to another Edenesque planet, or it can occur more symbolically – the survival of the two children at the end of Josh Malerman's *Birdbox* (2014) offers hope

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[75] This kind of discourse is most clearly identified in the rhetoric of the speeches of climate activist Greta Thunberg: "You have stolen my dreams and my childhood with your empty words […] The eyes of all future generations are upon you. And if you choose to fail us, I say: We will never forgive you" (n.p.).

[76] Examples referred to by Sheldon include Bong Joon-ho's film *Snowpiercer* (2013), Margaret Atwood's *MadAddam* trilogy (2003-13), and Alfonso Cuaron's film adaptation of *Children of Men* (2006). Further examples include King's *The Stand*, McCarthy's *The Road*, *The Walking Dead* television series, *The Last of Us* video game (Naughty Dog, 2013) and subsequent TV adaptation (Greg Spence and Cecil O'Connor, 2022), Emmerich's *2012* and Krasinski's *A Quiet Place*.

that the next generation will be able to prevail despite the threat of the novel's otherworldly creatures. The future is therefore preserved through the promise of reproduction, as the child becomes a symbol of human continuation and human potential. The child connects to both past and present and assures "humanity's historical continuance", a "straddling character" with "one foot in the future and one in the past" (Olson xi), linking the threatened present to the possibility of a future, whilst also linking back to an idealised past that might one day be restored. As a symbol of innocence, the child also reinforces apocalyptic tropes of renewal and redemption: Andrew Tate identifies the recurring presence of the child within (post)apocalyptic fiction as fitting "the messianic logic that is a displaced legacy of Judeo-Christian apocalypse: s/he might be a herald of new possibilities, an alternative to the failed, decaying old order" (128).[77] The child offers a possibility that humanity may begin anew redeemed from past sins; the child becomes "burdened with a responsibility of overturning the world created by previous generations" and "putting right their parents' horrible sins" (Tate 128), ushering humanity into a new world in which to begin again.

Yet the symbol of the child signifies only an idealised and constructed image that, as Lee Edelman notes, is "not to be confused with the lived experiences of any historical children" (11). The image of the child is culturally constructed; therefore, any cultural ideologies or predilections are secured and reproduced in that image. Stephen Bruhm and Natasha Hurley argue that although the child is a "product of physical reproduction", it equally functions as "a figure of cultural reproduction" (xiii). If certain cultural ideals about the child or about the future the child symbolises are normative or exclusionary, then the future that child emblemises will retain these normative ideologies. Edelman calls this notion "reproductive futurism", arguing that such constructions of futurity risk simply 'reproducing' the present, with all its flaws. They render any alternative imaginings of the future as implausible and unintelligible, risking simply replicating normative structures. Edelman speaks specifically to the preservation of "the absolute privilege of heteronormativity" (2), resulting in a symbolic framing of futurity that provides no opportunity outside of heteronormative kinship and relations, carrying an inherent presumption of human progeny and ascendancy and often refusing the possibility of alternative imaginings of futures. When considering a present (whether fictional or real) that is at risk of annihilation, particularly if this is as a result of

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[77] The figure of the child also has particular significance within Christianity, through the figure of Jesus Christ during his infancy.

human action (or inaction), a simple uncritiqued replication of that present in the future risks the development of the same issues, and ultimately end in the same collapse. This is explored in post-apocalyptic narratives where, despite mass death and the collapse of society 'as we know it', the retention or restoration of past cultural norms or structures contributes to further disaster.[78]

Extinction ends the possibility of reproduction – with no possibility of survival, there will be no future child who might survive and persist so as to redeem the sins of their ancestors and build the world anew. Instead of securing the child as a symbol of hope for a future, Erdrich's and Drager's texts use imagery of children and reproduction to demonstrate how the image of the child has lost its ability to represent posterity: with the certainty that complete annihilation is imminent, there is no opportunity for a next generation to restore humanity and society in a newly redeemed world. As Michelle states in *Black Wave*, there will be "[n]o babies, no planet, no future" (269), signifying the link between child and future that Sheldon describes. Michelle explains that "everyone who had become pregnant was having an abortion and those who weren't looked disturbed […] too far along, committed to the things inside their giant bellies. They looked like animals at the pound, stuffed into too small-cages" (270). Instead of being seen as evidence of posterity and human continuation, pregnancy becomes a source of additional suffering, a trapping that subverts the trope of the child as a source of possibility, instead positioning it as a form of containment. In these worlds of pre-extinction, the child is not a symbol for the future – it is a symbol for the lack of one. When this symbolic child is linked to anxieties about the future, particularly when exploring environmental catastrophe, the child becomes

> tethered to a future that can no longer be taken for granted […] much of the horror
> of ecological disaster comes from the projected harm to the future [the
> consequences of climate change] portend. And the future is the provenance of the
> child. (Sheldon 3)

The image of the child as a source of hope and an assurance of posterity becomes threatened when facing environmental collapse. As a representative of the continuation of humanity, the

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[78] An example of this is in Russell Hoban's *Riddley Walker* (1980), where thousands of years after a nuclear war, a now prehistoric society attempts to recreate the atom bomb. This concept can also be seen more generally in novels where patriarchal and capitalistic structures and attitudes remain post-apocalypse: Bethany Benkert notes that often in narratives of post-apocalypse, it is common to see that "traditional patriarchal systems that were present before the disaster routinely dominate the rebuilding process" (39).

child is intrinsically linked to the concept of the future; and when the certainty of the future becomes insecure, so too does the symbol of the child. There is also an uncomfortable element present in considering reproduction and children as a symbol of a secured future when overpopulation is a major contributor to increase in emissions and lack of resources. Yet reducing overpopulation through reproductive control holds its own issues – who decides the limits on having children? How might class, race and disability factor into these decisions? How might these concerns already have arisen in the past?

These texts use the presence of extinction to enable an exploration and critique of how this notion of futurity has and can continue to be abused. As noted in the introduction, the United States has a history of reproductive control and exclusion which was often racialised and rooted in xenophobia, racism, and eugenics, including forced sterilization of BIPOC women and women with disabilities, contraceptive coercion, contraceptive testing, and medical experimentation without informed consent. D. Marie Ralstin-Lewis details how during the 1960s and 1970s, "many policy makers and physicians targeted Native women for involuntary birth control and sterilization", and resultingly, in the following decades, "the birthrate for Indian women fell at a rate seven times greater than that of white women" (71-2). Ralstin-Lewis notes that this statistic indicates that "the sterilization and birth control campaign was significantly more than an attack on women in general – it was a systematic program aimed at reducing the Native population, or genocide" (72). Even today, LGBTQ communities face barriers to reproductive and sexual health: "[t]he health care system in the United States has historically failed and largely continues to fail LGBTQ people, with LGBTQ patients experiencing health disparities across the lifespan because they face multiple, and often compounding, barriers to accessing appropriate care", including anti-LGBTQ+ discrimination, a lack of competency or understanding of the diverse needs of LGBTQ+ reproductive and sexual health care, and intersectional oppression (Dawson and Leong n.p.). By exploring the image of the child alongside engagement with Indigenous and LGBTQ+ histories, Erdrich's and Drager's texts are able to query the notion of reproductive futurity.

Linked to futurity and the security of humanity is the notion of the archive – a literal and symbolic concept that is also troubled by the notion of extinction. In its most literal understanding of the term, the archive can be described as a place where items of historical significance are held, ordered and preserved so that future generations can access them. The notion of the archive can offer an assurance of the continuation of collective histories, heritage,

and culture, securing an illusion of continuation and preservation and linking those who contribute to it with those who access it. Considering the contents of the archive allows the possibility to create connections with both the past and the future: just as the archive is oriented to the past, it is simultaneously forward-facing, as contributing to the archive in the present requires a consideration of a future in which the present is perceived as historical. The archive can also be understood abstractly, in that it encompasses the history and preserved collective memory of a culture or group of peoples, and often plays a prominent role in the construction of the self as a member of wider cultural groups: Richard Harvey-Brown and Beth Davis-Brown describe the act of archivy as "the storing and ordering place of the collective memory of that nation or people" (17), understanding it as a body of material that can be referred to in order to protect cultural or institutional memory.

Anxieties surrounding the preservation of the archive often emerge in fictions of apocalypse or collapse. Dilletta De Cristofaro identifies a "post-apocalyptic archive fever" present in post-apocalyptic narratives, defined as "the impulse to preserve the pre-apocalyptic world before it is lost forever" (164). This desire to preserve sometimes stems from practicalities, such as retaining important knowledge on farming, electricity, or medicine. Other times the focus is on cultural remembrance, preserving histories and cultural texts and artefacts deemed important. Acts of archival preservation are linked with a desire to preserve then rebuild society following a moment of apocalypse, recalling the concept of redemption and renewal detailed in the apocalyptic narratives discussed in the introduction. Yet these post-apocalyptic narratives are also filled with "images of destroyed archives" which "indicate how the contemporary post-apocalyptic novel is haunted by the nightmare of our culture's impermanence and insignificance, especially in the face of an apocalypse that irrevocably alters societal structures" (De Cristofaro 164). The desire to preserve stems from an awareness of culture's eradicability, and the notion of preserving the archive, both symbolic and literal, is tied with the preservation of humanity; equally, the threat of the annihilation of the archive is tied up with the annihilation of humanity. Ji Hyun Lee argues that the compulsion to archive within apocalyptic texts is itself a "result and a symptom" of apocalypse itself, and that archives, "which are physical representations of memory, constitute a manifestation of the repetition compulsion that is triggered by the trauma of apocalypse" (3). Archivy, despite being threatened by the possibility of collapse, is simultaneously a symptom of collapse and its anticipation.

Clearly, the archive is not guaranteed permanence, nor is the interpretation of its contents guaranteed accuracy: the archive is limited in its connection to the future. In a discussion of archival anxiety within nuclear fictions, Bradley J. Fest details three limits of the archive: destruction, illegibility, absence (85-6). In a fictional world where devastation is likely, whether through nuclear explosion, zombie apocalypse, or climate collapse, the possibility of the literal destruction of archival material is high. Derrida argues that the archive requires spatial situating, needing "consignation in an external place which assures the possibility of memorization, of repetition, of reproduction" ("Archive Fever" 11). There is an assumption of the archive being localised in a specific place, so as to protect, preserve, and access its contents; yet this presumption of localization is threatened when considering the potential consequences of environmental catastrophe. In posing a threat to the security of the planet, environmental catastrophe threatens the spatial security and assumed longevity of any archive which exists spatially on Earth. Archives have always faced environmental threats: risk of fire, water damage from floods, overexposure to light or humidity, or pest infestations all risk damaging archival contents. Yet the possibility of these threats are of an increasing concern in relation to climate change: studies have shown the susceptibility of archives to rising sea levels, storms, wildfires, humidity and other climate risk factors,[79] and institutions such as the Smithsonian have implemented anticipatory Climate Adaptation Plans in order to prepare for potential threats posed to the archival contents they hold.[80] Although some archives have worked to provide digitised forms of material as a form of risk management (as well as increasing accessibility), digital archives are also at risk, whether as a result of data corruption or data loss due to human error or technical error, or due to environmental damage to data servers.[81] Furthermore, any shift in the way digital or online data can be accessed could result in an inability to access the archive itself, thus losing its contents unless they can be restored.[82]

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[79] See Tara J. Mazurczyk *et al.* (2018) for an examination of the growing risks of climate change to American archives.

[80] See the Smithsonian Climate Change Adaptation Working Group's *Roadmap for the Development of a Climate Change Adaptation Plan* (2013).

[81] There are also concerns regarding the climate footprint of digitizing archival material – see Keith L. Pendergrass *et al* (2019).

[82] The concept of losing access to digital technology has been explored in several apocalyptic narratives – for example, William R. Forstchen's *One Second After* (2009) sees the U.S. lose the ability to use electrical technology following an electromagnetic pulse attack. Although the apocalyptic event in both Mandel's *Station Eleven* and King's *The Stand* is a worldwide pandemic that has no direct environmental impact, the huge loss of people to work the systems which keep civilization running means that the internet is no longer accessible. Bell's *Appleseed*, discussed in Chapter Four, explores more explicitly the notion of digital archivy and its susceptibility to loss.

Securing information in an archive, regardless of the archival form, does not make it immune to destruction and loss.

The second limit of archivy concerns the archive's becoming illegible – the fear that despite humanity's best efforts to preserve contents of an archive, future archivists will be unable to comprehend its intended meaning. This could be owing to humanity losing the ability to read or understand the languages used to write the archive, or as a result of a loss of context which leads to a misunderstanding of the archive's contents. Indeed, there are many historical archives which have been lost or damaged, either accidentally or intentionally: the most well-known being the fire destroying the contents of the Library of Alexandria in Egypt in 48 BC and the raiding of the Imperial Library of Constantinople during the Crusades in 1204, with more recent examples being the destruction of the contents of the Iraq National Library and Archives by American and British armed forces in 2003. Within narratives, anxiety surrounding potential loss of archival material is often paired with a loss of civilization 'as we know it', featuring a form of technological, scientific, or even linguistic regression owing to a loss of access to or comprehension of knowledge. Walter Miller's *A Canticle for Leibowitz* (1959) contains an example of the latter, following a scribe's attempt to interpret a pre-apocalyptic manuscript deemed to be of great importance, yet which turns out to be mundane blueprints. Fest argues that the revelation of the manuscript as being unimportant "[emphasises] the archive as a site of misreading", and thus demonstrates that "a hermeneutics of the archive, particularly a post-nuclear archive, will necessarily involve misinterpretations" (85-6). These explorations of long-term archival misreading highlight how communication with far-future generations might pose complex communicative difficulties.[83]

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[83] The fear of misreading extends beyond fictional examinations of post-apocalyptic archivy: attempts to formulate long-term storage systems for radioactive waste have explored the difficulties in communicating across deep time. The long-term half-life of nuclear waste means that storage sites may be required to stay secure for over 100,000 years in order to protect future generations. Beyond the architectural problems of creating a physical structure that lasts over such a long time, there are communicative problems – how best to communicate to future descendants who may not understand language and signs in the same way humanity does now? Scientists, engineers, linguists and artists have explored various methods to communicate danger in a universal format that does not require language: potential suggestions for universal warning systems have included use of signs that imply death such as skull and crossbones, the construction of threatening architecture such as a 'Landscape of Thorns' or 'Forbidding Blocks', growing genetically-engineered blue cacti, and even the breeding of glowing 'radiation cats' which would change colour when near radioactive emissions to indicate nearby threat. These non-linguistic signs of warning risk being interpreted as enticing, of protecting a space that contains riches rather than risk. See Kathleen M. Trauth *et al.*'s report for Sandia National Labs (1993) on proposed markers to deter people from entering nuclear waste sites, and Francoise Bastide and Paolo Fabbri (1984) for more on living radiation detectors as a form of long-term nuclear communication.

These first two archival anxieties are not limited to apocalyptic moments – the possibility of archival erasure or archival misreading is a possibility within any historical period, whether accidental or intentional. Fest's final archival limit is the most pertinent to the concept of extinction – the anticipated absence of anyone being around to read it. The act of archiving is future-oriented, with the archive being "not a passive record, but an active producer of the present: an 'archiving archive' which structures the present in anticipation of its recollection" (Currie, *About Time* 12). Archivy assumes a future in which the careful collation of documents and ephemera will be read and analysed by a future archivist, and yet extinction provokes a disruption of linear temporal succession in a way that impacts the way we consider the future. The meaning-making security offered by archiving risks losing that security when there is no future to which to orient oneself to, and no future archivist to examine the contents. It severs the link, leaving the contents of the archive and the desire to archive troubled: what is the intention of archiving if not to preserve the present for a future reader? Furthermore, the complete annihilation of humanity would ultimately mean the annihilation of the symbolic archive itself – the absolute absence of representation and the complete loss of human context, meaning, and understanding. Even if material elements of the archive were to survive, there would be no viewer who would retain the human context which informs its meaning; the items in the archive would lose their frame of reference and lose their human-given importance. The act of archiving within extinction texts thus becomes a fantasy of immortalisation and posterity – an act that attempts to ensure a legacy whilst simultaneously being aware (however repressed the awareness is) that no one will survive to experience that legacy.

Just as reproductive futurism is not a neutral concept, neither is the concept of archivy. The process of selection, exclusion, and discrimination required in archival proceedings means that, as Helen Freshwater observes, "the archive does not contain the complete record of the past that it promises" (739), and although some exclusion may be unintentional, other exclusion has been deliberate, discriminatory, and violent. Michel-Rolph Trouillot argues that "[t]he presences and absences embodied in sources […] or archives […] are neither neutral nor natural. They are created" (48). Sources are not inherent to the archive: indeed, archival material is chosen by people who are fallible and may hold prejudices, and the choice of what is included and excluded in an archive may be influenced by their biases. Gaps and absences

in the archive are therefore actively produced, not a passive occurrence but a direct and potentially violent act of erasure. Trouillot argues that silences enter the historical record in four stages, points in the archiving process when decisions are made (either intentionally or subconsciously) that impact what is included and therefore influence what we understand to be historical fact: the point where original records or sources are created; the moment when the records are selected to be placed into the archive; the moment where the records are retrieved from the archive and used to create a narrative; and, the retrospective point at which the archive is analysed for historical significance. At any point within these stages, inequalities can occur, and classification systems often reflect social or political hierarchies via their processes of selection and exclusion: archives are far from impartial sites of historical preservation, but are "active sites where social power is negotiated, contested, confirmed" (Schwartz and Cook 8). Just as with reproductive futurism, what is contained within an archive is often a reflection of what is currently valued by that society, as well as being a way that society creates value. The idea of a cultural 'memory' is not necessarily fixed, but constantly shifted depending on who is coming to the archive: memory "is not something found or collected in archives, but something that is made, and continually re-made" (Schwartz and Cook 8). Communication from the past is restricted to those who have the authority to access and contribute to the archive itself.

The United States has a particularly torrid history of excluding minorities from archives and histories and attempting to remove important cultural traditions and ways of life. As noted in the introduction, the European settling of what became the United States saw attempts at literal and cultural genocide of the Indigenous communities living there: forced assimilation resulted in the removal and destruction of Indigenous cultural materials, documents and artefacts, a "colonial collecting project" (Christen 2) of exclusion and annihilation which threatened a literal and symbolic annihilation of Indigenous peoples and their culture. In 1978, Vine Deloria Jr. called for government action to help Indigenous groups reclaim and rebuild Indigenous archives: he stated that Indigenous groups had a right to know their histories, "to know the past, to know the traditional alternatives advocated by their ancestors, to know the specific experiences of their communities, and to know about the world that surrounds them" (13). He requested "direct funding from the federal government" to provide tribes with "library, information and archival services" (13), as a way to rebuild that connection with ancestors and rewrite Indigenous histories back into the archives. LGBTQ+ perspectives have also been excluded from archives and histories in the United States: both intentionally, and as a

consequence of an oppressive anti-LGBTQ+ culture which prevented people from being open about their sexuality and gender identities. Work has been conducted on creating a 'queer archive' and write excluded groups back into the archive and historical record, a reparative act that aims to redress this historical exclusion.[84]

The awareness of how the archive can be troubled in the face of annihilation thus recalls the ways in which the archive has been troubled already. The consideration of the eradicability of humanity and its symbolic archive can enable an exploration of historical archival exclusions and erasures. RYAN! Fedderson's interactive exhibit "The Post-Human Archive" (2018) encouraged visitors to imagine themselves "in a distant (or not so distant) future where you are informed that humanity is facing the possibility of vanishing. If you become the subject of an ethnographic study, how might you be catalogued and remembered? Who will determine how your story is told?" ("The Post-Human Archive", n.p.). Visitors were encouraged to take a photo of themselves and be documented in an online archive, with each photo being given limited classifications ("Youth Profile"; "Human Matron"; "A Typical Baby Boomer") rather than names. Fedderson's intention was to "give people the experience of having an outside force define and document you" ("Artist RYAN!", n.p.), speaking to the attempted erasure and manipulation of Indigenous culture and memory in America. By considering a future in which humanity exists solely in this archive without the human meaning to understand or contextualise the contents, works such as Fedderson's encourage how easily archival contents can be misconstrued or misrepresented. Both of the texts I discuss in this chapter consider the destruction of the archive and call to archival practices as a form of security, seeking out ways to preserve their presents, pasts and futures. Yet in addition to demonstrating the ways that this archival security is challenged when facing extinction, the texts also speak to the intentional and targeted archival erasure of certain groups: specifically, Indigenous groups in *Future Home*, and the LGBTQ+ community in *Alternate Endings*. In looking forward to the future erasure of humanity, the texts here similarly encourage a looking back on the historical and present erasure of queer and Indigenous stories, histories, and knowledge.

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[84] See Ann Cvetkovich's work on the recovery of queer archives and the understanding of queer archives as being powerful archives of feeling (2003). See also Kate Eichhorn (2018) on the emergence of LGBTQ+ archives, the queering of archives, and queer archivy as a conceptual framework, and the *Special Section on Queer Archives* special issue of *Archivaria* (2010), which spotlights examples of queer archival practices.

A consequence of this disruption of notions of futurity is a sense of cosmic displacement and a disruption of anthropocentric notions of futurity. As discussed in the Introduction, the Anthropocene requires a reframing of the human position and an encouragement to reframe human perspectives and connections. Both texts encourage a wider consideration of notions of futurity: for example, how might we expand understandings of the archive to include planetary or geological frameworks? How might connections develop beyond human-specific generational ones, expanding to include connection with other species and nonhumans? I examine how Erdrich's *Future Home* and Drager's *Alternate Endings* engage with and trouble notions of intergenerational connection and futurity, using the presence of future extinction to look back on past erasures, and also look forward to new possibilities of conceptualising futurities.

Devolving Futurities in *Future Home of a Living God*

Erdrich is a contemporary American author of Chippewa heritage, and is widely known for her novels that explore the lives of Indigenous communities and the impact and ongoing consequences of settler colonialism.[85] *Future Home* is part of her larger body of work concerned with representing and exploring Indigenous lives, yet this particular novel does so whilst exploring the notion of extinction and environmental collapse. The novel's protagonist is Cedar Hawk Songmaker, an Ojibwe woman in her mid-twenties who was adopted as a baby by white parents. The novel opens as Cedar is coming to terms with her pregnancy – a revelation complicated by the knowledge that humanity and many other species are experiencing a form of devolution, with scientists anticipating a future in which humanity inevitably dies out. As a result of this extinction anxiety, the US government implements structures whereby those who are pregnant (or could potentially sustain a pregnancy) are taken and imprisoned, so as to secure their babies and their ability to procreate. The world of *Future Home* is also suffering from environmental breakdown: references are made to underground sources of water being sucked dry (32), permafrost melting (8), birds becoming extinct (83), and maple trees no longer producing syrup (60), and Cedar's husband Phil is described as having taken a vow to "save nature" and "protect the natural world wherever possible" (83). There is an implication that the devolution may be in some way related to the desecration of

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[85] Erdrich is the recipient of multiple awards for her fictions, including the National Book Critics Circle Award (1984), the National Book Award for Fiction (2012), and the Pulitzer Prize for Fiction (2021).

the planet: Cedar's adoptive father Glen jokes that "Mother Earth has a clear sense of justice. You fuck me up, I fuck you up" (54), suggesting that the devolution is a result of the human-driven environmental destruction, a form of restorative justice for "Mother Earth".

Future Home explores the anxieties that arise when facing the threat of extinction, particularly the threat posed to the relationship with the future. In doing so, the text draws awareness to how intergenerational connection and reciprocity is essential when it comes to combatting ecological threat. I show how the presence of extinction frustrates the sense of security presumed to be found in concepts related to futurity. Erdrich's relation of past abuses to Indigenous peoples via the experiences of Cedar and her family provides a link between this historical and ongoing subjugation and the perspectives that perpetuate environmental exploitation. In framing extinction in this way, Erdrich's text provides a climate change narrative that draws awareness to how climate change is not equally distributed and creates a narrative that moves away from those which construct environmental apocalypse as a homogeneous experience. Despite the likely fatalist future in this world, Cedar finds a source of comfort by shifting towards a less anthropocentric perspective that promotes a connection with her ancestors, her descendants and the nonhuman world, through the consideration of new forms of archivy and an approach to posterity that is not restricted to humanity.

In the world of the text, the assurance of a future has become uncertain. Rather than a future of continuing progress, the devolution is causing a reversal, and is frequently described as a shifting backwards or an unravelling in a way that is not necessarily linear: the world is described by Cedar as "running backward. Or forward. Or maybe sideways, in a way as yet ungrasped" (3); it is a "massive biological reversal" (138), consisting of "things going backward at an awkward rate" (246), "like skipping around in time" (44) and "[not] in a uniform or predictable way" (98). Indeed, the notion of evolutionary regression is itself uncanny, and is a concept that often emerges in Gothic fiction: the anxiety of a return to a primitive stage before reason and self-awareness, a return to a time of animality and before culture, the reverse of societal progression.[86] The concept of reversal also recurs in the language of the text describing moments unrelated to the devolution: when giving directions to Cedar

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[86] Notions of regression, atavism and degeneration appear in many examples of late Victorian Gothic fiction, such as the regression of Dr. Jekyll to the animalistic Hyde in Robert Louis Stevenson's *The Strange Case of Dr Jekyll and Mr Hyde* (1886), or the atavism of Stoker's Dracula, who can morph into a dog and a rat.

prior to their first meeting, Cedar's biological mother Sweetie appears "relieved to have *thought backward*, to have figured out directions from my point of view" (11; emphasis mine); Cedar's journey to the reservation is filled with wrong turns and reversals, dogs "[popping] out in reverse" as she turns back down roads she came from; and when Cedar learns that her adoptive father Glen is actually her real father, she thinks "What a weird reversal. Impossible to take that in" (232). There is a continuing sense that the future is no longer guaranteed as a form of continual and linear progress, an undoing of the security that human temporality will go on in a linear fashion, that those living in the present exist as the link in the chain between past and future generations. The language of reversal also emphasises anxieties of regression, highlighting how traditional understandings of time, evolution, and humanity's progress have been irrevocably distorted, and exposing humanity's repressed animality.

As humanity loses the security of its future, Cedar feels increasing anxiety whenever she considers the future. She observes that "the past is so different from the future that to think back at all is like looking down the wrong end of a telescope, and […] the future is so disturbing that to give in at all to my imagination is enough to cause a full-blown panic attack" (69), articulating her anxiety as it relates to the disturbance of a future which has lost its security. This perspective regarding the future resonates with Farrier's understanding of the temporal complexity in considering the destructive legacy of climate change – how the "future we shrink from contemplating is haunted by a past we cannot imagine" ("Like a Stone" 2). Both Cedar and the text are haunted by the knowledge that the future of humanity is at risk: walking down her childhood street, Cedar observes that it "has the stillness of an ancient dream, the muted perfection of a 'before' disaster photograph", yet she feels that "instead of the past, it is the future that haunts us now" (63), recalling the spectral relationship with the future delineated in Chapter One, and Gan *et al*.'s notion of being "haunted by imagined futures" (1). In anticipating collective disaster, whether owing to the devolution, the state-control of pregnancy, or the environmental collapse, the security of linear temporality is disturbed, and the place of Cedar's childhood memories become tainted by the awareness that the security of a future was limited to that time. The promise of a future sourced in images of childhood is disrupted, as both Cedar and the text are haunted by this awareness.

Despite it being the "future that haunts", there remains in the text a haunting from the past. Cedar's Ojibwe heritage alludes to the violence enacted on Indigenous communities in America as a result of settler-invader colonialism, including the attempted erasure of cultures,

languages and knowledge. Eddy, Sweetie's husband and Cedar's step-father, draws a comparison between the current threat of extinction and the extinction attempts faced by Indigenous communities, noting that "Indians have been adapting since before 1492 so I guess we'll keep adapting" (28). Daryl Baldwin *et al.* argue that "contemporary native North America is an example of surviving the first convulsion of the sixth extinction", and that "[f]ive centuries later, the surviving American Indian peoples are grappling with the legacies of colonialism that continue to undermine the vitality of their languages, cultures, and religious practices" (204). The legacies of colonialism and the forced displacement of Indigenous communities are detailed in Eddy's attempts to reclaim the land taken from the Ojibwe community: Eddy explains that "like almost every other reservation, ours was lost through incremental treaties and then sold off in large part when the Dawes Act of 1862 removed land from communal ownership. Some land was parcelled out to the Ojibwe, the other land was 'excess' and homesteaded out to white people" (213). As the governmental takeover results in countrywide breakdown, Eddy notes that "quite a number of us see the governmental collapse as a way to make our move and take back the land" (95), a plan that is implemented as an attempt to "[take] back the land within the original boundaries of our original treaty" (214), acknowledging the taking of Ojibwe land.

In drawing attention to this history of colonial violence and Indigenous erasure, the novel speaks back to this historical and ongoing displacement, and links it to the threats experienced in the texts. The perspectives and actions which resulted in the displacement of Indigenous communities and the theft of Indigenous lands is similar to that which has resulted in the reproductive control and the ecological breakdown in the novel – capitalist greed, anthropocentrism, a lack of commitment to sustainability or consideration of future generations, and a focus on the gains of the present and a refusal to consider the importance of reciprocal responsibility. This correlation can also be identified through considering the similarity of some of the formal characteristics of *Future Home* with Erdrich's other works. The text is presented in a first-person diary format, with Cedar communicating with her future child: she speaks directly to him at times, such as when she tells him about a prior abortion she had and clarifies that "I am telling you because it is important that you know everything" (3). Erdrich uses a similar narrative form in *Tracks* (1998), a novel in her *Love Medicine* saga which

follows generations living in and around a North Dakotan Ojibwe reservation.[87] In *Tracks*, Nanapush similarly narrates and speaks directly to his granddaughter Lula, describing how he "saw the passing of times you will never know" (23).[88] There is a shared preoccupation with experiences of finality in both *Tracks* and *Future Home*: Cedar imagines "who the last of our species will be…that last person contending with all of the known and unknown" (13). In the final pages, she speaks of the gradual warming of the planet over the years: she tells her son of how her own parents would "tell [her] things about the world, the way it was before" when snow used to fall more often and lakes would freeze in the winter. She describes an experience in her youth of when "the snow came one last time" (266), and the final line of the novel is a direct address to her son: "Where will you be my darling, the last time it snows on earth?" (266). Nanapush similarly describes his experiences of "lasts": "I guided the last buffalo hunt. I saw the last bear shot. I trapped the last beaver with a pelt of more than two year's growth. I spoke aloud the words of the government treaty, and refused to sign the settlement papers that would take away our woods and lake. I axed the last birch that was older than I, and I saved the last Pillagers" (*Tracks* 2). This emphasis on finality links the historical destruction of Indigenous land and culture with *Future Home*'s current threat to all land and all culture, linking the attempted extinction of Indigenous groups with the threat of extinction within the text, and consequently drawing connections between the destructive attitudes that contributed to this.

The image of the child as a symbol for a continuing future is directly impacted by the devolution in *Future Home*. Pregnancy is now a substantial risk to both parent and child – although there is uncertainty around the exact cause, one of the consequences of devolution is that "for some reason – possibly because we've gone into the unknown here, biologically – your immune system mounts an attack against the baby during birth and that can become an autoimmune attack as well" (257). Pregnancy is described as being potentially fatal: in a discussion on vaccinations, Sera notes that reproduction is now more of a risk than infections such as cholera or tetanus, and Cedar considers how despite having gotten herself vaccinated,

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[87] For more on the narrative strategies, multiperspectivity, and intergenerational communication in the *Love Medicine* saga, see Lydia A. Schultz (1991) and Richard T. Stock (2015).

[88] *Tracks* is narrated by two characters: the second, Pauline, does not use this form of direct address to descendants in her narration. Pauline is described as having rejected her Chippewa roots, joining a Catholic convent and denying her Indigenous heritage. The lack of direct address emphasises her isolation in being cut off from her Ojibwe family. Erdrich's decision to replicate this method of communicating to a later generation emphasises Cedar's desire for connection with her child, and also with her ancestors and heritage.

she has "contracted, so to speak, the most major thing of all, given the situation" (60-61), alluding to the high risk of fatality that now comes with pregnancy. Viable pregnancies are rare, and babies who survive the pregnancy are still at risk of having various irregularities, including "abnormalities in the neocortex" which could impact cognition, and "male sexual organs […] not developing properly. Sometimes not developing at all" (69), which poses a threat to the continuation of the next generation. The continued use of the language of reversal means that devolution is described with language that positions it as an inversion to procreation: Eddy notes that "[w]e're all going down the tubes, the fallopian tubes that is, not to mention the seminal vesicles" (27), describing what is happening to humanity as a disintegration and a return to the parental bodies, creating an image of procreation in reverse that troubles the idea of the child as symbol for the future.

In response to the devolution, the state literalises the metaphor of child as resource to its extreme, imprisoning people who are pregnant and those who have the capacity to have children and forcing them to procreate and secure a future for humanity, a policy referred to in the text as "female gravid detention" (74). These attempts often fail, with births ending in the death of the mother or the child – or both. The violence and enforcement of these actions distorts the symbol of the potential child as being an image of hope and posterity. Although Cedar hopes for a future for her child, that future is uncertain and dangerous, and pregnancy becomes something hazardous that risks containment and potential death. She describes being "trapped by the content of my body" (111), whereas after her stillbirth, Cedar's friend and fellow escapee Tia "can move in the world like a normal person. She is free" (187). There are two trappings for Cedar and others with pregnancies – the threat that the visibility of pregnancy poses, in that being seen in public would lead to their immediate containment, and the literal threat of the pregnancy if it is non-viable and fatal. For Cedar, pregnancy and the notion of the child becomes a complex combination of hope of posterity, yet a simultaneous reminder of the threat to that posterity. The inclusion of the containment and commodification of "female gravids" speaks to the history of reproductive control in American history. Many of those imprisoned are ethnic minorities, and the state's control over reproductive autonomy is reminiscent of the U.S. government's enforcement of medical abuse and reproductive control. Denial of reproductive autonomy and its links to governmental control of procreation is explored in this novel, and Erdrich has noted that she initially started writing the novel after the 2000 U.S. election, which she saw "as a disaster for reproductive rights. Sure enough, [George W. Bush] began by reinstating the global gag rule, which cuts international funding

for contraceptives if abortion is mentioned" ("Dystopian Visions" n.p.). The text's troubling of the notion of child as future is tied to historical and ongoing control of reproductive and bodily control.

The consequence of devolution impacting reproductive capacity speaks to the impact of environmental contamination on reproductive health. Environmental factors can have a substantial impact on the health of pregnancies, foetuses, new-borns, and on fertility more generally. Exposure to environmental pollutants can cause issues including infertility, spontaneous abortion, congenital malformation, hereditable defects, cancer in offspring, and genital and breast cancers (Bhatt 70). Climate change can have indirect effects on more vulnerable people, including those who are pregnant: Thalia R. Segal and Linda C. Giudice detail how wildfire smoke and high temperatures from heatwaves can impact both pregnancies and fertility, and extreme flooding can contribute to water-borne illnesses of which pregnant people are highly vulnerable (216-9). Indigenous communities are particularly impacted by environmental violence: The Native Youth Sexual Health Network is a group that seeks to investigate and educate about the "impacts of environmental violence including extractive industries (*i.e.* mining, gas, oil, logging) to our sexual and reproductive health, rights, and justice" (*Environmental Violence*, n.p.). The network has paired with Women's Earth Alliance on the *Violence on the Land, Violence on Our Bodies* initiative, creating a report which aims to document how the sexual and reproductive health of Indigenous communities is impacted by extractive industries: a high number of the remaining extraction sites in the U.S. and Canada are within Indigenous territories, which has had negative impact on the health of those who live there (*Violence on the Land* 2-3). For example, Katsi Cook's research into the pollution of the St. Lawrence River which runs through Akwesasne land discovered high levels of PCB concentration impacting the health of local communities, particularly owing to its presence in breastmilk. Unchecked industrialisation poses damage to reproductive health, whilst also risking damaging the relationship Indigenous communities may have with the surrounding land: Robin Kimmerer states that "[i]ndustrial pollution made following traditional lifeways unsafe, threatening the bond between people and the land" (257). In presenting the 'apocalyptic event' as something that damages both land *and* reproductive health, *Future Home* emphasises the literal impact of climate change on reproductive health and posterity, and the broader implication of how this pollution of land may lead to a disturbance of a positive and reciprocal relations with it.

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Some Indigenous traditional knowledge often emphasises a linking between land and body that underscores the fact that a threat to one is a threat to both. Rather than a more binary separation between land and culture, land is often seen as more of an extension of the community: the *Violence on the Land* report notes that this link between land and body forges "a powerful intersection – one that, when overlooked or discounted, can threaten their very existence" (2). There is an association of the relationship with the land as being a parental or maternal one – Ed McGaa notes that some Indigenous communities "believe that they were conceived from the belly of the Mother Earth, "a natural bonding begins within the misty, generative womb of Mother Earth … The spiritual bond is likened to an attachment to Mother Earth as one sits within her warm womb" (62). In *Future Home*, there is a connection between the way that Cedar speaks about both her body as home and the notion of land as home, and the threat posed to both. Erdrich observes how fiction can

> [affect] us as individuals and can spur us to treat the earth, in which we abide and which harbors us, as we would treat our own mothers and fathers. For, once we no longer live in the land of our mother's body, it is the earth with which we form the same dependent relationship […] helpless without its protective embrace. ("Where I Ought" 1)

The conflicted emotions Cedar feels towards her unborn child are similar to those felt towards the land; the text often describes Cedar's experience of her pregnant body as being akin to the home of her surrounding land, emphasising the correlation between relationship with the land and relationship with the parent/child. Speaking to her unborn child, Cedar notes that "I am all around you. I am your home, a land of blood and comfort" (188), describing herself as a home in both a metaphorical sense (a place of belonging, in the way a person can feel like home) and relating herself as land in a physical sense both as literally within her womb, and more widely in relation to reservation land. This idea emerges most explicitly in the title of the novel and the scene which inspires it. On her way to the Potts family reservation, Cedar stops at an empty field with a sign that reads "Future Home of the Living God" (171). The field is "bare […] fallow and weedy, stretching to the pale horizon" (171), and Cedar takes a photograph of the sign which she later affixes to the front of her diary. Placing the photograph of the field next to the image of the ultrasound on her diary aligns the land with Cedar's pregnant body, resonating with the "dependent relationship" described by Erdrich; the interdependence between parent and child mirrors the interdependence between humans and land.

This correlation is expanded on by linking the abuse directed towards the 'bodies' that can bear children with the abuse directed toward the land. Anna Kemball argues that the exploitation of women's bodies in *Future Home* can be read as a form of biocolonialism (3), employing Susan Hawthorne's argument that there is an alignment between the ways in which both land, and female and Indigenous people's bodies have been perceived (Hawthorne 318). Hawthorne argues that "[the] mining of women's body parts is routine and is especially widespread among those engaged in reproductive technologies and stemcell and cloning research using the by-products of abortions" (318-9); consequently, "[w]omen's bodies are resources and a major site of colonization and profit making" (319). Kemball argues that the dystopian society in *Future Home* "seems to be a fictionalised future", but "is in fact a biocolonial rendering of the historical and ongoing injustices experienced by native American women" (8). The oppressive control over reproduction in the text can be read as an extension of the extractive colonialist violence that contributes to the historical and current extraction of resources in the U.S. and beyond – an understanding of the land as a resource from which to easily use and remove its contents without long-term consequence. We can see this in the recurring alignment of the land with the maternal body: later, after Cedar is captured and contained by the government, she looks out from their exercise yard and sees another vast field, yet this one is "[filled] with tiny white crosses. One cross for both mother and baby", beyond which there are "two more fences, more razor wire" (259). The field, once a symbol for possibility and futurity, is instead filled with death, a reminder of both the fatalities resulting from reproduction during the devolution, and of the oppression and subjugation of those with the capacity for procreation.

The threat of extinction in the text also invokes fears in relation to the loss of the symbolic archive, or more specifically in this case, the loss of a future humanity who can comprehend the symbolic archive. An anticipated consequence of devolution is that future descendants of humanity will lose the capacity for communication in the way people currently understand it, and will no longer be able to comprehend the current written and spoken word. The novel explores the fear and potential consequences of the absence of future descendants who would inherit the world and its contents, whilst also engaging with the possibility that the next generation will lose the ability to understand culturally relevant concepts and material that are important to both cultural and individual identity and belonging. Cedar's adoptive mother Sera expresses grief for this loss: "'Dear god,' Sera mourns, her voice breaking, 'there goes poetry, there goes literary fiction, there goes science, there goes art'" (55). The loss feared here is not directly physical – at this stage the archive is not in physical danger of being destroyed – but a

loss of comprehension of the material in the same manner as contemporary humanity understand it. The text aligns the reversal of evolution with the loss of this culturally relevant material: a news station reporting on the devolution displays a "swirling set of graphics" depicting "humanoid figures growing hunched as they walked into the mists of time, while in the background Beethoven's Fifth Symphony dissolves into a haunting series of hoots and squawks" (52). In demonstrating a breakdown of Beethoven's Symphony into 'nonhuman' sounds, this image emphasises the importance of this material to a particular understanding of human identity, linking devolution with the fear of the unravelling of the material itself and inciting an archival anxiety that humanity will lose all posterity or evidence of our presence, falling into the void.

Erdrich also alludes to previous cultural losses and archival erasures, and in doing so, troubles the notion of a complete and secure archive that is newly under threat in this pre-extinction state. Instead, the text provides reminders of the purposeful erasures that have been historically conducted in American history. The discussion of experiences surrounding Cedar's Ojibwe heritage alludes to histories of archival erasure and epistemic violence, including attempted erasures of Indigenous cultures, languages and epistemologies. In referring to these histories, the novel highlights the historical precedent for archival prejudice, violence, and erasure, negating the notion of archivy as being absolute or inherent. These past erasures are highlighted through Cedar's initial adoption out of her Ojibwe family, and her questioning of "the legality" of how she was adopted: she cites the "Indian Child Welfare Act", which "makes it almost impossible to adopt a Native child into a non-Native family", and "should have, even had to, apply to me" (4). This law was established in the US in 1978, emerging in response to high rates of forced removal of children from their homes and family networks.[89] It sought to ensure that children from Indigenous American families remained, as much as possible, within their extended families and communities, so as to keep children amongst their family and culture.

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[89] The nineteenth and twentieth centuries saw continuing attempts at assimilation and cultural eradication: from the 1800s, thousands of Indigenous children were forcibly removed from their homes and sent to 'Indian Boarding Schools', in an attempt at mass assimilation which worked to force children to forgo their language, customs and cultures. Although these boarding schools began to shut down after the mid-twentieth century, the Indian Adoption Project, developed by the Church of the Latter-day Saints and enforced by the US government, encouraged white families to adopt children from Indigenous families, resulting in disproportionate rates (25-35%) of Indigenous children taken from their homes, of which 85-95% were placed in non-Indigenous homes. See Lila J. George (2008) on Indian Boarding Schools and the Indian Adoption Project, and the development of the Indian Child Welfare Act in response to this.

Removing children at such rates not only caused individual trauma to children and families; it posed a risk to the continuation of the communities themselves. Speaking of this removal, Louis La Rose stated that

> I think the cruelest trick that the white man has ever done to Indian children is to take them into adoption court, erase all of their records and send them off to some nebulous family [...] residing in a white community and he goes back to the reservation and he has absolutely no idea who his relatives are, and they effectively make him a non-person and I think [...] they destroy him. (qtd. in Wilkinson 259)

La Rose explains the consequences such removal has on individuals and their sense of identity, linking this to anxieties relating to self-expression and community belonging. Assimilation risks erasure of shared heritage and cultural memory, an act of epistemic violence that has long-lasting consequences across generations.

The above statement from La Rose also highlights the potential danger of collating information in archives – that placing information into official documentation can subsequently be manipulated, or as in La Rose's example, erased for ulterior motives – the second of Trouillot's 'silences'. This is most clearly evidenced in the government policies implemented in order to take possession of Indigenous lands, such as the Dawes Act mentioned by Eddy. The Dawes Act sought to discontinue communal holding of property, instead dividing reservations into privately owned parcels, imposing government-controlled structures of land tenure that resulted in substantial loss of land for many Native reservations. In order to receive the allotment, people were told to enrol with the Office of Indian Affairs, registering themselves with the government, after which the Office would determine eligibility for allotment ownership. Erdrich speaks to the dangers of abusive government control over the archive when Nanapush talks about how "the bureaucrats sink their barbed pens into the lives of Indians" and "the paper starts flying, a blizzard of legal forms" (*Tracks* 225). He describes how they have become "a tribe of single-space documents, directives, policy. A tribe of pressed trees. A tribe of chicken-scratch that can be scattered by a wind, diminished to ashes by one struck match" (225) For Nanapush, the written word represents governmental attempts at assimilation, threatening to destroy their culture and leave them as susceptible to destruction as paper is to fire. It expresses the anxiety of how the contents of the written archive are susceptible to annihilation, but can also be (and have been) manipulated.

The sense of displacement described by La Rose can be identified within Cedar: throughout the novel, she struggles to come to terms with her identity, asking whether her "lack of ambition regarding a degree stemmed from confusion about my origins" (5), and noting the difficulty of having "no clan, no culture, no language, no relatives" (5). The confusion is literalized when she struggles to find her way on her first trip to the reservation to see her birth mother, Sweetie: "Where's my birth home? Where's my family? Once again, a false turnoff, a winding road" (14). Cedar's difficulty in receiving clear directions from Sweetie and her inability to find the house can be read metaphorically in relation to her feelings of insecurity and instability, and can also be read as a direct questioning of the people and the structures that led to the attempted erasure of Indigenous culture and customs, and the taking of land. Cedar is faced with a doubled erasure – that of the past in her disconnect from her Ojibwe ancestors, and that from the future in the awareness that her descendants will also lack that cultural connection.

Despite this disconnect, Cedar is adamant to make her own 'archive', one that will connect her with her child – her diary, the novel itself, which provides a rewriting of her own narrative that centres her personal experience of extinction, creating an archive of her own. Cedar is aware that in the future, "all lexical knowledge may be useless", yet she regardless finds comfort in knowing that her son will "have this record" (3). Cedar notes that "[t]here have always been letters and diaries written in times of tumult and discovered later, and my thought is that I could be writing one of those" (3), drawing awareness to how we can identify her diary as a piece of archival evidence. The writing of the text itself, of her own story, is a form of defiance in a world where the state is controlling the media and manipulating the narrative, and a way to write her experience and communicate with her future descendants. Yet the materiality of the diary also draws attention to its own susceptibility to destruction. Cedar fills it with items from across the world as if it were a physical archive: "[l]emon candy wrappers from Spain […] cards printed in Korea […] [w]ine labels from New Zealand […] [e]rection instructions to some long-lost tent manufactured in Taiwan" (172). The materiality of the novel even extends to its paratext – the image on the front cover is Cedar's ultrasound, mirroring the way that Cedar "[c]arefully, [tapes] your first picture onto the cover of this bound journal" (63). Despite Cedar's attempts at archiving, the materiality of the diary creates a sense of ephemerality: the possibility that if the text were to be destroyed, so too would any evidence of Cedar. Both diary (within the fictional world) and text (within the real world) are the sole trace of Cedar and her experience, and the materiality of this ephemeral text highlights how it is susceptible to annihilation, which in turn draws awareness to the potential eradicability of human experience.

Foregrounding Cedar's diary is also a way to rewrite an Ojibwe perspective that draws awareness to erasure of Indigenous practices and perspectives. Many Indigenous groups in America centre oral traditions as a way to communicate culture and teach across generations: Paula Gunn Allen argues that Indigenous American oral traditions are "a major force in Indian resistance", a way to keep people "conscious of their tribal identity, their spiritual traditions, and their connection to the land and her creatures" (53), ultimately "adapting to the flow of the present while never relinquishing its connection to the past" (45), a way to resist the structures of settler colonialism and connect across generations. The notion of a fixed written 'archive' can risk erasure or exclusion of oral cultures, and even creating a written record of oral stories or traditions can risk misinterpretation, or transcribing them in a way that changes meaning, whether intentional or not. One such example is *Black Elk Speaks* (1932), written by American John G. Neihardt who spoke with Black Elk, a man from the Lakota reservation in Pine Ridge. Neihardt, a non-Native and non-Lakota speaker, made notes as Black Elk's son translated, which he later used to write *Black Elk Speaks.* Presented as a form of autobiography, Neihardt took many liberties with the descriptions of Black Elk's experiences, and the book has received much criticism owing to its inconsistencies and exaggerations describing Black Elk and Lakota culture.[90] Critics have noted that Erdrich has drawn on Indigenous oral storytelling traditions in many of her works, emphasising the "polyvocality [of] Native American oral traditions" via multiple interwoven narratives such as in *Love Medicine* (Wong 173), or through direct address to descendants such as in *Tracks*.

Although presented in written form, there is a strong thematic focus on storytelling across generations, particularly amongst her Ojibwe family. Extracts from Eddy's book appear throughout the text as he gives sections to Cedar to read, and they give Cedar a sense of connection with her Ojibwe family. The stories are replicated, unedited within the text, as if directly pasted in. In *Future Home*, Cedar inserts the physical pages of Eddy's manuscript directly into her diary, and his stories appear unedited, separate from the main narrative with a

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[90] Raymond Demallie published the original transcripts of Neihardt's conversations with Black Elk in *The Sixth Grandfather* (1985). Examples of manipulation or amendment of the source material include erasure of certain practices (such as kinship practices between Lakota women and their brothers-in-law), confusion of practices (Lakota men painting their faces black to signify victory, rather than intention to go to war), and addition of material that manipulates meaning (a vision of a dog's head is said to represent the heads of white people in Neihardt's version, whereas the transcript states the dog symbolises any enemy).

page number and a bolded title. Erdrich uses this method for recounting oral storytelling too – after learning that Glen is her birthfather as a result of an affair with Sweetie, Cedar frustratedly speaks to her Ojibwe grandma, Virginia, who states: "Men are tricky. I should know", then tells Cedar a story which is seemingly transcribed verbatim, with a bolded and centred title, "The Fat Man's Race" (235), emphasising its completeness as a tale.[91] This choice of form creates the effect of the novel containing multiple voices within, and speaks to the traditional storyteller figure in Ojibwe cultures, similar to the 'polyvocality' seen in *Love Medicine*, foregrounding Ojibwe oral storytelling traditions and rejecting the idea of a single type of written archive.

With the understanding that the more 'traditional' archive is susceptible to collapse, the text examines the possibilities of alternative understandings of archivy and intergenerational connection. Kaylee Jangula Mootz argues that the text figures the body itself as a form of archive: firstly, a biological archive, as the body is described as storing years of evolutionary material, the "successful history of our own mutations" (Erdrich 167) that it is now turning back to in devolution; secondly, an archive of memory in the body that can invoke a connection and compassion with the land that has since been lost. This suggests a possibility that "if we could tap into the archive of our bodies, we could re-learn what it means to live in a state of equilibrium with the earth, a potential that we could reverse some of the damage done and adapt to that which cannot be undone" (Mootz 273-4). This reconsideration of the body as archive encourages a reconsideration of the definition of the archive that expands understandings of intergenerational connection, and understandings of the archive itself.

The text also explores alternate understandings of the archive through a consideration of a geological archive – more specifically, the human as becoming part of the geological archive. As discussed in the Introduction, the Anthropocene means that we must consider ourselves as one day being a lithic layer in the strata of the earth, which requires us to think in long scales beyond the human. *Future Home* often thinks lithically, thinking through stone and strata so as to encourage a consideration of the human as something that exists in deep time. Jeffrey Jerome Cohen writes of the propensity that stone has to convey messages across deep time, discussing

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[91] This story was originally published by Erdrich in *The New Yorker* in 2008, and then included in *The Read Convertible: Selected and New Stories* (2009); this collection contained new and previously published stories of Erdrich's, many of which were part of her Ojibwe fiction.

the lithic's ability to preserve and communicate traces of the human and the nonhuman across hundreds and thousands of years. He notes that thinking lithically requires "a leap from ephemeral stabilities, from the diminutive boundedness of merely human tales" (Cohen 10). In Erdrich's novel, thinking lithically draws Eddy away from the brink of a particularly dark bout of depression – an experience with a pebble making its way into his shoe becomes an extract for his manuscript of "reasons to stay alive". Simply entitled "The Pebble", this extract from Eddy's manuscript sees him describe how he had "[seen] into the depth of things" and as such, "[n]ot one aspect of the world could appeal to me or affect me. Not the end of things and not the beginning" (260). Notably, his existential crisis is tied up with a loss of faith in endings and beginnings, traditional human framings of existence that recall Cohen's "human tales" with their "diminutive boundedness". Yet Eddy's experience with the lithic expands this framing to a wider, geological perspective: he notes that "the youngest pebble […] was probably no more than several million years old", potentially "a basaltic lava that was perhaps shoved to the surface of the earth 3.5 billion years ago during the Keewatin", and he exclaims "Howah! Lotta time" (260). This material interaction with the lithic archive shifts Eddy's perspective and becomes his reasoning for staying alive, reminding him of the insignificance of the human and encouraging him to 'think geologically' – to reject a thinking bounded by human timeframes and individualistic exceptionalism.

At one point, the text includes an image of Cedar as becoming a layer within a symbolic strata. On first arrival to her Ojibwe home, Cedar describes the mess in her biological sister Little Mary's room as being similar to the strata of the earth, observing "layers of Chinese lady beetles from last fall's infestation, but […] dead, and crumbled to dust […] things like aggregate rock, glued into patterned bricks" (40), and as she helps Mary clean, she "[prays] that as I do excavate ever deeper there are no used condoms or old puke or large insects in the pile I see that I will have to peel up from the floor, layer by layer" (39). This distorted iteration of the lithic archive seems almost to make light of the fear of the anxiety of humanity becoming a lithic level, as the human/nonhuman binary is disrupted and Erdrich utilises a kind of bathos in the contrast between timeless geology and an archive of thongs, vomit and condoms. It is an archive of the grotesque, a pile of human waste reminiscent of the garbage shrine in *Black Wave*, alluding to the reminder of humanity's legacy as being one of pollution, waste, and contamination, whilst acting as an uncanny reminder of how humanity will one day too be a layer in a geological archive: a layer similarly built of waste and destruction.

Yet despite the potential fear that might be incited when considering humanity as a lithic archive, the strata of Little Mary's room eventually becomes a place of comfort and protection for Cedar in the last section of the novel: returning there after escaping from the hospital, Cedar notes that the room "is tipping back into derangement again" – although there is "[n]o strata of mashed insects, soda cans, and chip bags, the layers of clothes have built up to such an extent that Cedar can burrow into them when she goes to sleep at night. Lying amongst the clothing, Cedar notes that "the hills of her balled-up clothing almost feel protective" (215), leading her to feel as "safe as an animal surrounded by hills of its own shed skins" (223). The clothing becomes a space of literal protection later on, when Cedar wakes at night to see government officials searching for her to take her back to the hospital; yet because of the extent of the mess, the layers of clothes hide Cedar in the dark and she is able to go unnoticed. The notion of a human as being part of a geological archive is positioned as being positive, making Cedar aware of her connection to animality, and her place in the wider world.

Cedar's awareness of the future "devoid of the written word" results in an exploration of other forms of intergenerational communication beyond linguistic structures, in a way that speaks to both the difficulties of articulating climate change, and the importance of considering non-human-centric methods of communication and connection. Cedar becomes preoccupied with the story of the Catholic Incarnation, as she thinks about the Incarnation as being a singular word that impregnated Mary. In considering the idea of a word "so uncanny, a word so powerful" (64), she begins to consider the possibility that "somewhere outside the actual human experience of words spoken, words thought, there exists a language or perhaps a pre-language made up of words so unthinkably holy they cannot be said, much less known" (65). Here Cedar considers the idea of a communication beyond words, an uncanny form of communication outside of human experience and outside of language itself, indescribable and incomprehensible: because how do you imagine or define in words a world without words?

Yet this conceptualisation is not seen as a regression – whether evolutionary, linguistically or culturally. Instead, this communication beyond language is a possibility, a form of defiance. Despite escaping with Cedar, Tia unfortunately experiences a stillbirth, after which Cedar sings "a song [not] composed of words, but a song made up of sounds that I will hear later, in a different place. Sounds that were made a hundred thousand years ago, I am sure, and sounds that will be heard a hundred thousand from now, I hope" (185). Cedar's guess is correct, as she hears the song again when she is detained, and the women "all at once, all together […] start

to hum. […] They open their mouths to sing a song that I already know. The song must be in me" (253). The presence of this song that extends beyond words and beyond the present, linking pasts and futures, conjures a notion of a connective method of communication with beings that might not necessarily be able to speak back – an understanding of a nonhuman world that is animate and, in its own way, articulate. It encourages a thinking outside of the symbolic realm which enables a thinking outside of ideologies that perpetuate destructive hierarchical thinking. Instead of configuring lack of language as a regression, it is a possibility and a defiance: an uncanny act of resistance that speaks both forwards and backwards in time.

Spiralling Stories in *The Archive of Alternate Endings*

Drager's *The Archive of Alternate Endings* presents a non-linear exploration of several storylines that take place between 1378 and 2365 A.D. The novel uses the trajectory of Halley's Comet – a comet historically understood as a portent for the end of the world[92] – as its temporal grounding, locating each narrative at the time when the comet would pass by the earth. Each visit sees a re-interpretation of the Hansel and Gretel story, including the Grimm Brothers' original transcription of the tale,[93] subsequent 'reincarnations' of the siblings at different times in history, and later two space probes that carry the tale to outer space, disseminating it in binary code. The later time periods see Earth succumbing to environmental breakdown, the earth having ultimately "revolted" against the human race: ongoing rain and storms warm and

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[92] Comets have historically been associated in global mythologies with signifying catastrophe, with superstitions often surrounding them as being harbingers of doom. In 1664 and 1667, two comet sightings were cited as portending the London plague outbreak and the Great Fire of London, and comets were often seen as being religious portents: in 1680, Boston preacher Increase Mather claimed that "fearful sights and signs in heaven are the presages of great calamities at hand" (n.p.). Rulers in Ancient China were "thought to receive their political mandate from the heavens", with comet sightings considered "dreadful portents of evil" (Chen and Lü 13). Halley's comet has been particularly associated with catastrophe: in 1066, the passing of Halley's comet was said to foretell the defeat of the Anglo-Saxons at the Battle of Hastings. On its journey past the Earth in 1910, mass panic occurred as people believed that the comet might bring devastation. Alongside fears that the comet would collide with the planet, scientists at the Yerkes Observatory allegedly discovered the presence of deadly cyanogen gas in Halley's tail, which, they argued, could "impregnate the atmosphere and possibly snuff out all life on the planet" ("Comet's Poisonous Tail" n.p.). Anxieties surged, with the market monopolising on these fears by selling anti-comet pills, gas masks, and comet-protecting umbrellas. Halley's comet passed by with no issues, but the correlation between the comet and potentially apocalyptic catastrophe had been cemented. For more on superstitions surrounding celestial bodies, see Duane Koenig (1968) and Roberta J. M. Olson (1984).
[93] Jacob and Wilhelm Grimm were German academics and folklorists who are most famous for their collation and publication of *Grimm's Fairy Tales* (1812), a collection of 200 folk tales transcribed from oral sources.

soften the earth, creating eruptions and earthquakes that "break the land [and] give it new dimensions" which in turn causes mudslides and erosion (45). The increased heat causes the ocean level to rise, threatening the land and those who live on it (45). The revolt of nature is described as being a direct consequence of human action: "[b]ecause its inhabitants treat their world poorly, the rules of the universe change. What seems certain in one decade is indefinite in the next" (45). Drager ascribes a sense of agency to the environment in the wake of this collapse: the Earth is described as "an unstable stone" that "must be tended with care, or else it will rebel", and its occupants might find that it "no longer wants to revolve" (45). The natural world changes in direct response to the environmental damage caused by humanity, causing the planet to become uninhabitable for humans. This environmental devastation results in the elimination of humanity, the planet described as "[containing] the dregs of what was once human life, now covered in green" (77), and the final time period sees Halley's comet colliding with the planet, a blank page depicting the end of human existence and the end of the earth.

The text explores anxieties relating to environmental collapse, particularly how that relates to loss of a future, and the loss of the assurance of belonging in the chain of intergenerational connection. It also explores the eradicability of humanity through an exploration of the ephemerality of the archive and its susceptibility to destruction, misreading, or losing its human-derived meaning and purpose. Similar to *Future Home*, it uses this notion of the troubling of the archive to speak to erasures of marginalised groups. The text positions the archive and the story of Hansel and Gretel as something that transforms across generations. The alternative versions of the stories, as well as the form and structure of the text itself, creates a reinterpretation of the tale and the archive which emphasises a rejection of anthropocentrism, presenting an extinction narrative that explores annihilation whilst suggesting a reframing of notions of futurity that promote the importance of intergenerational and interspecies responsibility in the age of environmental collapse.

Alternate Endings engages with the question of how to come to terms with, experience, and narrate the oblivion of extinction. The presence of extinction haunts the text, and even characters who do not yet know of humanity's demise are preoccupied with the question of endings, and how to describe and narrate the end of the world: the 1986 version of Hansel looks at the stars and wonders "[h]ow will everything end?", considering "how much the human body isn't made to see [...] It must be some trick to make sure we can't bear witness to too much" (21). This invokes the unthinkability of extinction, of wanting to know the whole story of

human existence and how it might end, yet simultaneously understanding that by its very definition, no human would be able to know this. This form of thinking emerges throughout: the 1682 siblings look at the sky and comment that the sky acts as a "reminder that we cannot meet every story's end" (33); the nurse in 1910 repeatedly asks the illustrator, "[i]f you knew the end of the world was coming, what would you draw?" (28), and the illustrator frequently ponders how to create an ending to her illustration of the Hansel and Gretel story, wonder "whether or not to let the narrative conclude with text or image" (53), emphasizing a recurring preoccupation with how things end. The question of whether to end the narrative with text or image also invokes the question of how one might narrate the moment of extinction when extinction would see an end to the symbolic order: what would be the best way to conclude a narrative when the possibility of text and narrative itself is being destroyed?

Despite its preoccupation with endings, the narrative does not follow a linear progression. Each chapter begins with a listing of all the time periods discussed in the text, and the years that will be included within the chapter are bolded. Some chapters contain only one or two time periods, with the most containing nine. The chapters are not ordered linearly – for example, the first follows 1835 and 1986, and the second follows 1682 and 1910 – nor do the events within each time-period occur linearly – events described in the 1986 time in the first chapter may come before or after 1986 events described in a later chapter. There is no linearity internal to the chapters either – some use subheadings of the date to demonstrate a jump from one time period to another, whilst others jump between the time periods with no direct signposting, shifting back and forth between time periods from one paragraph to the next. The narrative often shifts from present tense to future perfect – the text will recount events that happen in the present tense, before describing a moment yet to be experienced by the character. At one point the narrative describes how "[t]he comet that will come to be known as Edmond Halley's is coming tonight, but it is not yet his" (24), speaking to a narrative awareness of future and present time periods simultaneously, whilst also alluding to the propensity of humanity to decree ownership of the nonhuman world.

In rejecting linearity, *Alternate Endings* incorporates moments from past and present simultaneously in order to emphasise a disjunction of temporal progression. This has two effects: firstly, the text's non-linearity means that the text does not follow human concepts of linear progression, instead jumping around on multiple scopes –including the individual, the local, the global and the cosmic – which resultingly refuses anthropocentric temporalities.

Secondly, the non-linearity highlights the connection across generations, emphasising the impact of past actions on future events by placing ancestors and descendants together and creating a simultaneity that accentuates impact across generations. In this way, emphasis is placed on the visible and long-reaching consequences of actions. In the 1835 time, Jacob Grimm thinks about how "[w]e have marked this earth in so many wrong ways", noting how humans have "cut down trees", "[emptied] oceans" and "[killed] beasts" (44), considering the long-lasting and potentially devastating impact and how perhaps the comet might return to find "nothing left, a vast void where once stood our grand planet" (44). Immediately following this consideration of anthropogenic extinction, the narrative jumps to the 2365 time when the earth has revolted, the first line describing how "[b]ecause its inhabitants treat their world poorly, the rules of the universe change" (45): because the Earth has not been "tended with care", it has begun to "rebel", threatening human continuation and applying agency and vengeance to the nonhuman environment. The human-driven consequences of this scarring are immediately demonstrated, using the non-linearity of the text's form to emphasise the far-reaching consequences of extractive and individualistic thinking on future descendants.

Characters are often plagued by anxieties relating to the future as their placement within the chain of generational connection is troubled, and there is a sense of dread that emerges when characters consider future generations. Halley's niece feels that there is something within her that is "at the limits of dread", and so she "fears for her future" (23). Anxiety emerges particularly in relation to a severing of connection between descendants: when the "witch" from 1986 "tries to imagine her family abandoning her, the thought will grow around her like a net of dread" (20). Considering future generations incites a sense of dread and anxiety, rather than a feeling of hope and security. Halley's niece also thinks about possible doomed futures that might develop for her, as she

> [imagines] trajectories for herself: her strangeness is detected and she is sentenced to death by drowning; a terrible something befalls someone close to her and she is accused, then killed by beheading; she cannot have children or her children die in her womb or her children are born and then die, and she is burned at the stake. It is this last possibility that haunts her, because it has happened so often to women her family once knew. (29)

These predictions demonstrate fear of individual death, but also a threat to posterity through generational connection: the inability to procreate, or the suffering of her future children. The niece simultaneously feels that this threat is something linked from her past – she is haunted

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by events from the past which might influence and infect her present and her descendants' futures, similar to the sense of haunting felt in relation to lost futures and repressed pasts within the Anthropocene. The chapter "Hansel's Lament" consists of a complete reversal of a linear generational story – the chapter describes an "undoing" of the two siblings' existence, describing how "[o]ur mother and father don't meet", causing the events that lead to their birth to never happen, inverting the notion of procreation and disturbing the image of child as future. This undoing resonates with the reversal of evolution in *Future Home*, particularly in the imagery of the return back to the seminal vessels: a literal reversal of generational succession that disrupts the security sourced in the assurance of linear generational progression. The chapter ends by envisioning this undoing expanding further back, encompassing the entirety of human and nonhuman history – the sibling describes how "[i]n fact, there are no cars at all, because there is no revolution that makes them simple to manufacture, because we do not dig beneath the earth for the liquid remains of organic matter" (144), conceptualising an undoing of the industrial revolution in a theoretical practice of ecological restoration. She extends the reversal even further, imagining that "our country is not discovered […] and the people who live here are a secret the land keeps", undoing the violence of settler colonialism. Finally, the reversal stretches to undo the earth itself, imagining that "the chemicals that intercourse to formulate the majesty that is our world miss their temporal assembling" (144) and so the planet is never created, creating an extinction of disassembly that gestures to the damage done to the earth, using an extreme 'undoing' so as to emphasise the difficulty of ecological restoration. This unravelling can be read in terms of how anthropogenic climate change 'undoes' both future and past – our actions impact the possibility of the future, and the presence of extinction in the future will destroy all records and recollections of humanity's past.

The novel frequently draws attention to the susceptibility of the archive to annihilation – both in terms of its literal destruction, and the loss of its importance and influence. Anxieties relating to the inability to interpret and comprehend archival material are emphasised in the 2222 time period: a woman referred to as the water carrier picks up a copy of the Hansel and Gretel text, yet "when she opens it, she learns she cannot read the words. It looks to be the lost language, which long ago died out" (76). The loss of this language speaks to the difficulty in conceptualising and communicating to far-future generations, and displays a concern that culturally relevant material can be lost as communication practices can shift, and things deemed important enough to record in the archive will become meaningless in later context. Archival limits are also explored via the digitisation of the archive – the move of archival knowledge

and histories to a virtual space. Although the text speaks of the positives of this shift in the 1986 time, Drager explores the concerns that can emerge in relation to this movement. After the earth's revolt,

> [e]verything becomes a vast and reframed landscape, new and wild. Life becomes delicate and raw. Communities form but struggle. They seek to harness their archive of knowledge, but it lives as invisible encryptions somewhere among the stars. Analog hardware cannot access the virtual world, and so it stays trapped in the ether, nearby but also remote. (75-6)

As a result of the changing landscape of the planet, digital connection is lost and the archive, confined to the virtual world, becomes inaccessible, losing with it all the knowledge and histories of humanity, including (ironically) the knowledge needed to access it. Derrida's claim that the archive must be spatially localised can be helpfully mobilised here – although there are numerous benefits to digitising archival material, the risk remains that a digital archive is potentially as susceptible to erasure as a physical one.

After the earth revolts, Drager describes a form of reclamation that occurs, with nature seemingly 'taking back' the Earth and destroying symbols of humanity and the archive: trees and ivy grow out of bedframes and up skyscrapers; plants "nest where humans once did", replacing humanity as the predominant inhabitant of the planet (77); and, crucially, "mushrooms in a range of colors grow from open books" (77). This imagery of mushrooms emerging from human textual artefacts works on several levels. Firstly, mushrooms are often used as symbols of death and decay, emblematic of rotting bodies; fungi are decomposers, and as owners of biodegradable bodies, the fungal can incite a fear of the human body being susceptible to breakdown like any other type of matter.[94] By having the mushrooms emerge from books, this image also alludes to the broader symbolic death of human knowledge and the archive: the image of the nonhuman mushrooms emerging from human textual artefacts emblemises the notion of a future beyond humanity, where archival material once deemed important loses its human usage and instead becomes a space for nonhuman growth. This is accentuated by the comment that "the things we once found important become ruins beneath a much stronger force" (77), which speaks to the decay of human posterity as the planet undoes

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[94] Mushrooms, fungi, and molds are a common site of Gothic horror in literature and film/television: see Jeff VanderMeer's *Annihilation* (2014) and its subsequent film adaptation (2018), T. Kingfisher's *What Moves the Dead* (2022) which adapts the equally fungal *The Fall of the House of Usher* by Edgar Allen Poe, Silvia Moreno-Garcia's *Mexican Gothic* (2020), and the video game and TV adaptation of *The Last of Us*.

the remnants of culture and civilisation. Mushrooms also defy demarcated boundaries: mushrooms are part of a larger structure of fungi which are formed by hyphae, a mass of filamentous structures which in turn "branch, fuse and tangle into the anarchic filigree of mycelium", which, Merlin Sheldrake argues, is "better thought of not as a thing, but as a process – an exploratory, irregular tendency" (7), emphasising how fungi are unboundaried and difficult to pin down or define as individual, discrete pieces of matter.[95] The image of mushrooms within the book suggests that the book, and the human archive and culture it represents, is being subsumed and intertwined with the mass of the mycelium, joining the nonhuman world and its entangled nature.[96]

The potential loss of posterity and the threat to the literal and figurative archive is further established in "The Marvellous Spiral", a chapter structured around a countdown of the number of illustrated Hansel and Gretel books that remain on the planet: first, there are 15,000 copies made, a number that drops dramatically as time passes and they are damaged and destroyed. There are 482 copies remaining when the earth revolts, after which the number drops to 31, yet now "no one reads the words" (76), as the ability to comprehend this written language has been lost: a young woman is described as finding a copy, and finding that is written in "the lost

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[95] Sheldrake goes on to detail the complexities of mycelium, how the organism is neither "singular or plural" but "somehow, improbably, *both*" (52; emphasis in original) detailing how it can separate into multiple tips, separate yet connected in the same mycelial network. For more on mushrooms, environmental degradation, and fungal interspecies entanglements, see Anna Tsing's *The Mushroom at the End of the World* (2015), which explores the matsutake mushroom which grows from the ruins of human-disturbed forests.

[96] It is also worth noting that Sheldrake has conducted his own experiments with mushrooms growing from books: in 2020, he posted a Youtube video showing how he had grown *Pleurotus* mushrooms from the body of his book *Entangled Lives* (from which I quote above). Sheldrake notes that the *Pleurotus* is the "ultimate omnivore" in its ability to eat almost any biological matter, yet now, he says, it is "the funguses turn to get eaten" (1.03-1.14), after which he proceeds to fry and eat the mushrooms. This evocative act speaks to fungi as decomposers, yet also highlights the place of the human body in the cycle of decomposition and consumption – ultimately, all humans will have their turn to 'get eaten'. For more on material experimentation with books and decomposition, see Sarah Bezan's analysis of Stephen Collis and Jordan Scott's *decomp* (2013), a "photographic-poetic project" created by storing copies of Charles Darwin's *On the Origin of Species* on mountaintops and under vegetation, resulting in what Bezan argues is a poetic practice that is "reflective of an evolutionary process that is constituted by the continuous and creative composition and decomposition of the codes of organic life" ("Decomposing" 242). Bezan argues that "the eco-zoopoetics of decomposition in *decomp* is the product of an encounter between the vitality of dirt, the castings of worms, and the textual intervention of the vertebrate hominid" ("Decomposing" 249), encouraging a broadening of understanding of interspecies connection and ecologies within (and without) texts, and highlighting how "all organic things are susceptible to the fixed and fluid processes that break down the formations of language and being" ("Decomposing" 250) – just as happens in the case of the mushrooms growing from the discarded books in *Alternate Endings*.

language, which died out long ago" (76). Although she does not understand the symbols before her, "the images seem to her both haunting and familiar, like déjà vu" (76), an uncanny familiarity in the story that traverses across generations with the comet. Finally, four copies remain as the comet approaches the planet, and then, "in an instant, there are none" (77). This countdown references several modes of extinction that resonate with Fest's demarcations of the limits of archivy as detailed earlier in this chapter: we see the extinction of the language it is written in, in that no one is able to interpret the words on the page; the extinction of humanity, when no humans remain on the planet; and finally the extinction of the planet itself and all it contains, including the remnants of the final four texts. The absolute annihilation of the archive and all human referents is most clearly articulated in the chapter that details the impact of Halley's comet with the Earth: all that is found in this chapter is a blank page, highlighting the absolute absence that occurs with extinction, purely emblemised by a textual representation of nothingness.

In questioning the security of the archive in the future, *Alternate Endings* queries the security of archival documentation in the past, exploring the politics of archiving and the violence of archival erasure. This is a prominent theme in the text, with the historian postulating about potential erasures when she states that she "studies folktales because [she is] interested in what is lost when stories passed on by voice are committed to paper" (82). In the 1835 time period, Drager tells the story of the Grimm Brothers and their part in the collation and transcription of folktales. She writes that the "task before [the brothers] is to solicit from the women the tales that have defined their country and culture, the tales that are going extinct" (12). Drager highlights the importance of stories and storytelling to culture and identity, whilst linking the loss of these tales to the idea of extinction. Yet the text explores the difficulties of transcribing oral knowledge and preserving these tales in written form, and the problem of mediating the story into one foundational source. The brothers meet a woman who offers an alternative version of the Hansel and Gretel tale: the woman states that "in her territory, the story has nothing to do with famine or being lost", but that "the story is about a boy who loves boys and the parents who abandoned him because of it" (13). This suggestion that the reason the parents sent the children into the woods was because of Hansel's sexuality differs from the other narratives the brothers have heard and transcribed: they acknowledge that "[t]heir work is to capture and archive the tales of their community and culture", but this telling of the story raises a new question they have not yet had to grapple with: "is the story the woman tells the origin, and all the other versions derived from it? Or is this woman's story an anomaly, the original

tale contaminated by her line of tellers?" (13-4). This reflection expresses anxieties about the need for a single, foundational truth, similar to the need for the sense of an ending: an authoritative origin, and thus an ending, to the folktale they will transcribe.

The woman observes that the brothers "seem resistant to the story", yet "she considers it her duty to make sure they've heard this tale precisely […] she knows well that what gets committed to the page, what gets translated into the code of letters and locked in the coffin of a book, becomes truth while everything else dissolves into the abyss of history lost" (15). The text articulates what is at risk in the brothers' decision to not assimilate this version of the tale, speaking to both the presumed authority of the archive, and the potential of losing what falls outside of it. The brothers too, demonstrate an awareness of their power in these acts of transcription:

> the problem, the Brothers Grimm think in their bedrooms the night they hear the story of the abandoned siblings, has to do with silence. Should they tell [the story] as they heard it […] or should they let it dissolve into the waste of the past? Jacob will think: What is at stake in sharing this story? And Wilhelm will think: What is at stake in leaving this story untold? (17)

Here the brothers speak to the active production involved in acts of archivy, acknowledging the silences and absences that may lie within their tales and the dangers of exclusion and lack of accurate representation. The brothers ultimately choose to exclude the woman's version of the tale, and the tale becomes the one that is culturally known: "the story of Hansel and Gretel goes like this: two weak and hungry children, a bad witch, and a resolution where the children go home. And it lives that way forever after" (14-5). This version of the story is seemingly set in stone, and we see the first point of archival erasure within the text.

Later, the oral versions of these folk tales are depicted as having changed under Wilhelm's pen: they have "morphed, moved further from their origins to become more palatable and refined" (41), and in honing them, "the stories are growing toward [Wilhelm's] desires and wants and not those of the folk" (41). Wilhelm and Jacob's transcription of regional folk tales evidences the potential of archival erasure and the bias that occurs in committing knowledge, particularly cultural oral knowledge, to the archive. The refusal to incorporate the woman's telling of the story is an act of queer erasure, excluding Hansel's sexuality so as to make the tale more 'palatable', as the brothers take their preferred iterations of the tales and rewriting them for their own benefit and profit. It also speaks to the problem of representation: the woman notes

that, after telling the tale to the brothers, "she thinks of her son at home. For she knows how this will end: there will be no story for him in the brothers' collection of tales" (13). The story is described as having been "categorized by a very specific system and that system places it in a family of stories deemed Otherworldly Opponents" (39), alluding to the often binary structures which can contain material and limit it to a singular and unshifting definition – a choice which risks erasing alternative perspectives and interpretations, and repeats only the archivists biases. The brothers are haunted by these erasures, and by including them, the text speaks to the wider structures of oppression and subjugation that facilitate prejudicial transcription and mediation.

The notion of exclusion and erasure within the archive also arises through the destabilisation of the concept of 'home', defamiliarizing it and making it uncanny. The Greek *arkheion* which Derrida touches on in his discussion of the etymology of archive translates to a "house, a domicile, and address, the residence of […] the *archons*, those who commanded" ("Archive Fever" 9). In this definition we see again the emergence of the spatial requirement of the archive, yet the idea of a home is more than just a spatial concept; as Drager notes, the word home can be used "figuratively, meaning that which is familiar and comfortable and safe" (67). The figurative conception of 'home' has connotations of belonging, hospitality, and safety, yet also has the potential for being exclusionary in the way that we have seen the archive be. The text uses the metaphor of home and belonging as a way to discuss the security of the archive and the potential that the archive, and wider culture, has for being exclusionary. In the 1986 time period, the researcher and her brother, referred to as "the dancer", return home to tell their parents about her brother's AIDS diagnosis:

> We are standing on the porch and I am wondering when our mother will let us into the home in which we were born and raised. I can see through the channel of the house to the back, where the sandbox still lives. It is empty like the top of an hourglass when the time is up […] my mother is shutting the door very slowly. There is our family on the porch and then there is just my brother and I, the closed door a lesson in how to be alone. (81-2)

The siblings are faced with exclusion from their family home as a result of their mother's prejudice toward the dancer's sexuality and diagnosis; as a result of this, both siblings are denied a return to their place of belonging. Drager ties this exclusion directly to archival exclusion and historical erasure, as the sister imagines their mother's reaction as she turns her children away: "Do they think of the bangs they once pushed from foreheads, the chins they

once held in their palms? Or are they able to revise the past, erase the child from their history as if he never was?" (62). This revision resonates with the Grimms' erasure of the alternate telling of the Hansel and Gretel story, and the ease at which exclusion – from both home and archive – can be achieved. The familiar space of the home is also presented as a site of potential danger and consumption: in considering the house in the Hansel and Gretel story, the illustrator writes that "usually a house eats us, its door swinging like a tongue, our bodies living in its gut" (56).[97] A place of safety is changed into a place of potential annihilation, an uncanny abode that threatens to consume rather than protect. This image of consumption articulates how profiting off cultural knowledge and stories can be an act of violence – consuming the ideas and using them for personal gain, whilst simultaneously erasing evidence of their origin.

This destabilisation of the symbol of home also articulates how the threat of extinction has created a sense that humanity no longer has a secure 'home' in the future of the Earth, a concept explored in Chapter One. When the environment becomes unsustainable to humanity, the notion of the planet as home is destabilised, becoming unfamiliar and hostile. Albrecht's describes his notion of solastagia as a "homesickness you have when you are still located within your home environment" (39), alluding to the sense of loss and nostalgia that is experienced when the land surrounding us begins to change as a result of environmental breakdown. The changing in surroundings causes a loss of a sense of place and belonging, which can cause distress and existential angst. In *Alternate Endings,* the sense of belonging on the planet is shaken by the uncertainty of human futures as a result of environmental breakdown, and the destabilizing of the image of the home as a place of belonging can be extended to the home of the planet. The parents "shutting the door" on their children can be read in terms of intergenerational culpability, and a refusal to think in long-term perspectives that consider how to ensure the home of the planet is preserved for future generations.

The story of Hansel and Gretel becomes contained into a static singular version in written form, the story "translated into the code of letters and locked in the coffin of a book, [becoming] truth while everything else dissolves into the abyss of history" (13), inciting a Gothic sense of

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[97] This image of the house as consuming mouth recalls haunted house narratives which frame the house as metaphorically (or literally) able to consume its inhabitants. The house from Damiano Damiani's *The Amityville Horror* (1979) looks architecturally like a face, the windows its eyes, the doors a mouth, and Spielberg's *Poltergeist* (1982) features a young girl sucked into a portal within the house, the house consuming her within. The animated Gil Kenan film *Monster House* (2006) literally features a house which eats those who walk past.

claustrophobia: the book becomes a coffin, signalling the 'death' of the true story and the entrapment of the amended story, contained under the brothers' directions as the truth dissolves into nothingness. The text thus highlights the silencing and erasure of certain voices, using the potential erasure of the archive in the face of extinction to expose the fallacy of the archive as a secure symbol for futurity for all. Yet Drager goes beyond simply highlighting erasures, instead providing multiple articulations and reinterpretations of the story, destabilising the notion of a fixed and authoritative notion of history. Despite the cultural weight and authority placed on the original transcription of the text (notably, the version of the tale that is sent to space is captioned as "Hansel & Gretel, first edition 1812" [43]) the tale itself continues to morph and adapt, changing form and content throughout the years: "It becomes an opera. It becomes a play. In some versions, there is a duck that takes them home to their father. In some versions, they return home only to learn that they have been transformed into adults" (69), while in other versions, "the siblings are sent into space to fight an alien witch. In some versions, the siblings are a computer virus caught by the breadcrumbs they leave" (74). The text explains how this adaptability has been noted and examined, and that articles and books have been written about "how pliable the story is", arguing that "this is the reason it has managed to persist" (74). Despite the assumed authority of the 'original' text, it is in fact the story's adaptability that has enabled it to persist, shifting in a continuing sense of becoming that refuses the rigidity of the foundational text, and emphasising the way that stories can adapt to respond to different generations' needs.

In addition to *describing* how the story adapts and shift, the text also *demonstrates* this shifting through the multiple iterations of Hansel and Gretel. The presentation of multiple versions of the siblings placed alongside each other reveals the story as not being static or singular, emphasising how the stories can share similarities but also diverge. The text provides an opportunity for the excluded voices to be written back into the archive, foregrounding queer voices and relationships such as that of the nurse and the illustrator, who responds to the question of "what would you draw if you knew the world was ending" by stating that she would "draw the story of us" (31). The presence of extinction in the text breaks open the archive and provides opportunities for stories to be reclaimed and rewritten. Another example is in the subversion of the figure of the witch, who in the 1986 time is a woman who provides shelter and comfort to people who are dying as a result of AIDS-related complications. Having previously alluded to times where queer perspectives have been erased from the archive of history and stories, Drager uses this chapter to centre the importance of providing a space for

queer stories, placing them back into the narrative. Gretel describes how "the men tell [her] their stories, of the bathhouses that permitted them a freedom known only to their generation, of the theatres they frequented and the bars they called home" (90). They tell of the erasure of these queer spaces: that "[t]he bathhouses are closed, the theatres empty, a community and culture vanishing" (90). When the people living in the witch's house die, they leave their stories for this Gretel to collect and collate, preserving their memory in stories and objects. The walls of the house "became populated with beautiful, haunting paintings", her "tables adorned with sculptures" and "pages of their manuscripts and the costumes from their performances" (87-88). The way that Drager transforms the story of Hansel and Gretel in this chapter stands in contrast to the erasure of Hansel's sexuality in the Grimms' iterations of the story. Here, there is a reclamation of the notion of the witch and the witch's house – previously a place of threat and violence, the gingerbread house becomes a home, a refuge – a place of suffering and grief, but also a place of preservation, safety, and comfort, as the witch provides a new home for those who have lost their own. The *unheimlich* house makes itself *heimlich*, becoming not a place of exclusion or danger, but a place of inclusion and an archive in itself.

In order to consider alternatives to human notions of connection and futurities, the text also foregrounds nonhuman iterations and perspectives. Drager frequently draws on the perspectives of nonhuman entities, as the human, the nonhuman, the lithic, the cosmic, are given near-equivalent narrative privilege. In one story, the Earth and the Sun are described as being "siblings, born from the same family" (30), as are the two space probes that disseminate the Hansel and Gretel tale in binary code (43). The comet itself is often given a certain degree of sentience and even agency, with the text frequently offering perspectives of this celestial object: the comet "watches the earth grow ever larger" (77), it "behaves in response to the acts that unfold on the rock […] It listens and replies" (55). The novel works to pull back and consider the human as part of something much larger, a cosmological perspective that is also implied via the descriptions of the illustrated edition of the Hansel and Gretel text: the text is "illustrated from above, as though the clouds are witnessing the story unfolding below" (33), as if "an ethereal lens lingers in the top of the trees, witnessing the tale" (58). Notable too is that the illustrator's method is "pointillist – she renders images through short strokes that, given distance, become unified like the pixels on a screen" (240), a method that seems to recall the multiplicity of networks and beings that seem whole, complete, and individual from a distance. The narrative suggests that "world has its own language with which it composes our story", and that perhaps we "aren't the authors of our own end but minor players in a much more

cosmic tale" (106). This consideration encourages a displacement of the human in relation to the wide world, encouraging a non-anthropocentric perspective that reframes attitudes towards the nonhuman. By foregrounding deep time perspectives and including the nonhuman in the stories and in the archive, the text itself, as an archive of alternate endings, extends the definition of the archive to include those nonhuman and cosmic entities.

The text also considers the possibility of the human archive as one day becoming solely geological, as is considered when thinking the Anthropocene. Looking up at the comet approaching in the sky, Jacob Grimm imagines the comet's view of the planet over the years, wondering whether the comet can seen how "[w]e have marked this earth in so many wrong ways", noting how humans have "cut down trees", "[emptied] oceans" and "[killed] beasts" (44) and considering the long-lasting and potentially devastating impact this might have had. Jacob moves directly into the consideration of extinction as a result of human activity, asking "[d]oes the comet wonder if, on one of these orbits, it will return to find there is nothing left, a vast void where once stood our grand planet?" (44). His questioning of whether this human action might lead to the "void" of extinction, and wondering whether the comet will even notice humanity's absence, speaks to the notion that "our obliteration [is] just another blemish, another body of rock that has failed and faded in the infinite chasm" (44). Here Drager incites again the anxiety of the destruction of the symbolic archive and the possibility of humanity becoming a geological trace, a lithic archive: all of humanity reduced to another body of rock. This imagery emerges again in the 1986 time: the researcher ponders how inconsequential the human race is on a wider cosmological perspective, stating that "[t]o the sky, we are just another natural phenomenon that will leave an insubstantial trace, a fossilized arrangement of bone here, the crater of a long-melted glacier there" (92). Humanity is reduced to its actions on the planet, with no trace of the more traditional contents of a 'human' archive.

Yet this way of thinking is not positioned by the text as being solely negative or nihilistic. The researcher observes that "[i]f only we were privileged with such distance, perhaps we could see how minor we all are, all our art and thought and illness and meaning reduced to a bit of debris, the detritus on one of a million spheres stupidly looping nothing" (92). Drager identifies the way that this kind of thinking threatens the security of things that give humanity comfort in the face of individual mortality, yet here, it is not perceived as a devastation, but a privilege - a positive way of comprehending human life on the planet that does not fall back on exceptionalist and exclusionist constructions of futurity. Drager's novel works to pull back and

consider the human as part of something much larger; the human characters are not necessarily the primary protagonist of the tale, but they, along with the nonhuman and celestial, inhabit the Hansel and Gretel tale as it develops over the millennia. In doing so, there is a sense that the tale itself becomes the protagonist, inhabiting the different variations of the siblings as it shifts and adapts along the years, outlasting all until it can no longer be comprehended. The intergenerational connection of *Alternate Endings* becomes the story itself.

Conclusion

Connection with past and future generations is a key feature of these novels, as is the tenuous nature of futurity when considering the possibility of extinction. Awareness of the extent of anthropogenic climate change troubles ideas relating to posterity and to the responsibility we hold to future and past generations. What are the consequences when posterity becomes something so all-encompassing and destructive – when posterity becomes something geological, something so encompassing, destructive, and far-reaching that it cannot be fully comprehended? Or alternatively: when posterity becomes the very absence of posterity? In order to adequately respond to anthropogenic climate change, there needs to be a shift in attitudes surrounding responsibilities to future generations. In a discussion of Indigenous science fiction, Kyle P. Whyte discusses the Anishinaabemowin (Ojibwe) expression *aanikoobijigan*, an expression meaning both ancestor and descendent. Whyte argues that this meaning suggests an Anishinaabe perspective on intergenerational time that is "embedded in a spiraling temporality (sense of time) in which it makes sense to consider ourselves as living alongside future and past relatives simultaneously as we walk through life" (228-9). Spiralling narratives, which can include narratives of cyclicality, reversal, dream-like scenarios, simultaneity and more, "unfold through our interacting with, responding to and reflecting on the actual or potential actions and viewpoints of our ancestors and descendants. They unfold as continuous dialogues" (229). Whyte sees this in practice through the consideration both of "How do we return the gifts from our ancestors?" and "How do we become good ancestors ourselves?", creating a dialogue with both past and future generations that acknowledges a need for reciprocal responsibility for the land, and considers existence on the land as a form of safeguarding for future generations, rather than ownership and opportunity for unchecked extraction.

Erdrich's *Future Home* inhabits this perspective of intergenerational time, of listening to the past, the present, and the future, and of emphasising dialogue across generations as a vital way to ensure a respectful relationship with the land and with others. Drager's *Alternate Ending's* similarly demonstrates the notion of intergenerational connection and communication, through its non-linear form which connects the acts of the past/present with the present/future. By inhabiting this pre-extinction setting which threatens the possibility of this dialogue and its importance to ecological restoration and planetary continuation, these texts make its importance even more vital. Although the connection with future generations has been troubled by extinction, the texts still return to ideas related to intergenerational connection: yet there is a distinction here, between intergenerational connection as a form of posterity, ownership, and anthropocentrism, and intergenerational connection as an awareness of current responsibility to safeguard the planet for the future, and gratitude to those who have passed it onto us from the past. This form of intergenerational connection is rooted in ideas relating to responsibility, reciprocity, and culpability – points that are key when considering the texts ecologically.

By querying notions of intergenerational connection and posterity, these novels both speak backwards to past violence and forwards to future ones, protesting and resisting them. Through an interrogation of these ideas, the text breaks them open, querying troubling dominant ideologies regarding futurities and encouraging alternate approaches to futurity that both accept human complicity in anthropogenic climate change and consider posterity as something that extends beyond the human. Flyn notes that "[e]very woodland is a memoir made of leaves and microbes that catalogue its 'ecological memory'", and that "[w]e can learn, if we want, to read it" (10). Thinking extinction provokes a defamiliarization that can provoke a reconsideration of exactly what is meant by archivy and futurity, rewriting the concepts to include the nonhuman world, such as these leafy memoirs of ecological memory. By incorporating nonhuman histories and archives in our present, the future can avoid the mistakes and violences of the past.

CHAPTER FOUR

DECENTRING THE HUMAN IN ALEXANDRA KLEEMAN'S *SOMETHING NEW UNDER THE SUN* (2021) AND MATT BELL'S *APPLESEED* (2022)

To be human is to confuse a satisfying story with a meaningful one, and to mistake life for something huge with two legs. No: life is mobilized on a vastly larger scale, and the world is failing precisely because no novel can make the contest for the *world* seem as compelling as the struggles between a few lost people.

~ Richard Powers, *The Overstory* (2018)

[T]here is no 'I' separate from the intra-active becoming of the world.

~ Karan Barad, *Meeting the Universe Halfway* (2007)

Thinking Beyond the Human

Human dominion over nature has been propagated by ideologies that configure the natural and nonhuman world as separate from, and inferior to, the human world. This anthropocentric position has contributed to prevailing hierarchical beliefs in human mastery over natural spaces and nonhuman beings, resulting in the treatment of these spaces and beings as resources and subsequentially playing a key factor in mounting environmental degradation. Yet despite prevailing attempts to define it as such, humanity is not separate and superior from the natural world, but is a part of the natural world, allied through numerous entanglements and interconnections: as Alaimo argues, "'the environment' is not located somewhere out there, but is always the very substance of ourselves" (*Bodily Natures* 4). Much work within environmental studies has endeavoured to establish this concept, with various theoretical approaches attempting to decentre the human, proposing instead an understanding of the material world as comprising a mass of interconnected networks consisting of human and nonhuman beings which have equivalent importance, evidencing the connectedness of the material world and its propensity to shift.[98] Alaimo's work on trans-corporeality speaks to the

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[98] There are many branches of theory which endeavour to challenge anthropocentric presumptions concerning humans and the nonhuman world, acknowledging the subjectivity and agency of nonhuman beings and engaging with possibilities of connection, collaboration, and interactivity. A selection of examples of these theoretical approaches include: new materialism, which acknowledges the vibrancy and dynamism of matter, in contrast to a positioning of matter as something passive and inert; actor-network theory, which understands all things as actants that can have equivalent impact and importance, and exist in relational connection to each other; multispecies ethnography, which extends ethnography

enmeshment of the human with nature, affirming that despite prevailing conceptions of the human self as being separate and distinct, the human is ultimately inseparable from the environment. These theoretical approaches draw awareness to our dependence on other beings and assert our position as agents of these networks rather than as discrete beings: Sheldrake notes that although "identifying where one individual stops and another starts is not generally something we think about" (13), when we consider ourselves on a microbial level, we realise that humans are themselves "ecosystems that span boundaries and transgress categories" (15), "composed of – and decomposed by – an ecology of microbes" (13). These understandings destabilise the foundation of thinking that asserts our bodies as having clear boundaries: human bodies are permeable, porous, and permanently intermeshed with the nonhuman world.[99] Grusin has identified these approaches as being part of a "nonhuman turn", a shift in theory and literature that is "engaged in decentering the human in favor of a turn toward and concern for the nonhuman" (*Nonhuman Turn* vii). This theoretical work attempts to expose the myth of human exceptionalism by querying the binary that has othered the nonhuman and presumed human superiority, whilst demonstrating the intrinsic entanglement of humans with the nonhuman world.[100] Thinking in this manner helps to understand that humans are not only *in* the networks; they *are* the networks. When writing narratives exploring climate change and the Anthropocene, an emphasis on how human action can have a negative effect on those networks can highlight how it is counterintuitive to damage them, as damaging them will be the same as damaging ourselves. Furthermore, shifting away from purely human-centric narratives that position humanity as the protagonist can enable a broader and more inclusive approach to narrative, exploring wider scales and alternate perspectives beyond that of the human, and ultimately, challenging pervasive conceptions of the human itself.

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beyond the human to acknowledge the interconnectedness of humans and nonhuman species; object-oriented ontology, which explores all things as 'objects' which have agency and lived realities, with a rejection of thinking that the human perspective is the only and most important perspective; and, thing theory, exploring interactions and relations between humans and objects;

[99] Haraway similarly considers how the human body is made of multitudes of other beings, our cells "filled with the genomes of bacteria, fungi, protists" (*Species* 3). She observes that she is "vastly outnumbered by [her] tiny companions", and that to be human is "always to *become with* many", refuting the notion of the individual discrete human body and instead acknowledging our interspecies dependence on these other tiny companions (*Species* 4; emphasis in original).

[100] Grusin's collection *The Nonhuman Turn* (2015) was the first time this theoretical 'shift' was defined as the nonhuman turn: it includes an array of key contributors to this critical movement, such as Jane Bennett and Timothy Morton, and builds on the work of new materialism, ecofeminism, and other environmental and materialist approaches that set the groundwork for this 'turn'.

In this chapter, I examine how Kleeman's *Something New Under the Sun* (hereafter *Something New*) and Bell's *Appleseed* explore the consequences of human dominance and abuse of the environment, linking attitudes of separatism and supremacy with the extensive negative effects on the natural world. They explore the presumed belief in a technological solution to these effects, using elements of terraforming and bioengineering to try and restore the planet to a better state. Yet these solutions fail, worsening conditions and eventually resulting in human extinction. These texts thus resist the assurance of human separation and supremacy whilst acknowledging the damage that this attitude has perpetuated. The very notion of considering extinction has the potential to decentre the anthropocentric perspective in that it posits the inevitability of a world without humanity, yet these texts also challenge anthropocentric attitudes in other ways: through an exploration of nonhuman perspectives, through a consideration of a scale beyond the human, and through an understanding of the similarities and connections between human and nonhuman organisms, challenging understandings of the boundaried category of the human. Bruce Clarke argues that "humanism is the idea by which constant identification with a quasi-mythical universal human 'nature' produces great cultural achievements", yet this notion of humanism "deconstructs itself whenever 'the human' is observed not as a unity but as an assemblage" (141). These texts thus deconstruct the understanding of the human as exceptional and separate by drawing attention to the human as similar to and assembled with the nonhuman world. Both narratives ultimately encourage a decentring of the human and affirm the importance of seeing the human as neither superior to nor distinct from the nonhuman, and I argue that this can encourage an interconnectedness that is vital whilst under the self-inflicted threat of environmental crisis.

Even in narratives of futurity which explore alternative visions of the future, separatist and anthropocentric perspectives can remain. Attitudes of human supremacy and dominance often emerge in science fiction narratives which explore the possibilities of the human species leaving Earth in order to find a hospitable planet, or otherwise adapt an alternate planet through terraforming: an act of geoengineering in which a planet can be permanently changed into an ecosystem equal to that of Earth's, thus making it possible for terrestrial species (primarily, humans) to exist and live there.[101] This type of narrative risks simply extending resource

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[101] Terraforming has been explored widely in science fiction: examples include Arthur C. Clarke's *The Sands of Mars* (1951) (the first instance of Martian terraforming), several of Ray Bradbury's short stories in *The Martian Chronicles* (1958), James Lovelock's *Greening of Mars* (1984), Pamela Sargent's *Venus of Dreams* (1986), Kim Stanley Robinson's *Mars Trilogy* (1992-9), and Adrian Tchaikovsky's *Children of Time* (2015).

exploitation out into space, continuing the impulse for extractivist capitalism as if planets themselves are an endless resource. It also risks continuing a model of settler/invader colonialism into space; the notion of unfettered expansion and settling new, presumed 'empty' worlds replicates the mentality of expansion and colonialism on Earth. This is particularly present in Robert Zubrin's arguments in support of the terraforming of Mars: he states that "Western humanist civilization as we know and value it today was born in expansion, grew in expansion, and can only exist in a dynamic expanding state. While some form of human society might persist in a nonexpanding world, that society will not foster freedom, creativity, individuality, or progress" (n.p.). [102] This kind of exceptionalist narrative frames the world in a way that presumes an inherent sense of human dominance and superiority – a framing that is unhelpful when trying to come to terms with the negative impact that unfettered human expansion has had on both the land, and on marginalised groups.[103]

These ideologies also perpetuate the separatist assumption of nature as being a barren space for human use, presuming that other potential planets are similarly barren and void of life, simply because this 'life' is not how humanity understands and values it. Fantasies of terraforming in particular risk maintaining a sense of hubris and anthropocentrism – the belief that other planets exist for our personal use and adjustment, lacking consideration for or recognition of their non-terrestrial value. In an exploration of the ethics of terraforming, Robert Sparrow argues that

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[102] Zubrin is an American aerospace engineer, President of Pioneer Astronautics, and President of the Mars Society, who frequently advocates for human expansion to Mars.

[103] Ursula K. Le Guin's *The Word for World is Forest* (1972) explores a possible future in which both humanity and humanity's capitalist greed have expanded into the cosmos: in the novella, Earth-based humans, known as Terrans, have colonised a planet they call New Tahiti, which is the home to the native Athsheans. Earth has been run down, suffering from the effects of deforestation, with many species having gone extinct. Army Captain Don Davidson, who is stationed on New Tahiti, repeatedly expresses a desire to 'tame' both the land and the native Athsheans, stating that this planet "was literally made for men", and that if it were "[c]leaned up and cleaned out, the dark forests cut down for open fields of grain, the primeval murk and savagery and ignorance wiped out", then it would become "a paradise, a real Eden", calling himself "a world-tamer" (12-3). He states that he "[likes] to see things in perspective, from the top down, and the top, so far, is humans" (14), continuing the perspective of human as separate from and top, even when he is amongst 'humanoid' nonhumans with many similarities. In the chapters from the Asthean perspective, the Astheans refer to themselves as men and women, but query whether the Terrans can be defined as such: "how is it with these creatures, then? They look like men and talk like men, are they not men?" (32), and instead often refer to the Terrans as 'yumens' or 'giants'. This subversion distorts the commonality of making humanity the default and consigning any other nonhuman/imagined extraterrestrial as being 'other'. By the end of the novel, not only is New Tahiti changed by the actions of the 'yumens', the Astheans themselves, once peaceful and wholly nonviolent beings, have turned to violence to fight back against the attacks from the humans. The novel explores the negative consequences of expanding current ideologies into other planets, and the dangers of space colonialism and unfettered expansion.

terraforming evidences extreme hubris, "[showing] ourselves to be suffering from an excessive pride which blinds us to our own place in the world" (232-3), presuming human mastery and superiority, and that "[i]n attempting to shape another planet to our ends, we are seeking to become gods" (233). Furthermore, it asserts the Earth as something replaceable, easily swapped out for an alternative planet that is equivalent to our own, or one that can be made equivalent under human acts of mastery. It presupposes a technocratic solution to climate change that is sourced in techno-positivist hubris and is potentially impossible, creating a sense of dangerous reassurance that allows present work on fixing the current planet to be ignored in lieu of future work on other, potentially non-existent planets. As Val Plumwood argues: "when we have learnt the true nature of our beings as earthdependent and have learnt both to cherish the earth and to go beyond it without damage, it may be time for us to try to leave for the stars – but not before" (*Environmental Culture* 240). To simply recreate humanity's home as it stands, without acknowledging and moving to change the structures of inequality and disenfranchisement that currently exist, can only lead to the facilitation of the same consumptive practices that contributed to Earth's own demise, whilst being fatalistic regarding the fate of Earth itself.[104]

Narratives which aim to examine the impact of climate change often endeavour to disrupt this anthropocentric assertion of the human as separate, dominant, and superior. They work to consider alternative perspectives and modes of narration that decentre the human, whilst drawing awareness to the entanglements and reliance humanity has with the nonhuman world. For example, Shannon Lambert argues that the use of "polyvocal narration, […] breakdown in chapter demarcation, and repetition" in Richard Powers' *The Overstory* (2018) generates "'mycorrhizal multiplicities' or tree-fungi collectives" within the text, which produces a sense of inter-species connectivity between humans and nonhumans that refutes hierarchical separation (188). The text shows a particular "attunement to collective entanglements", acting as "a timely reminder that humans are not (metaphoric) conductors of the world's musicians but are instead always caught up in processes of co-composition" (189), rejecting the notion of humanity as separate and superior whilst exploring an alternative form of narration that mirrors the mycorrhizal entanglements of the trees themselves.[105]

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[104] There are approaches to planetary expansion and terraforming that attempt to engage with an ethics of planetary care: Robert Heath French (2013) explores terraforming from an environmental justice and ecofeminist perspective, highlighting the importance of including historically marginalised voices in order to develop an ethical approach to terraforming.

[105] Shubhangi Swarup's *Latitudes of Longing* (2020) similarly uses polyvocal narration to emphasise interspecies entanglement and explore environmental change.

Other narratives may include nonhuman perspectives in order to query the assumption of the human as being the 'protagonist'. Lars Bernaerts *et al.* argue that nonhuman narration provokes a "*double dialectic* of empathy and defamiliarization, human and non-human experientiality", prompting readers to "project human experience" onto nonhuman beings that generally are not expected to have this mental perspective, whilst simultaneously enabling them to "acknowledge the otherness" of these nonhuman agents (69; emphasis in original). This may in turn "question (defamiliarize) some of readers' assumptions and expectations about human life and consciousness" (Bernaerts *et al.* 69). In other words: reading nonhuman narratives can place ourselves within the unfamiliar perspective of the nonhuman, creating a defamiliarization of normative tendencies of narrative that presumes humanity as the central subject and the primary perspective. This encourages a broader consideration of who or what might be perceived as the 'protagonist', as well as exploring alternate nonhuman perspectives and experiencing their worldview.[106] In doing so, the texts provoke a challenge to presumptions surrounding subjectivity, agency and value. Texts wishing to query anthropocentrism endeavour to trouble the thin line between the seemingly separate categories of human and nonhuman, drawing attention to the similarities across species and other nonhuman elements. The nonhuman has historically been subjugated through its definition as being 'othered', creating a hierarchical separation that deems human as superior. Creating boundaries allows humans to define ourselves in difference to the other – yet highlighting parallels between the human and the nonhuman reveals how these boundaries are vulnerable and unstable. Drawing attention to shared evolutionary histories, similar functions, and evidence of common descent erodes the line between humanity and other species, which consequently renders the status of human as superior and separate invalid.

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[106] Bernaerts *et al.* explore the nonhuman narration within texts such as Jan Lauwereyns' *Monkey Business* (2003) which is narrated by a captive monkey used as a laboratory animal, Bernado Atxaga's *Two Brothers* (1995) which is narrated by a bird, squirrels, a star, a snake, and a wild goose, and even texts which feature the narration of non-living objects, such as the canvas in Willem Jan Otten's *The Portrait* (2004). There are many other notable novels which explore nonhuman narration: some examples include Kira Jane Buxton's *Hollow Kingdom* (2019), an apocalyptic novel set in the midst of a pandemic narrated by a crow named S.T.; Shelby Van Pelt's *Remarkably Bright Creatures* (2022), a mystery novel narrated in part by an octopus; and Henry Hoke's *Open Throat* (2023), which takes the perspective of a mountain lion living in Hollywood and explores questions of climate change and climate grief.

Decentring the human can also be achieved by inclusion of human hybrids which call into question the category of the human. Human hybrids might emerge as human/animal hybrids, human/robot hybrids, or humans that undergo some form of metamorphosis into a nonhuman form. In Jeff VanderMeer's *The Strange Bird* (2017)*,* a bioengineered bird narrates her experience journeying to an unknown location that appears to be instilled in her like a compass. The narrative is an example of nonhuman narration, but it also goes beyond this in its questioning of the categories of 'human' and 'nonhuman' – the bird has been modified to include human elements, genetically engineered to add "more human functionality and decision making" (70), resulting in confused dreams where the bird experiences being "human but has no sense of her body; she might as well be molecules of air" (23). In enacting this portrayal of hybridity, *The Strange Bird* raises questions relating to what it means to be human versus what is means to be nonhuman, drawing attention to the porous boundaries between definitions of the two. Clarke argues that "[t]ales about human metamorphs intimate that the form of the human has neither somatic nor psychic fixity", consequently decentring and unsettling the human by "terminally disrupting the scripts of humanism" (41). By incorporating human hybrids, texts can undermine prevalent beliefs about the category of the human, echoing the theoretical positions of posthumanist theorists: Rosa Braidotti argues that certain "conservative, religious social" forces have utilised a firm idea of what it is to be human in order to thus "re-inscribe the human within a paradigm of natural law" (1). Considering how the human is something flexible and susceptible to change, whether this is through human hybrids or a questioning of the definition of the human subject, can unsettle the idea of the human understood through traditional humanism. If the boundaries and definition of the human are so uncertain and easily troubled, it follows that the authority of the presumed 'superior' human is called into question.

The very notion of considering extinction has the potential to decentre the anthropocentric perspective in that it posits the inevitability of a world without humanity. Furthermore, as touched upon in Chapter One, considering extinction requires the consideration of humans as an animal species similar to any other; in imagining the destruction of humanity, we must think of ourselves as a species that is as susceptible to extinction as any animal or species that has come before, confronting our own animality. In this chapter, I examine how *Appleseed* and *Something New* encourage a reframing of the human. They challenge anthropocentric attitudes through an exploration of nonhuman perspectives, through a consideration of a scale beyond the human, and through an understanding of the similarities and connections between human

and nonhuman organisms, challenging attitudes that perpetuate oppressive and dominating hierarchies. These texts critique human hubris whilst distorting the centrality of the human, collapsing binary distinctions between human/nonhuman and encouraging a rethinking of the human in relation to the material world.

Questioning the Category of the Human in *Appleseed*

Bell's *Appleseed* is a speculative novel that explores an alternate telling of the past, present, and future of humanity, weaving together three interspersed narratives. The first (chronological) timeline follows Chapman and Nathaniel, two brothers in eighteenth-century Ohio, as they traverse the frontier seeking spaces to plant apple orchards, in order to make their living and settle on the land.[107] The second timeline is set in the second half of the twenty-first century, where accelerated anthropogenic climate change has reached catastrophic levels. This narrative thread opens in the American West, which has becoming a near-uninhabitable desert, and follows John Chapman as he travels around the American West breaking down abandoned infrastructure in an attempt to rewild the land. The third narrative is set a thousand years in the future, where a being known as C-X[108] traverses a seemingly empty North America now covered by a glacier as a result of a global ice age which has devastated the environment and seemingly eradicated the majority of humanity. The narrative details C-X's journey as he follows a homing beacon that he hopes might guide him to the potential remnants of civilisation. The text explores current and projected potential consequences of unfettered exploitation of the natural world, examining how past and ongoing attitudes towards the

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[107] John Chapman is the real name of Johnny Appleseed, who planted acres of apple orchards along the American West in the early 1800s. Appleseed, despite being a real person, has gained a mythical status, emerging as a recurring figure in American folklore and often positioned as peaceful and welcomed by Indigenous Americans: a framing that ignores the reality of settler/invader colonialism. Bradbury references the figure of Appleseed in his short story "The Green Morning" (1950), where protagonist Benjamin Driscoll attempts to transform the hostile environment of Mars into something more similar to home on Earth: he sees himself as "Johnny Appleseed […] walking across America planting apple tree" (97), expressing an attitude similar to that of the settler towards the American wilderness. He notices that there "were no trees, no trees at all, as far as you could look in any direction", the land a "land of black loam, but nothing on it, not even grass" (98). This frames the difference of the Martian landscape as being a lack, inferior to land on Earth, and he even describes his planting as "a private horticultural war with Mars" (98), ensconcing his terraforming in language of domination, conflict, and violence.

[108] C-X is initially introduced as C-432, but we later learn that C-432 is one in a long line of clones of the original C-X – which, it is revealed, is the Chapman from the middle timeline. C-432 destroys himself and reprints himself as C-433. I will refer to the character as C-X when I am discussing his general characterisation, and C-432 or C-433 when I am discussing specific actions of each iteration.

environment can lead to its devastation. It sets up the trope of a post-apocalyptic re-establishment of human society, yet subverts this by ending with the extinction of the human race, instead leaving the planet to rewild itself without human influence.

The text establishes that the threat to the planet is human-driven abuse of the natural world, with each timeline exploring the negative consequences of human dominion and exploitation of the nonhuman world. This is particularly evident in the eighteenth-century section, where we see the expansion of human 'civilisation' into the American wilderness. Nathaniel's attitude towards the American land reflects hierarchical ideologies that consigned certain spaces as wilderness, owing to the absence of 'society' or 'culture'. Plumwood describes how these 'wildernesses' were perceived as "[wastelands] empty of culture and inviting colonisation", believed to be "*terra nullius*", aligned with "the alien, fearful and disordered domain of animals, women, savages" (*Feminism* 163; emphasis in original). This mentality allowed settlers to colonise this space with little regard for pre-existing inhabitants and ecosystems, and to do so with the mindset that the land was being bettered. Nathaniel uses the language of domination and ownership, reciting the myths propagated by American settlers that the land was empty and barren in order to justify their actions: the "old myth of the West" which implied that "much of it was empty, barren, lifeless", a myth described as being "a useful story, because one way to convince yourself to spread suburbs to the horizon was to tell yourself there was nothing there" (74), ignoring the Indigenous people whose homes and lives were destroyed. The narrative refers to the settlers as "squatters – who do not think themselves squatters but settlers, landowners by right of inhabitation and improvement" who "refuse to be dislodged", ignoring that "the land they inhabit was stolen from another" yet "[swearing] they will not let it be stolen from them next" (322). The text acknowledges the hypocrisy of the settler mindset, ignoring the lives of the Indigenous people who lived on the land before them, whilst also assuming an inherent right for the settlers to stay in these lands.

This mentality also ignores the natural world as being something living and animate, deeming these spaces as empty and lifeless and disregarding the nonhuman lives that have existed long before the development of the United States. The wilderness is simultaneously something that "must be pushed back" (37), something to dominate and tame, and something to be improved: Nathaniel "speaks in the eager language of the settler, proud of stewarding the land, of improving the country", as "for him the Territory is earth not put to its right uses" (110) until it is 'tamed' and made into its true purpose under the ownership of humanity – or more

specifically, American settlers such as Nathaniel. Nathaniel uses religious vernacular to evidence the reason why they have the right to own and amend this land. He argues that "the given world wasn't perfect […] but it could be made so by the efforts of good men. God had made the world, God had given the world to men, and men would show God their thanks by perfecting His creation" (110). This mentality underscores the belief that the natural world is an inanimate object to be moulded and 'perfected' by humanity, a thing to be owned and gifted from God to the human race. Nathaniel's perspective on human interaction with the land is resonant of Manifest Destiny, a term coined in 1845 to describe the belief of the right of the citizens of the United States to expand across America: the "fulfilment of our manifest destiny to overspread the continent allotted by Providence for the free development of our yearly multiplying millions" (O'Sullivan 5). Manifest Destiny meant unrestricted expansion ordained by God's law, often ignoring those already living on the land that was to be settled. Nathaniel's rhetoric reflects the ideology of Manifest Destiny, articulating the belief that unfettered use of the land and the "expansion of the human mark" are the land's "rightful uses" (7). This work is the instruction of Nathaniel's God, who promises "total dominion" to "all righteous men willing to put to profitable use every square inch of this God-gifted earth" (15). Dominion of the earth and its inhabitants is a God-given right, the nonhuman world an objectified gift given to those like Nathaniel who will work and ultimately exploit it.

The narrative details the expansion of developing civilization and the increase of human population, which further contributes to the damage and disintegration of spaces untouched by human action within the wilderness: as "advancing civilization" expands further into the Territory, "the human sign spreads until the wilder places are cut off, until they shrink and separate and disappear" (175), the land becoming damaged at the expense of human development. The form of the text allows the long-lasting impact of exploitation of the land to be clearly evidenced, as the text jumps between moments when wild spaces are untouched and unmarked in the earlier periods of the novel, to moments where the extent of anthropogenic climate change is emphasised in the middle timeline. The text notes that "however much the human world has been diminished, humanity's diminished the nonhuman more" (297), acknowledging that although the consequences of climate change have a clear impact on humanity, the impact on the nonhuman world extends even further. In the middle period, the continuing consequences of limitless and unfettered exploitation of the land are clearly demarcated: hundreds of animals have gone extinct (112), extreme weather conditions result in "unceasing droughts", "endless fires", a "rise of acidified seas" and "spinning mobs of

tornados and hurricanes" (339), and damage to the land and animals has caused food and water shortages, resulting in worldwide famine, poverty, and discontent. Climate change has also had grave socio-political consequences, including wars in Russia and Ukraine and political unrest in the "unsteady European Union" (98). The cause of climate change is shown to be one which is far-reaching and widespread, not the result of one singular action or instance, akin to Horn's notion of a "catastrophe without event" (55). Similarly, the ultimate cause of human extinction in this text is not a single moment, but an accumulation of moments, from attitudes of domination towards the land and nonhuman world, to the events which caused the ice age of the final era.

The text also disrupts the assurance of a technocratic save: the generic trope discussed in Chapter Two, of a specific technological solution to the consequences of climate change that can simply reverse the negative effects with a push of a button. In the middle timeline, a company named Earthtrust is working to fix the damage that has been perpetuated against the environment; yet Earthtrust used this moment of precarity to take ownership of the world's resources, controlling and manipulating governments and forcing people to 'volunteer' at Volunteer Agricultural Communities, the only places where crops are able to grow, and where workers are stripped of their citizenship and institutional rights to vote and own property (77). This control over the world's food means that Earthtrust and its CEO, Eury Mirov, have an extensive amount of power and influence over government decisions. The narrative of the middle section details Eury's decision to geoengineer the stratosphere, a plan called Pinatubo where adapted aerosols would be released to blanket the globe, temporarily dropping temperatures in an effort to combat global warming.

Yet the potential consequences of Pinatubo are extreme: a "trap disguised as a solution", for "if carbon emissions continue to accumulate as they have for three hundred years, then any disruption to Pinatubo might result in global temperatures quickly and irreversibly rising four or five or six degrees Celsius, causing every worst-case catastrophe to arrive everywhere at once" (293). There is also an element of irony in the decision to use aerosols, a contributor to environmental damage, as a potential solution. Although there are people in power who are against Pinatubo, Earthtrust has such a level of control that they can act without permission: "[n]ow the world's governments couldn't risk standing up to Eury Mirov, to Earthtrust" (99). Although Earthtrust's initial intentions may have been altruistic, the level of control they

gained has led to further greed and the unwavering arrogance that only their decisions are the right ones. John's partner, Cal, notes that

> Earthtrust doesn't have to be an evil company. The Sacrifice Zone didn't have to happen, the Secession didn't have to be a bloodbath, the VACs don't have to be surveillance states, they don't have to force you to give up your citizenship to gain entrance. But all that happened on Eury Mirov's watch. Maybe there's reason enough to geoengineer the stratosphere too, but can we trust Earthtrust to do it right, for the right reasons? (56)

The Pinatubo plan could potentially be a solution to climate change, yet human greed and arrogance has resulted in the initially positive intentions becoming corrupted by egoism and presumed superiority – over other humans, and also over the natural world. In a discussion with Eury, John argues that a single fix will not be sufficient owing to the multifaceted effects of climate change, stating that "cooling the air isn't enough. What about ocean acidification, what about mass extinctions, what about wildfires everywhere, all the compound extremes to come?" (195). The extensive consequences of climate change means that it "isn't one problem but a million interconnected crises", and this "technological fix, surprisingly simple, surprisingly cheap" (195) will only fix one of the major effects. Additionally, the plan will not fix the atmosphere, only postpone its extensive effects, and the risk that it may cause even worse consequences is high.

The technocratic 'save' of Pinatubo is ultimately thwarted – but in an unexpected manner. In the second timeline, we learn that John was a prior member of Earthtrust and a childhood friend of Eury's, who left Earthtrust once he realised the extent of their desire for control and their corruption. John and a group of people opposed to Earthtrust create a plan to enter its headquarters and prevent Pinatubo. John and Cal make it into the room where the release is planned, yet as John tries to stop the release, Cal tells him that their plan instead is to *change* the release. Cal argues that the Pinatubo solution of getting more time in order to fix the planet is flawed, arguing that "[t]here is no such thing as sustainability as long as unlimited growth is the end goal", that humanity has never reached a substantial decrease in total emissions, and thus is doomed regardless of Pinatubo's extension. Cal instead suggests "forcing Eury's hand" (385), proposing that they reprogramme the nanoswarm so that twenty-five years following the release, the nanoswarm will rapidly thicken, "with only a total global carbon drawdown able to prevent the worst outcome" (387). If the carbon emissions are not lowered by a sufficient amount, the nanoswarm will block solar radiation and trigger a global ice age "capable of

wiping humanity off the planet's surface" (387), "[making] the present the last human world, unless we change everything about how we live, unless we do it together" (385-6). Cal's plan is built on the belief that there is a way to prevent environmental breakdown and climate change, but that it requires collective and consistent work that is counter to the simplistic and 'easy' solution of Pinatubo. Cal also questions hierarchical and anthropocentric ideologies surrounding what lives have value, and who has the authority to ascribe importance. She states that despite what happens,

> [a]lways […] there will be life, no matter what we choose. All we're discussing is whose lives get saved [….] Human or nonhuman, animal or plant, it doesn't matter to Eury Mirov. She guarantees only the steady diminishment of the shared world, only the suffering of the many until the planet is ready to be given to the few. I say abundance or nothingness, abundance or nothingness for all. (387)

This perspective destabilises the notion that human life is the only and most important life to save, criticising the assumption of human priority over all other species, instead proposing a radical flattening of hierarchical structures of power by offering only continuation for all, or extinction for all.

Having disrupted the expectation for the technocratic save, the text goes on to refute the possibility for renewal in the post-apocalyptic world seen in the future time period, instead exploring the possibility of a post-anthropocentric world beyond the extinction of humanity. In the final time period, we see that emissions were not lowered, and Pinatubo did indeed cause the "worst outcome" – the global ice age that we see in the third timeline. This ice age has resulted in the near-extermination of humanity, with the only two survivors being John and Eury. John explains how although they had twenty-five years to find a solution, the world "kept making the same mistakes, wanting to rule the world instead of living in it" (425), linking hubris with the consequences of climate change. He lists systemic problems such as "unchecked capitalism, unregulated extractive industries, the fossil fuel economy" (435), issues that similarly contribute to climate change in our own world. The issues "weren't solvable at the scale of Pinatubo", as what was needed "wasn't the flipping of one global switch but instead a million small efforts, emplaced in localities, rooted in the specific land and water and air of the particular places where people lived" (435). This again rejects the notion of seeing climate change as a singular event that needs a singular exceptional solution, emphasising

instead the collective work rooted in localities and a connection with and understanding of those localities. Instead of making the required changes, people tried to "preserve the one way of life almost everyone was by then living, a way that had already failed" (435), prioritising current exploitative methods of existence rather than reconsidering ways of living to something more balanced and understanding of responsibility to the natural world.

Following the failure of the planet's inability to reduce carbon emissions in time after Pinatubo, Eury created a machine called the Loom that she uses to store 'copies' of as many species of animals and plants as possible – including individual humans. The Loom uses liquified recycled biomass to print new iterations of the stored copies, and Eury's plan was to continue 'reprinting' versions of herself in order to wait out the ice age in a facility at Yucca Mountain (renamed by Eury to Black Mountain), after which she would proceed to 'print' everything stored in the Loom so she can "[reseed] and [rebuild]" the world (107). During the attack on the tower when the amended Pinatubo was released, John was gravely injured and lost his legs; rather than try and help him, Eury scanned him against his will, destroying the original John and uploading a copy of him to the Loom. Eury retreated to Yucca Mountain, where she and a reprinted John waited out the extinction of the rest of humanity. Using the Loom, they reprinted themselves for hundreds of years, intending to wait long enough for the planet to stabilise, after which they would be able to reprint the humans, animals, and plants stored in the Loom, restoring the biosphere to how it was. Eury eventually decided to shed her material body and instead upload herself into a nanoswarm, whilst also uploading the minds of those who had been previously stored in the Loom.

Eury's plans share much of the ideology of the futurist narratives mentioned earlier in this chapter. Pinatubo is a form of terraforming, and the biosphere restoration plan articulates a mentality of not needing to save the current natural world as it can simply be reprinted. Her intention to reprint all nonhuman species rests on the presumption that all those species will first become extinct, choosing to create copies of them to be printed in the Loom rather than working to prevent their initial extinction in the first place. The text emphasises the extent of these mass extinctions when C-433 discovers the list of blueprinted species for Ohio, a "GREATER OHIO REGIONAL RESPECIATION BUILD INVENTORY" (124) that spans seven pages. This extensive list, consisting of multiple variations of species (including 22 species of darter, 17 snakes, 21 salamanders, and 3 buffalo), emphasises the expansive ecological loss that has occurred, recalling the uncanny description of animals only existing on

the page in *Black Wave*, and the notion of the illustrated drawings of the Hansel and Gretel story being the only recognisable things in the future times of *Alternate Endings*. Here, however, the animals have been reduced to only words, completely unlinked from their image and with no existing referent, C-433 unable to comprehend what these words could apply to – until Eury decides to return them to life by printing them anew.[109] Eury's plan to reprint all species can be read as a form of de-extinction: the act of bringing extinct species back to life. There are numerous debates surrounding the ethics of de-extinction, some of those against being that focus should instead be directed towards prevention of further extinctions and biodiversity loss: van Dooren and Rose query "on what grounds we can expect success from these incredibly complex and expensive de-extinction projects when we seem to have so much trouble finding room in the world for […] species who aren't yet extinct" (377), questioning the capacity and purpose of bringing back species when our living species are equally at risk of annihilation.[110] Michael Fuchs describes the concept of de-extinction as being a kind of techno-utopianism: the very idea of de-extinction "symbolises a world in which humans do not have to adapt to a changing environment, but rather employ technology to alter the environment based on their needs" (111), a critique similar to those levelled against terraforming or relocating humanity to another planet as a solution to climate change. Bezan highlights the anthropocentrism that is inherent in the very debate of de-extinction science, which she argues is centred in "the humanist fantasy of omnipotent power over nonhuman life" ("De-Extinction" 93) – the hubristic presumption that humanity have or should have the power to intervene and decide whether to leave animals extinct or to resurrect them. Bezan argues that "[t]he controversy surrounding the de-extinction of species like the woolly mammoth and passenger pigeon is therefore not just about ethics, but about a rapacious yearning for macroevolutionary authority: a desire to make extinct, and a desire to de-extinct" ("De-Extinction" 94). Indeed, this desire to make extinct and to de-extinct is epitomised in the act of recycling nonhuman species for the Loom: described as "[u]navoidably destructive, the recycler's scanner is what

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[109] The listing of these extinct species recalls Hatley's discussion of how "the very notion that one can put one's finger upon a name on a list and decide, just because, that this is the animal one will think on seems itself indicative of the plight of animals in the Anthropocene—to be surrounded by human beings for whom the perplexity and complexity of the living world has been reduced to an amorphous set of words and a collection of fleeting images", a practice which "[characterizes] an era of anthropogenic mass species extinction" (32-3). This listing both emphasises the extensive loss of species, but also simultaneously highlights the anthropocentric way of thinking that reduces lively and entangled species to an image in a book, or a word on a page.

[110] They also argue that "dwelling with extinction – taking it seriously, not rushing to overcome it – may actually be the more important political and ethical work", highlighting the ethics of dealing with and grieving extinction (376).

killed the last bison, the last wolf, the last of every species collected by Earthtrust at Eury's command, the method of the promised resurrection also the final tool of mass extinction" (408). The Loom must destroy the species in order to resurrect it once again, making the species extinct so as to have the possibility to one day make it un-extinct. Eury's work on the Loom is not an act of selfless conservation: it is an act of anthropocentrism.

Eury's interventions are thus drenched in hubris and anthropocentric ideology: she is described as "[wanting] to save the world only if she could choose the future that came after, if she could be the one to decide what the human future should be" (101), evincing the desire for total control over how the new world is created. Eury's techno-utopian vision also emerges in her back-up plan to relocate humanity to a new planet: "[s]he'd designed a city-sized generation ship, one ready to print colonists from onboard biomass once the ship's computer found a suitable home" (437). However, there was "an accident or an attack" and the ship exploded; John observes that "the spaceport was always a target for terrorists who wanted us earthbound, who wanted us to save the only home we'd been given" (437), demonstrating that Eury is embodying a totalitarian approach that does not consider other human perspectives, let alone the perspectives or experiences of nonhumans. Eury exhibits a god-like arrogance that she has the ability and the authority to make the decisions on the rebuilding of humanity and the planet, even when others fight against her. [111] She mirrors a similar sense of hubris reflected in the first time period by Nathaniel, who similarly believes that he has the right to manipulate the land unfettered: in a discussion of the settlement of America and how "by our ingenuity […] our civilization is produced" (38), Chapman disappointedly observes Nathaniel's sense of entitlement towards the land, his "nation-building tall tale, this aspirational mythologizing, its many erasures of war and disease" (38), stating "[y]ou wish to be like a god" (38). Nathaniel responds "[i]f we are all made in God's image, why not act like Him as well?" (39). This attitude of entitlement and hubris emerges throughout the human periods of the text, manifesting in Eury's attitude of supremacy and mastery over the nonhuman world, as she asserts her presumed right to destroy people, animals and land in order to have the possibility of moulding human existence in the future.

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[111] In a review of the novel, Morgan Forde aligns Eury with the likes of Jeff Bezos, Bill Gates, and Elon Musk, wealthy billionaires who prioritise technological development, and whom Forde describes as "neoliberal 'lone genius' types for whom saving the planet is just another business venture – an industry ripe for disruption and monopolization" (n.p.).

It is notable that the final 'resting place' of humanity is Yucca Mountain, which was built to be a repository for high-level radioactive waste in Nevada.[112] Yucca Mountain aimed to provide a way to dispose of waste radioactive matter in a safe and long-term way, and was chosen due to its remote location. By using Yucca Mountain as the final resting place for humanity, Bell highlights the thinking in deep time that is required of long-term nuclear storage and anthropogenic climate change, both of which demonstrate the long-term consequences of human action on the planet. The very concept of long-term nuclear storage facilities such as Yucca Mountain encourage a deep time perspective, as was touched upon in Chapter Three in relation to deep time communication across generations – indeed, on his journey to Yucca Mountain, C-X encounters an "expanse of massive black thorns" (276) that alludes to the 'Landscape of Thorns' conceptualised as a possible universal warning system for nuclear waste. There are also monoliths containing glyphs and messages communicating the dangers ahead, on which Bell includes an adaptation of the recommended message from Trauth et al.'s report on ways to communicate the danger of long-term nuclear waste to future generations.[113] The inclusion of Yucca Mountain also continues the theme of human exploitation of the land and erasure of Indigenous perspectives: many criticisms have been levelled at the development of this repository, as Yucca Mountain has a rich cultural significance to Western Shoshone and Paiute communities. The Paiute Tribe of Utah explained how "the land is a source of cultural, spiritual, and physical nourishment. Following generations of their ancestors, today's Paiutes still hunt and forage on their traditional lands. They conduct their ceremonies, bury their dead, and celebrate on sites of historic significance" (2). Additionally, although Yucca Mountain is remote in terms of its minimal human residents, it is environmentally rich, with a vibrant ecosystem of plants and animals. Ignoring this ecological richness and defining the space as a remote wasteland is, Danielle Endres argues, a manifestation of nuclear colonialism: "once a region is perceived and named as a wasteland, it is easy to think of it as a place for storing and disposing of wastes" (926).[114] In the novel, Eury uses the repository for nuclear waste as a repository for biomass to be used to reprint the world: in this mountain, there was "never stored any present danger, only an endangered future" (417). By using Yucca Mountain as the location

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[112] Ultimately, Yucca Mountain was never actually used for nuclear waste storage owing to the controversies surrounding its implementation.

[113] The monoliths contain the repeated message in multiple languages: "THIS COLUMN IS A MESSAGE, PART OF A SYSTEM OF MESSAGES. THE MESSAGES ARE ALL WARNINGS. NO ESTEEMED DEAD ARE BURIED HERE. NOTHING OF VALUE IS BURIED HERE. […] THE NEXT PART OF THE MESSAGE IS DEATH. TURN BACK" (Bell 281; capitalisation in original).

[114] For more on nuclear colonialism, see Arjun Makhijani *et al.* on the nuclear wasteland (2000).

for the planned rebuilding of the biosphere, Eury continues the violent legacy of environmental exploitation, perpetuating the ideologies which separate humanity from nature and deem non-settled spaces as empty 'wastelands', ripe for human use and manipulation.

The eventual fate of humanity is revealed through the narrative journey of C-X. The identity of C-X is initially a mystery, the text creating uncertainty as to what relation to humanity he is or if there are any other remaining human survivors. C-X is described as a hybrid humanoid creature who 'recycles' himself in a machine that we discover is a Loom, destroying his current body in order to remake a subsequent version of himself. The machine is powered by the biomass he seeks out to restock, but as the biomass runs low, each subsequent iteration of himself becomes less 'human' – parts of him are mechanical, plastic, and even animal, as he begins to develop horns. It is revealed that C-X was a prior copy of multiple Johns who were sent out to watch for signs that the planet was ready to start rebuilding. In his final printing, C-433 discovers that he has part of a tree literally growing from his body – the first living tree since before the ice age. Eury sees this as being key to starting the new future for the human race, believing it as a "tree made not for the world that was but the world as it is", a gift that is "primed for the future we made" (449). She plans to cut the tree from C-433 and scan them both into the Loom, destroying them in the process but gaining the blueprints to be able to print more trees, and giving C-433 the option to live on in a swarm as she does. Although the tree is cut from him, C-433 refuses to let himself or the tree be scanned, wishing instead for the tree to live on and grow without human intervention. He silently infects Eury with a virus created by a prior version of John, a backdoor designed to prevent her from transferring her consciousness to another swarm once the current nanobots inevitably fail. This moment is described as being "the sure end of human intelligence, an ending delayed only until the bots that make up [Eury's] last body fade and fail" (457), thus signifying the projected ending of the final remainder of human life and dominance.

The final chapter pulls out into a long-scale view, quickly moving through time to show the failing and dissipation of humanity amidst the thriving of a nonhuman future – the tree flourishes, "[aging] onward unmolested and untended, freed at last to become whatever it will", no longer marked by human intervention (459). The text describes years passing until the effects of Pinatubo are eventually undone, the sky turning blue again as the ice from the ice age melts, "clean cold water coursing down the slopes to carve new spillways and new pools, to replenish dried-up lakes and ancient aquifers" (460). Machines run down and buildings

collapse, ruins of humanity "dismantled by the Tree and its offspring", and finally the "two pale ghosts" of Eury and John eventually "fade and flicker out too, their voices vanishing one bot at a time" (460). Instead of ending with the possibility of human renewal and re-establishing their dominance, the text ends with humanity's quiet extinction, a fading into the background as a world beyond humanity thrives and continues on. Ending in this way, the text refuses to perpetuate the idea of human continuance and the technocratic save that assures human dominance. It suggests a world of post-anthropocentrism, even acknowledging that the text does not necessarily present the end of the world – John notes that he "[keeps] saying the world ended, but the world will always be here", and that "[i]n place of world, [he] should say story" (434). In a discussion with C-433 prior to extinction, John states that

> [o]ur story ended, but no story has ever ended so definitively another could not be told. Humanity's lasted a quarter of a million years, our civilization's a mere ten thousand. Not long, in geological time. But when we went, we took so much else with us. Whatever life flourishes next – maybe this new tree you've brought back with you – I can only imagine it stands a better chance without us. (434)

Here John acknowledges the long-ranging and extensive negative impact that humanity had on the planet, whilst also underscoring the small amount of time that humanity existed on a geological timeframe, considering human existence on a broader scale that decentralises the notion of human linear temporality. The next life – the next 'story' – will be one beyond the human perspective, and thus the final chapter extends its scale into the far future, ending with a sense of hope for the tree, now not "an orchard of human want" but a "forest set free […] endlessly desiring to plant itself a world" (461), no longer controlled by human desires, exploitation, or even observation.

Appleseed thus demonstrates the fall of humanity, showing the possibility of a world beyond humanity where all that is human loses its meaning and purpose. One way in which this loss of human dominance and human meaning is articulated is through references to language. Language is often shown to be used as a tool of domination in the text, a way to demonstrate power and authority over other nonhuman beings. There is a contrast set up between the nameless spaces of the wilderness and humanity's act of naming these places as a form of ownership – the land untouched by the settlers is often described as "unnamed" (9-10; 175) or "unmapped" (175), and Nathaniel notes that now the settlers have begun their work on the land they have "already […] named it better, this America; already we've set out to properly parcel and sell its splendor, to make ready the state to be" (38). Naming is linked with exploitation of

the land, carving it into pieces and selling its resources for a profit. In the far future section, with all but C-X and the hivemind of Eury gone, C-X, having lost much of his memory over the numerous reprintings, struggles to remember the names of many of the ruins he comes across: he describes searching beneath the glacier for biomass and finding remnants of the last world "buried and frozen, much of it unnamable, unrecognizable, all of it the end of a world crushed and graveled and dispersed, ground down to finest grains" (32-3). The remnants of the human world can no longer be interpreted and understood in this new nearing post-anthropocentric world, unable to be understood.

The text repeatedly emphasises C-X's inability to identify the name for these things: "he stares at so much he cannot name" (230) and looks at "topographical features [he] can't summon the language to describe" (227). The narration observes that, once humanity becomes extinct,

> whoever comes next will not call it *earth,* from the Old English *eorthe,* the Dutch *aarde,* the German *erde*. There will be no more English, no more Dutch, no more German. Never again. If one day some next intelligence emerges to name this planet – which will not by that intelligence be called a *planet* – the intelligence will name this ball of scraped rock and frozen water and magma something other than *home*." (201; emphases in original)

With humanity gone, the capacity for human naming has gone too, and with it, the presumption of human dominion. This is demonstrated too in the naming of the different eras: each time period is given a title on their first chapter: Chapman's is "The Invincible Earth", John's "The Manifest Earth", and C-432's is "The Earth Reset". Naming the earth "invincible" underlines the presumption that humanity will continue to grow and prosper, that humanity will last forever, as will the earth they live on, despite it being a limited resource – an assumption that the planet can survive anything done to it. The "manifest" earth recalls Manifest Destiny, ironically describing the collapsing present-day earth as the one that was "manifested" by settlers in the eighteenth-century period. The Earth Reset envisions the world post-human society, when only the dregs of humanity remain in the figures of C-X, Eury and John, and the land of the earth is being reset without human activity and exploitation. The very last chapter, in which the text takes the long-scale perspective of seeing the land begin to regrow beyond humanity as it fades out, is nameless, no longer contained by any human perspective.[115]

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[115] The power inherent in 'naming' and the possibility of 'unnaming' is explored in Le Guin's short story, "She Unnames Them" (1985), which reimagines the Adam and Eve story so that Eve 'unnames' all nonhuman species (and eventually herself). Eve describes feeling more of a closeness with the

The text frequently demonstrates the consequences of a dualistic approach towards nature-culture interaction. Chapman and Nathaniel see the consequences of a hunter's attempts at killing wolves in order to take their pelts: the hunter has spread poisoned raw meat throughout the woods, resulting in mass death of multiple species as well as the wolves. Chapman describes a grotesque landscape of "devastation" as coyotes, bears, foxes and wolves lay rotting on the woodland floor (303), yet the hunter feels no remorse for the ruin he has left behind, described as "[a]nother American innovator, accepting all the collateral damage of his method, as long as he earns what he's owed" (303), thinking only of profit over the harm he has caused. Here we also see the consequences of looking at different elements of the nonhuman world as being discrete and separate, rather than interlinked and interdependent. Chapman tries to bury the dead as he finds them, noting that "the poison will spread if it isn't contained", as "the forest is a system of interlocking cause and effect" where "nothing can be made so discrete" (301). No matter how Chapman tries to prevent this infestation, "the poison in the rabbit will eventually find its way into some other living thing: if not the scavenging birds and mammals, then worms, maggots, the burrowing insects alive beneath the earth" (301). Whilst the hunter may see his actions as only causing the death of the wolves he hunts, the reality of his influence is far more reaching, as the nonhuman world, and the human world, are so interlinked: Chapman remarks on "the impossibility of keeping the harm humans do confined to any one place" (301), as the networks of ecosystems are so entwined that there is no possibility of segregating them. The text emphasises the extensive impact of the human on the nonhuman land, whilst demonstrating the consequences of this form of separatist thinking, knowing too that the impact can and will spread to the 'human' world as well as the animal.

The paradox of human dominion is established through an emphasis on human connections with the nonhuman world and through a questioning of the category of 'human'; the text highlights the volatile boundaries of both the category of the human and of the lines between the human and nature itself. Chapman in the first time period is a human-animal hybrid with

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animals following their unnaming – she explains how "[t]hey seemed far closer than when their names had stood between myself and them like a clear barrier" (27), emphasising how the naming of nonhuman species (both in their individual category of species and in the broader category of 'nonhuman') acts as a form of separatism that allows humanity to distance itself from them, and allows the perpetuation of hierarchies. With this barrier removed, "the hunter could not be told from the hunted, nor the eater from the food", both human and nonhuman species now sharing "the same fear" and "attraction" (27), highlighting the equivalency of the human animal with the nonhuman animal.

horns and hooves but a man's body. Owing to this hybridity, Chapman struggles with his sense of self, feeling that he cannot fully join either world without acknowledging all parts of him. When he is living in the human world, he must hide his nonhuman side, his brother encouraging him to shed his animalistic self in order to be more 'human': Chapman is "half a man and half a beast", yet when he is with Nathaniel, he "lives only a man's life, does a man's work for a man's reason: possession and enrichment, dominion and control" (43), a life that, in Nathaniel's opinion, is the "[only] life worth living" (43). Feeling the pressure from his brother and social norms, Chapman tries to separate the animal side of him and embody Nathaniel's ideology of human dominion, yet he finds this impossible:

> [h]alf wild as he is, he doesn't count himself as one of the forest creatures, but anything afflicting them might afflict him too, a lesson painfully learned his first wet season in the Territory, when he caught a hoof rot that Nathaniel treated as he would any common goat's: with dreadful cuttings, then the application of stinking herbal salves. (10-1)

Growing up and living amongst the human world that shuns any acknowledgement of connection with animality, Chapman has learned to eschew that side of himself and see himself as distinct from the other forest animals; yet as he shares so many similarities, he is equally afflicted by things that affect them, his hoof rot having to be treated as any normal goat's would be. This conflict can be read in line with human attitudes towards the nonhuman world and the consequences of climate change: although humanity may see itself as separate from the nonhuman world, humans will still suffer the consequences of climate change just as any nonhuman being will.

Although Chapman assists his brother in the work building on the land, he struggles with the ethics of the work in a way that Nathaniel initially does not. His hybridity enables him to have a greater understanding of the negative consequences of humanity's actions, and feel empathy for the nonhuman world impacted by the working of the land. Chapman has an encounter with a robin where he states that, when he is done planting, "there'll still be trees for you to nest in, but all will be only the trees I permit" (65), parroting an attitude of dominion and control over other nonhuman beings as he tries to replicate the attitudes of his brother, hoping to better 'fit in' with humanity. Yet Chapman immediately "burns with embarrassed shame", wondering why he said what he did and whether it was "something he believed or something he'd been taught" (65), emphasising the perspective of the attitude of dominion as being something that is learned and perpetuated rather than being inherent. Following this scene, he seeks out further

encounters with other animals, wanting to "believe that there are other options" than his brother's position as a "conqueror, a man subduing the blank horror of the wilderness" (65). In this search for connection with other beings, he notes the difficulty of ascribing agency and sentience to different creatures: "in the eyes of a deer he's spied a canny intelligence absent in the eyes of the jackrabbit or the grouse, the furtive stare of a lizard. Is it a matter of sentience or a matter of scale? Who is to say what the lizard sees, what a bullfrog contemplates?" (65). In seeking out connection to his nonhuman roots, Chapman comes to the question of why some animals are deemed 'intelligent' and some are not: why some are deemed food, or unable to feel pain, or able to be experimented on, or simply to be inferior to the human. He questions the idea of humanity having this level of control to prescribe agency or sentience, when that level of sentience may simply be another way of existence unknown or not understood by humans.

The text distorts traditional interpretations of humanism through a querying of the category of the human: in particular, the Loom provides a space to explore questions surrounding human subjectivity and distort the boundaries and definition of the human. When something is added to the Loom, their original body is destroyed and a scan of their body and mind is uploaded to the Loom. Each subsequent printing recreates the body as it was when it was destroyed, retaining memories from prior to their destruction. In Yucca Mountain, John and Eury print themselves once they reach an age where they are no longer able to work, destroying their body and creating a new one that retains all their memories from each life. Multiple versions of a clone can be made to exist at the same time, and adaptations can also be made to each iteration. Some of these changes are accidental: John, who lost his legs in the explosion prior to his recycling, describes how sometimes versions of himself are printed with legs, and some without.

The Loom creates an endless supply of uncanny doubles, all near-identical yet somewhat different. The idea of cloning is inherently unsettling and invokes feelings of the uncanny – the clone is at once familiar and unfamiliar, disturbing notions of unique and independent subjectivity. Valerie Hartouni describes the fear inherent in cloning owing to "its potentially devastating implications with respect to conventional understandings of identity and individuality" (120). The clones from the Loom raise questions about the security of identity and the category of the human: if each clone can be changed and made different, is it still the same person as it was originally? If many identical clones are printed, unchanged, are they all

the same person? John notes that he "wasn't sure which version of me was more real, the one that walked or the one that rolled" (440), having trouble securing his sense of self when his body and mind are so frequently changed in each iteration. The Loom and the clones evoke a sense of the uncanny – John is confronted by visions of himself that are not quite identical, familiar yet distanced from his 'original' self. Royle describes the uncanny as: "[involving] feelings of uncertainty, in particular regarding the reality of who one is and what is being experienced. Suddenly one's sense of oneself […] seems strangely questionable" (1), inciting "a critical disturbance of what is proper (from the Latin *proprius*, 'own')", giving examples of own names, own nature, human nature, and nature of reality and the world (1). The cloning in the Loom disturbs the idea of which iteration of the self is one's own, along with the questioning of what is 'natural', the Loom providing an uncanny space of rebirth (and indeed, the word 'Loom' has resonance with the word 'womb') and also threatening death – in being born to the Loom, ultimately one will always return to the Loom. C-433's experiences following rebirth are described in particularly uncanny terms: "[e]verything he experiences outside the chamber's hatch is both novel and familiar" (83), as he is both the new C-433, and every past C-X with their memories of the surroundings, his surroundings both recognisable and alien, his experiences both new and old. The Loom troubles the idea of a unique and coherent self with an independent consciousness.

The recycling and printing of the Loom also presents an understanding of humans as being inextricably part of and entangled with broader networks, rather than the human subject as being inherently fixed, separate, and superior to other beings. The Loom takes in all biological matter equally: the biomass placed into the recycler can be trees, plant matter, crops, animals, and humans and human waste products – "skin and bone, keratin, cellulose, lignin, rubber, cotton, anything biological in origin" (242). The biomass recycled in the Loom is melted into a liquid that is used to print new matter of all kinds – "[e]verything organic gets broken down into one material, from which others might be made" (242), with no distinction between animal, mineral, plant, or human. The Loom is even used to print food, a nutrient paste that is the only way C-X can survive. This demonstrates that the 'matter' of the human is no different to the 'matter' humans consume, blurring the boundaries between the eating human subject and the eaten object. Parker observes the way that the relationship between humans and Nature is often discussed in terms of appetite: that "both civilisation *and* Nature are each in danger of consuming – and being consumed – by the other" (53-4; emphasis in original). This speaks to

the desire of the human to literally *consume* natural resources, and articulates a fear of being 'consumed' as humans have consumed nature.

Moreover, this articulation of matter highlights the notion that all matter is equivalent, dynamic, and part of an ongoing cycle of life, a cycle articulated clearly when, suffering from the pain of being printed, C-432 vomits the nutrient paste printed from the Loom, after which he collects it to add back to the Loom's recycler chamber. He watches it "[whirl] down the drain […] [t]he same drain C-432 melted down, not so long ago" (102-3), soon set to be printed into more nutrient paste that C-X will eat, or indeed another version of C-X. The matter of the Loom is matter as Karen Barad understands it: not an "assumed, inherent, fixed property of abstract, independently existing objects", but a "substance in its intra-active becoming – not a thing, but a doing, a congealing of agency […] a stabilizing and destabilizing process of iterative intra-activity" (210). The substance of the Loom is matter of becoming, dynamic and transitory, refuting constructions of matter as being inherent and immutably fixed, and rejecting ideologies which centre demarcated boundaries, permanence of being, and supremacy of the 'matter' of the human.

This construction of the human body as being intra-active matter and as part of an entangled cycle of life is also conveyed through descriptions of rotting bodies, both human and nonhuman. Much of the description of the natural world in *Appleseed* highlights the act of decomposition as being part of the cycle of life: the text describes "the deep rot of fallen trees left undisturbed, the strangely patient life of moss and lichen and fungus, the way every thriving forest floor is a bed of decomposition and regeneration" (158), all the life of the forest imbricated in a circle of death and regrowth. The humus of the forest floor contains "decomposing plant matter", the earth's "every inch telling a story of […] birth and growth and death" (108), the soil "[smelling] of death and rot, rankest fertility" (66), linking images of decomposition and decay with rebirth and regeneration. The text highlights how human bodies are not exempt from this decomposition; indeed, an awareness of the unavoidable decomposition of the human body highlights the understanding of the human body as biological matter, imbricated within the natural, rotting, and rebirthing world. In an analysis of decomposing bodies in Jim Crace's *Being Dead* (1999), Bezan argues that decomposition can be seen as "a generative stage in the life process", understanding the corpse "as a site of continuous becoming and agential activity" ("Necro-Eco" 195) owing to its capacity to be broken down into biological matter and sustain other beings in its decay. Bezan proposes the

term "necro-ecology" (191) to define this understanding of decomposition as a vitalist act that foregrounds interspecies enmeshment and dismantles the binaries of human/nonhuman and dead/alive.[116] The generative and agential nature of human/nonhuman decomposition is conveyed after Nathaniel's death: Chapman buries him in the ground of a plant nursery, and in a moment of accelerated time, Nathaniel's body is seen to "fertilize the earth of the nursery […] feeding the accelerated fecundity of this patch of earth" (395). The saplings grow into "trees unfolding atop Nathaniel's grave, their roots eating his flesh and drinking his blood and ferrying some of who he was back up into the living world as the trees' sudden branches bloom, as their blooms turn to fruit, as the apples ripen upon their stems" (396). The decomposing Nathaniel becomes fertiliser for the trees, the trees feeding off him as he once fed off them, becoming part of an apple just as C-X became the nutrient paste.[117] This framing of Nathaniel presents a necro-ecological vision of the human body within the nonhuman world, exhibiting a "decompositional vitalism" (Bezan, "Necro-Eco 195) that refutes any claim of the human body as outside of the natural, biological processes of the world.

The Loom allows a further exploration of the endurance of human dominion and control through Eury's ability to amend those who are printed from it. In addition to the accidental variations in printed clones, it is also possible to purposefully make physical and mental amendments to those printed, as is seen when Eury makes animals to be more passive and subservient. One of Eury's pet wolves, a reprint of a previously extinct wolf species (ironically named Ghost) "[becomes] deliriously happy at her touch, exactly as Eury designed it to be" (409). This is an act of human dominion over nonhuman beings taken to its extreme, the animals literally created to lack agency and engender passivity. The act of reprinting reiterates the damaging attitude of human domination and control, particularly in relation to bioengineering. Human clones can also be adapted and manipulated in this way, showing that

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[116] Batalla similarly acknowledges that the "processes of death, decomposition are generative and can be fruitful to illustrate and understand the reality of our times", noting that "these processes present us certain epistemologically rich opportunities to generate worlds that rely on multispecies realms, together with alternate ways of understanding what it means to be alive" (2). Thinking decompositionally can help in thinking alternate ways of framing humanity within the nonhuman world, and of thinking death itself.

[117] Indeed, the act of being broken down and reprinted in the Loom can also be seen as a kind of decomposition: the subject melts down into liquid matter in a manner akin to the putrefaction which occurs during biological decomposition. When C-X throws himself into the recycler, "fur sloughs off his face, then the face follows the fur […] his eyelid dissolves, then the eye" (62), his body liquifying in a way that is similar to the liquefaction of decomposition. The way that all biological matter placed in the Loom is dissolved in this manner highlights how all biological matter is equally subject to decomposition.

the line between human and nonhuman is not so distinct, whilst also raising questions regarding the security of the category of the human. Eury's clones of herself are created to be physically identical to Eury, retaining her memory but lacking her ambitions and "her sense of control", instead being "more accommodating than Eury ever was" (342). She is programmed to be "trusting, pliant, capable of taking directions, with a minimum of agency" (342), "born without enough agency to protect her from harm" (343). There is also an implication that the repeated prints of John have been made similarly more docile: the later versions of John after Pinatubo are much more receptive to Eury's plans, and whilst John once scoffed at the idea of calling those who were against Earthtrust and Pinatubo 'eco-terrorists', in his later account of his and Eury's work together, he uses the term 'terrorist' freely, as if Eury has engineered him to be more susceptible to her own perspectives, making it easier for her to control him. C-X is described as not being like John, as he "won't follow orders like John would have" (453), suggesting that along the numerous recycling and reprinting, he has evolved out of this passivity and subservience to Eury. Hartouni identifies some of the objections and anxieties rooted in the act of cloning: "the eugenic import of the practice, its potential for (further) commodifying human life" (120). Eury's ability to amend the clones is a eugenic practice, perfecting them for her intended use, and even printing some of the clones solely for labour, after which they will be sent back to the Loom for recycling. Eury's actions demonstrate an ability to adapt and commodify both human and animal life.

The act of reprinting also rouses questions surrounding broader notions of selfhood and subjectivity, raising questions of where the self is located: whether it is fixed in the body or whether it can be 'relocated' as is done with the Loom. Are the printed versions of those uploaded to the Loom as human as the original body that was recycled? Eury considers them identical and sees the reprinting as a direct continuance of the previous life, a kind of reincarnation that allows the printee to retain past memories: yet there is contradiction in her beliefs.[118] Although she believes that the clones are human enough, she sees some of them as

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[118] The question of continuing subjectivity beyond traditional death has been explored in science fiction media: some narratives theorise that teleportation requires the copying of the original, the destruction of the original, and the reconstruction of the 'copy' at the intended destination, an idea explored in China Miévelle's *Kraken* (2010) where a magician's teleportation spell is revealed to kill the original, leading to him becoming haunted by the teleportee's ghosts. In Frictional Games' *SOMA* (2015), the player plays as Simon, who awakens in an underwater research facility years after a comet collision killed humanity and the world above: he learns that he is a brain scan of his original self downloaded into a robot, and the player is guided on a mission to enter and send off the ARK, a digital preservation of humanity that contains a simulated world for the remnants of humanity. Simon is led to believe that

disposable and does not see ethical issues in using and killing printed clones for labour and excluding those clones' experiences from the stored version of them in the Loom.[119] In the far-future time period, Eury prints people to conduct work outside the mountain, yet she does not intend to let them return as they will use up food and resources. When they try to fight their way back into the mountain, Eury shoots them, but first tries to reason that the act of killing them is not actually murder: she "[tries] to explain how they'd been printed from scans stored inside the Mountain. It wasn't murder […] because inside the mountain weren't they still alive?" (446). This act removes the lived experience of the cloned bodies from their overall identity – when the clones are reprinted, they will not remember the life of the prior clones who were shot, because they were killed outside of the Loom rather than being recycled.

The uncertainty about the fluctuating understanding of what the human is and where the self is located is further exacerbated through the creation of humanoid creatures that Eury has printed to be physical helpers in the Mountain – these are described as "dwarves" bioengineered by Eury, "derived from humans but heavily modified for increased physical strength and resilience, diminished intelligence and agency" (414). They lack human speech, and are "[g]enderless, sterile, printed without reproductive organs, each given an allergy to sunlight: if they ever left the Mountain, they'd go into anaphylactic shock in minutes" (414). This is again an example of eugenics and bioengineering coercion to the extreme: Eury creates a subspecies of humanity in order to make them more obedient and beneficial to her, sterilising them so only the 'standard' version of humanity will be able to persist in her idealised future world. Eury reassures C-433's alarm by saying "[w]hatever's next won't come from them. They're only my hands, the many bodies I need to maintain the Mountain's machinery" (414), stripping them of agency and deeming them as 'unworthy' for the future Eury dreams of. These beings are not, in Eury's mind, independent thinking beings, but are defined solely through their physical

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his consciousness will be transferred to the ARK, yet the ending reveals that the upload is only a copy: the original Simon you play as is left alone at the bottom of the ocean.

[119] There is a history of using clones for labour in science fiction narratives, many of which explore the ethics of doing so. The short story "Fat Farm" by Orson Scott Clark (1995) follows a man who chooses to get himself cloned into a younger and thinner clone of himself and have his memories transferred, after which he discovers his contract binds him to forced manual labour – he later learns that he is one in a long line of labour clones that his 'original' self started. The TV series *Picard* (2020-3) features synths – synthetic beings derived from the consciousness of the android Data, and who are used for labour on Utopia Planitia as they were perceived to not be sentient beings. Commodification of clones is literalised in Kazuo Ishiguro's *Never Let Me Go* (2005), where clones are created with the sole purpose to donate their organs to others, and Michael Bay's *The Island* (2005), where an island houses clones of wealthy people in the outside world who act as organ donors for their 'original' selves when required.

matter, bodies and hands – specifically "[Eury's] hands" (414), signifying ownership – without subjectivity or individual identity. Eury's attitude towards the dwarves raises questions of who has the right to choose what beings have agency, sentience, or a place in Eury's future. This act establishes a hierarchical order of humanity based on value, reflecting a discriminatory logic that enables prejudicial structuring of the world inside the Mountain, and the future world Eury plans to create.[120]

The definition of the human is further destabilised when Eury sheds her need for a physical body and choses to exist within the nanoswarm: she is "tens of thousands of nanomachines […] a hive mind swarm making a body for a digitized consciousness" (412), a collection of minds that blurs the boundaries of the material body and queries the notion of a coherent and independent subjectivity. This subsummation of identities into the technological is particularly uncanny, with the descriptions emphasising her lack of corporeality and configuring her as a collective ghost of the stored humanity: she is "a parenthesis of a person, a wraith pressed against photovoltaic glass" (412), no longer one whole unified being but something completely distinct from what 'human' once was. Her body is "shifting, swarming" (412), able to adapt to become "a cloud that is a woman, a cloud that is a wolf, a cloud that could […] take many other shapes, if she wanted" (416), highlighting the flexibility of the body of the swarm how what she sees to be her human form is permeable and changeable, and blended with that of her pet wolf that was uploaded with her. It is questionable whether this iteration of Eury and her swarm are still human, the narrative noting that "it's not like either of the figures approaching Eury is exactly human, not what was last meant by the word, in the long gone world that was" (288), implying that the category of the human itself is open to flux. When the homing beacon leads C-433 to Yucca Mountain, the first thing he sees is Eury's swarm, which he describes as being like ghosts, a woman and a wolf that "both [emit] a pale green light" (287) and whose "steps [leave] no footprints" (411). Eury becomes an uncanny iteration of humanity, the ghostly remainders of what the species once was.

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[120] The notion of a manufactured human hybrid used for labour resonates with Moreno-Garcia's *The Daughter of Doctor Moreau* (2022). The novel draws on the Gothic science fiction novel by H.G. Wells, *The Island of Doctor Moreau* (1896), in which Doctor Moreau creates human/animal hybrids using vivisection. Moreno-Garcia's retelling, set in Mexico, features a Doctor Moreau who creates experimental hybrid creatures. Similarly to the humanoids in *Appleseed*, the creatures are deemed as a lesser category of being, and are positioned as a form of easy labour, despite Carlota, the Doctor's daughter, seeing them as family. The use of the hybrids as free labour also speaks to histories of colonialism and slavery.

The hybrid figures in the text also query the category of the human, the figure of Chapman troubling the boundaries of the human through both his hybridity and the instability of the boundaries of his body: not only is Chapman's body part human and part animal, but he is able to morph more fully between his two 'selves'. Marion Gymnich and Alexandre Segão Costa argue that "the depiction of a human-animal transformation is virtually bound to challenge culturally dominant assumptions about animals as the 'other' of humankind" (69). Such narratives of metamorphosis establish a correlation between humans and nonhumans, destabilising the binary thinking that positions animals as other and inferior, and pushing up at the limits of the definition of the human.[121] Furthermore, Chapman's hybridity is not positioned as a negative, but a positive, suggesting that an engagement with one's animality might draw a greater awareness of the connections and responsibilities towards the nonhuman world. Alaimo explains how trans-corporality "entails a rather disconcerting sense of being immersed within incalculable, interconnected material agencies that erode even our most sophisticated modes of understanding" (*Bodily Natures* 17). Despite the uncanny nature of Chapman's indeterminate, unstable body, his hybridity and immersion within the natural world disrupts the mode of understanding of humanity as separate from and superior to the nonhuman, and the definition of the category of the human as inherent and secure.

These ideas are also explored through C-433, who becomes a hybrid figure over the years of his reprinting through the Loom. With each reprinting of C-X, the category of the human is rewritten as he changes across each generation. By the end of the novel, C-433 is a hybrid of human, faun, cyborg, bees, and tree, becoming the embodiment of the posthuman hybrid. Andrew Pickering argues that posthumanism offers "a space in which the human actors are still there but now inextricably entangled with the nonhuman, no longer at the center of the action and calling the shots" (26). Descriptions of C-X emphasise this entangled nature, blending his human and nonhuman elements equally without prioritising the human parts. His tree parts begin to bleed sap, embodying both "[b]lood and not blood. Creature and tree, leaking together" (173). The tree parts and human parts of him are mutually dependent, sharing internal bodily operations. Owing to the low levels of sunlight outside, the tree had "no choice but to feed on

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[121] The concept of being able to metamorphose into animals or hybrids, also referred to as therianthropy, is common in mythology, folklore, and fiction: examples include werewolves, selkies, and skinwalkers from Indigenous American folklore. Ovid's *Metamorphoses* features multiple examples of humans being turned into animals, with one story featuring a woman mistaking her son for a sacrificial animal and beheading him, a scene that is mirrored in *Appleseed* when Nathaniel accidentally shoots his brother when he is in animal form.

his flesh, on nutrients soaked up from the paste he swallowed twice a day" (451); similarly, in the mountain, the presence of UV lights mean that the tree can photosynthesise: now "it's C who eats from the tree" (451), giving him strength to recover. This both recalls the notion of human matter as equally 'edible' as nonhuman matter, and shows the connectivity and interdependence of C-X's body and tree. Tim Ingold sees trees as being particularly relevant to considerations of the connectivity between humans and the nonhuman world: trees show "visible proof that all these forms, from the most permanent to the most ephemeral, are dynamically linked under transformation within the movement of becoming of the world as a whole" (168). C-X is emblematic of the connected human and nonhuman world, whilst also linking back with each previous iteration of himself. Ingold observes how trees "[embody] the entire history of its development from the moment it first took root", including "its relations with manifold components of its environment" (168). Similarly, C-X holds within himself each past version of himself – "inside [his] skull [are] the voices of the remainder", the voices of his "predecessors" (29) enabling him to remember "more [...] than any one life could contain" (30-1) – and he also contains the biomasses that he placed in the Loom, which continually form parts of his new bodies.

C-X's hybridity is configured as something positive: a source of a hope for a new posthuman world. He is a new creature, a "[f]resh possibility", as "[w]hatever the line of C has been, now C-433 becomes whatever species of creature it is upon which a tree might be seeded" (131). Initially, C-X's growing bark is described as "distinctly not *him*, distinctly *other*" (131; emphasis in original), emphasising the distinction between his human parts and tree parts and the hierarchical mentality of the old human world; yet later C-X comes to accept all parts of him as being him, coming to represent a rejection of binary thinking. When Eury goes to clip a sample from the tree, he initially feels relief that she had "meant to cut him, to take some of his own flesh" (419). Yet he soon realises that "the tree is him too", and when "the shears cut through the base of one flowering branch, the pain is immediate, extraordinary, impossible to soothe" (419), as overwhelming as if it were a hand or a leg, demonstrating that the bark is as much his flesh as any other part of him. Even when the tree is cut from him, he still feels it just the same: "[a]ll this time he'd misunderstood, had thought the tree had been something separate, something growing out of him, not a new part of him that's also him" (455). Once separated, he still feels all elements of his body equally: "[n]ow he is the tree, floating in its new habitat [...] [h]e hears the scuttling of beetle legs [...] knows their legs are his legs; he feels a rush of recycled air moving through his mossy blades of purple grass" (455-6). This

symbolises attempts to separate the human from the nonhuman world, yet C-433 shows an awareness of the entanglements that connect him to his 'nonhuman' self; that he is just as much a part of the tree as he is his body. The hybridity in *Appleseed* is a source of hope, a framing of the human in kinship and entanglement with the nonhuman world.

Through these explorations of the category of the human and the location of the self, the text blurs the presumed distinct boundaries that allow dualistic thinking, showing that the borders of the human are fuzzy and potentially open to transformation. Sheldrake's observation that humans should be considered as "ecosystems that span boundaries and transgress categories" (15) is literalised through the figure of C-X, who ultimately seems to become an ecosystem himself, the human parts of him sustaining the tree, which grows buds and flowers that provide sustenance for the bees which hatch from his body. This configuration emphasises humanity as being part of broader ecosystems beyond anthropocentric framings. Alaimo's claim that "trans-corporeality often ruptures ordinary knowledge practices" (*Bodily Natures* 17) is useful here: the text challenges the attitude that the singular category of the 'human' is entitled to dominance and superiority in the world, when that category itself is ill-defined, using hybrid and trans-corporeal beings in order to query understandings of what it is to be human, and what it is to be living in and part of the world. The non-anthropocentric ending combined with the troubling of the category of the human encourages a reconsideration of the relationship the Anthropos has with the nonhuman world, conceptualising a 'world-without-us' that does not fall back on the destructive attitudes that have led to the environmental catastrophe and the extinction event that features in the novel's fictional world – and that, potentially, could feature in our own.

Decentring the Human Protagonist in *Something New Under the Sun*

Kleeman's *Something New Under The Sun* follows writer Patrick Hamlin as he relocates to California from the East Coast to assist with the adaptation of his novel *Elsinore Lane* into a Hollywood movie, in the hopes that this adaptation will help resuscitate his failing career. In the novel, climate change has reached a point of such extremity that droughts and wildfires are widespread, and the West Coast of America is experiencing a permanent water shortage. Rather than working to solve the root cause by reducing emissions, the governmental solution has been to instead develop a synthetic water known as WAT-R. The WAT-R system is commercialised and privatised, with different flavours and textures offered at different price levels. Although WAT-R is available in the rest of the country, it is almost universally utilised in California,

used for drinking, showering and filling pools, with only the most wealthy and privileged able to source and afford regular water.[122] Whilst working on the film as a P.A. (with much less control and influence than he anticipated), Patrick stumbles onto what he thinks to be a conspiracy, discovering that WAT-R has started having strange effects on those who drink it for extended periods: a new disease called 'Random-Onset Acute Dementia' (hereafter referred to as ROAD) that impacts people of all ages and whose symptoms include memory loss, hallucinations (specifically of water and birds), forgetfulness, an inability to cry and sweat or an excess of tears and sweating, and a difficulty articulating thoughts. Patrick starts seeing links between the film adaptation and the WAT-R plot, and he and the star of the movie, Cassidy Carter, set out to investigate the conspiracy together.

This main storyline is set against the backdrop of increasing ecological collapse, with the text underscoring how human-driven exploitation and corruption of the planet has contributed to environmental destruction. Although California is suffering the worst of the water shortage, ecological damage is widespread throughout the country and the planet, with wildfires, smog-filled cities, and extinction of numerous nonhuman beings being amongst the disasters. The wildfires in particular are extensive, affecting human and nonhuman life. The inescapability of these disasters is made clear: "[t]he sound of small life fleeing from the fire, scurrying toward more fire elsewhere" (105). The text similarly examines how human greed and presumed mastery over the planet has contributed to this devastation, with many of the protagonists projecting a mentality of hubris and a lack of empathy for the nonhuman species that suffer as a consequence of human presence. The text often alludes to the artificiality of manmade items and how they can impact the natural world: Cassidy watches as insects "dive over and over into the glass shielding the old enameled lantern, blinded by the light and mistaking it for the moon" (290), and a news clip details an encounter where a group of raccoons attacked a woman returning a pair of sneakers, seemingly due to the artificial scent of leather: "They chewed at the brand detailing, the little swoosh. I think it was because of the leather scent they spray in these things, just too completely real. But if it can fool a wild animal, it must be a high-quality

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[122] California is a common location for climate change narratives: recent examples include Claire Vaye Watkins' *Gold Fame Citrus* (2015), Paolo Bacigalupi's *The Water Knife* (2015), and Edan Lepucki's *California* (2014). Messimer notes that California "was only made habitable by the vast relocation of water across the land" and a "technological development of a complex system of aqueducts and dams" (6). Whilst this can be seen as a "positive model of terraforming here on Earth", it also "indicates the precariousness of life in California and the possibility of the land one day rejecting human life once more" (6). This sense of environmental precarity and the ability of the land and water to change suggests its propensity to change again, as occurs with the draughts and subsequent WAT-R contamination.

product" (16). Whilst this continues the theme of the artificiality of WAT-R, it also alludes to the act of destroying natural spaces and items and replacing it with artificial and anthropocentric spaces and the subsequent consequences of this: animals suffering confusion and falling into potentially dangerous situations.

The text explores an anthropocentric perspective, with characters often articulating the belief that humanity is separate from and superior to the natural world and refuting any sense of responsibility for nonhuman accidents or disasters, on both large and small scales. Jay, one of the producers making the *Elsinore Lane* adaptation, describes how a deer drowned in his swimming pool, as a result of them living so close to natural spaces: "[i]t's how we live here, I suppose, pressed up against the underbelly of the wilderness. Just last month, a deer drowned in my swimming pool. No, really. We like to joke that we should have put the pool cover on" (35). Bertha, Jay's partner and colleague, reassures Jay that "[y]ou can't blame yourself for everything bad that happens in the world", noting that "[t]he world is a place where terrible things just happen" (35), further refusing accountability and agency in human behaviour. This attitude can be read in relation to climate change: terrible events in the world described as 'just happening', refuting awareness of human culpability, as well as refusing the possibility of positive human intervention. Just as Jay could have acted and "put the pool cover on" (35), humans (and particularly those possessing the level of wealth which Jay and Bertha have) could act to reduce emissions and lessen the consequences of climate change.

The text explores the difficulty in comprehending and coming to terms with the extent of ecological disasters, as well as the difficulty in grieving for nonhuman beings, in a way that articulates the separation and subjugation of the nonhuman world: nonhuman beings are deemed not 'worthy' of human grief, or such grief is deemed incomprehensible. This is evident in the conflict between Patrick and his wife Alison. Alison struggles with the awareness of the worsening environmental collapse, making her "inexplicably sad and distant" (265), and leading to a rift between her and Patrick who does not understand her emotional response. Whilst Patrick is in California, Alison and their daughter Nora go to a retreat named Earthbridge where residents try to grieve and come to terms with the ongoing nonhuman loss experienced. The complexity of comprehending the extremity of ecological collapse is examined in these scenes where the group tries to articulate the losses, giving an update each day of

a list of losses we've suffered over the last twenty-four hours. A tiny silver moth indigenous to Hawaii went extinct. They started drilling off the coast of Maine, near one particular island, and if a particular bill passes the State Legislature they'll do more. We get updates on the larger things, though it's harder to put an exact date and time to their passing. This morning, they finally declared the Thwaites Glacier dead. (141)

The discussion surrounding these updates emphasises the difficulty of articulating and grieving climate change and its effects (and indeed, links to real-world environmental losses such as the death and memorial for the Okjökull glacier in Reykjavik). Alison asks Linden, who is in charge of collating the reports, how she goes about putting the reports together, alluding to the difficulty of demarcating sudden 'points' of loss and how to "make sense of it all, the information and the data?" (270). She asks "[h]ow do you decide when it's time for a loss to be mourned, and when you need to wait to declare it because there's still something bigger left to lose?" (270). This line of questioning expresses the difficulty of ecological grief, of the practicalities of knowing how to map out these losses but also how to grieve them. Linden responds briefly, stating "I don't know […] I just try to keep it to three" (270), emphasising the impossibility of articulating the extent of this form of loss.

Patrick struggles to understand what Alison and Earthbridge are doing as he is unable to comprehend their feelings of grief towards nonhuman beings: when Alison describes how they mourn for the list of losses, he asks "[w]hat does that mean, mourning? For a glacier?" (141), unsure "whether what he said sounds serious or mocking" (141). Patrick often displays this kind of dismissive attitude when discussing the planet's losses, frequently articulating the difficulty of comprehending the seriousness of ecological collapse when it is not one singular 'apocalyptic' event with a clear cause or solution, and when its casualties are not always human: considering the wildfires and drought, Patrick thinks that "it's not really an emergency […] if you can drive around it. An emergency would be everywhere you looked, inescapable; some long-submerged animal intelligence would recognize it with fierce instinct" (105), thus articulating the potential consequence of being unable to see climate change as one singular huge moment, rather than a long-reaching development of moments that accumulate. Even Alison struggles to comprehend it sometimes – on the East Coast, she thinks about the wildfires in California and notes that she "can't picture the flames", trying to "[summon] the faraway presence of a disaster she can't fathom, happening in a place that she's never seen, threatening

a husband that she can't quite picture in her mind's eye" (267), articulating the complexity inherent in conceptualising and grieving losses so extensive and consequences so far-reaching.

Whilst the impact of climate change is present throughout, the initial primary focus of the narrative is Patrick's work on the film adaptation and his subsequent investigation into the film and the WAT-R conspiracy. This narrative focus reflects the human propensity to separate the happenings of the nonhuman world from the human, instead focusing on the human 'story' that follows narrative expectations. A major thematic in the novel is the desire and futility of seeking meaning in events, of trying to locate a specific teleological 'story' or narrative that has human-driven origins and goals, and that will result in a clear and satisfactory ending and resolution. This is primarily facilitated through the novel's initial embodiment of the generic framework of a mystery or detective novel – genres to which the idea of revealing hidden meaning is key. Similarly to Winters' *The Last Policeman* series, the novel gestures to these generic expectations and tropes, only to truncate them at the novel's end. The novel makes metafictional references to crime, detective and mystery narratives: Paradise Cove gestures to Cabot Cove, the location of TV detective series *Murder She Wrote* (1984-96), and Kassi Keen alludes to Carolyn Keene, the writer of the Nancy Drew stories (1930-2003). Patrick's novel, *Elsinore Lane*, is a reference to William Shakespeare's *Hamlet* (1599), which, it has been argued, can be seen as an example of proto-detective fiction.[123] This metafictional layering highlights the presence of this generic framework, inciting expectations for a novel with a clear overarching narrative and an ending featuring revelation and (re)solution.

Something New has particular resonances with the noir subgenre – similar to the hardboiled detective novel, but with a larger focus on corruption and conspiracy. Andrew Pepper notes that noir fiction (although it, like many other genres, "defies straightforward categorization"), often contains themes relating to "the corrosive effects of money" and "the meaninglessness and absurdity of existence" (60). The conspiracies of *Something New* and the Hollywood

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[123] Richard Madelaine identifies early origins of the crime fiction genre in *Hamlet*, highlighting the centralisation of the murder of old Hamlet and the focus on revenge and justice, and seeing Hamlet as a kind of detective. He also notes that "modern crime fiction writers refer more frequently to *Hamlet* than to any other play of the period" (1), evidencing its relevance to crime narratives. See also Mike Ashley (1977) on murder mysteries based on Shakespeare's plays. *Elsinore Lane* is also compared to Hamlet in relation to them both being like a ghost story: "it's a ghost story in the sense that *Hamlet* is a ghost story […] fundamentally about the past, about unearthing a buried trauma and setting it to rest" (34), situating both *Hamlet* and *Elsinore Lane* within the Gothic tradition and establishing the themes of repressing traumas and grief.

setting allude to the corrosive effects of money, as does the underlying notion of exploitative environmental damage; the meaningless of existence is explored through the disruption of anthropocentrism and the destabilising of human importance. Patrick takes on the role of the noir detective, and Cassidy embodies the figure of the femme fatale/sidekick. The notion of uncovering conspiracies is central to *Something New*: Patrick works with Cassidy to figure out the mystery of ROAD, and why the work on the film seems so strange. During their investigation, he comes across online conspiracies relating to Cassidy's prior TV series, *Kassi Keene*: online forums explore the alleged hidden meanings behind the series, proposing something called TBR – "[t]he Big Reveal, a plot twist they believe had been planned for the cancelled sixth season, a narrative mega-event that would have cast all of Kassi's investigations in a newer, darker, more unified light and pointed the way to a mega-crime that exerts its lingering influence on the town of Paradise Cove years or even decades after it first took place" (156-7). Some even believe that TBR extends into real life – a theory referred to as 'TBR IRL'. Patrick follows these threads, thinking that the film, the WAT-R, and the TBR theory are related, and that there is a clear answer to be found once he untangles it all.

Yet this generic presumption of an overarching narrative and a clear resolution is disrupted. The text provides no satisfactory solution for the WAT-R crisis, nor does it provide specific answers surrounding the conspiracies – although it is established that the film is a money-making scheme with Jay and Bertha 'making' the film in order to gain investors with no intention of finishing it, the connection (if any) to the *Kassi Keene* conspiracies are unexplained and unresolved, there is no revelation of the extent of the WAT-R conspiracy, and there is no real answer given surrounding the development of ROAD. In the final few chapters, Patrick succumbs to ROAD himself, and begins to lose his focus and ability to remember or comprehend what is happening. The narrative stops following his perspective, shedding the narrative structure expected of mystery or detective fiction and instead switching the narrative perspective to Cassidy, then switching again to multiple perspectives in the final chapter including the nonhuman and planetary perspective. Initially established as an investigative mystery with Patrick as the protagonist investigator, the narrative misdirects and swerves, leaving Patrick's perspective behind and refusing a satisfying solution to the human-led story. The text is made uncanny, initially made familiar through use of the Noir framework, use of anticipated tropes and intertextual references, then defamiliarized as the narrative shifts into something wholly different.

The text contrasts the desire for narrative closure and neatness with the reality of the consequences of climate change. Characters often relate the real-life ongoing events to points in a film or novel: in response to Patrick stating that he just wants to understand what is going on, Cassidy replies that "[i]t's a nice idea. It sounds like a TV pilot. You could pitch it" (178), and later Brenda (one of the film's producers) notes that "[i]t's cute how you guys [Patrick and Cassidy] are working together on this. It'd make a great series" (258). Even Patrick himself notes how he is starting to "feel like he's part of the storyline, a recurring character" (252). The text alludes to the desire for a fictionalised and satisfying narrative to the story, full of meaning and with clearly demarcated goals, outcomes, and resolutions: yet such a human-centric notion is irrelevant here, and so the investigative storyline is left behind. As Matthew Schneier observes, "Kleeman seems to lose interest in the mystery scheme by the end […] [w]hich only makes sense: Solving crimes against the environment doesn't obviate crimes against the environment" (n.p). Additionally, as discussed in Chapter Two, solving crimes against the environment is not as simple as what may be seen in more traditional mystery narratives: there are no single antagonists to catch, no clear single 'crime' to resolve, and no way to return the world to its former state.

Having left the human narrative behind, the final chapter pulls the perspective back even further, and in doing so, disrupts the anthropocentric perspective. The chapter opens by giving a long scale perspective of the history of the earth, starting prior to the development of life as we know it: back where "the only sound is water slapping on shore […] [b]irds don't call, fish don't swim, no voice will raise a cry across the surf" (324). The narrative floats across deep time, stating that "[i]n many millions of years, monoliths will rise […] to form pillar forests of fungi as tall as sequoias, forests to cast shadows where no leaves yet grow", emphasising how the land changes drastically over time. The text illustrates the pre-human perspective, the ocean "empty to the eye, if there were an eye to see it" (324), underscoring the absence of human observers. The narrative moves forwards, showing the evolution of animals from creatures in the sea to land animals. Life and death is portrayed quickly, as part of the cycle of life: species are born and die, the world going under constant changes, as "the ocean floor is made and remade" (326). Yet even as these millions of years are described, it is noted that "even this new epoch is only a splinter, lodged between long before and longer after" (326), showing how eras which seemed to be endless are now only a brief time in the longer history of existence.

The chapter continues in its experimentation with polyvocal narration, jumping ahead across deep time to include the human present, placing humanity's existence within the context of this longer history of existence. In one of these vignettes, Alison notices something different about the water she runs from the tap, thinking: "are those suds gathered at the top normal? They seem to linger just a moment too long, the water […] not clear enough […] different – bluer than usual?" (343). This suggests the possibility that the WAT-R has infected the wider water supply of the U.S., reaching the East Coast. Moments in the other vignettes also allude to this: Nora struggles to draw a stream, observing that the water "is already traveling far out of sight, leaving her behind, falling back into the sea, mixing irretrievably, irreversibly" (327), indicating the ease at which contaminations, particularly water (and WAT-R) contaminations can reach the sea and irreversibly impact it, and also emphasising the indeterminate nature of both water and WAT-R. The reason behind the WAT-R infecting the water supply is unclear; Patrick's investigations involved discussions where they realised the ease at which the water supply could be polluted: a worker at a water processing facility notes that "it's incredibly frightening how easy it would be to put something in the water to change human behavior at a citywide or even statewide level", and that humanity "[places] a tremendous amount of trust in facilities we never lay eyes on […] [a]nd in processes that we do not understand" (231). This resonates with the development of WAT-R and the ease with which the creation of WAT-R can have detrimental and unexpected consequences, but could also imply some form of intentional contamination.

Yet the contamination could just as easily be an unexpected side effect of the general usage of WAT-R for everyday activities, moments of which are related within these vignettes which emphasise the potential WAT-R has to contaminate. Firefighters attempt to put out the wildfires out with gallons of WAT-R: "a helicopter releases a tankload of WAT-R to quench the flames", and after, "[h]igh above the earth, an amalgamation of vapors" (346), showing how WAT-R vapours can be released and might contaminate the air and water cycle. Other vignettes suggest similar possible contamination points: one describes Cassidy's house being destroyed in the wildfires, and in much of the description of the housing in California, focus is pointed towards the large plastic containers of WAT-R kept outside homes and buildings. The destruction of the California houses, most filled with WAT-R in their pipes, swimming pools, and the WAT-R containers, would result in the WAT-R running into the ground and contaminating the land. The scene of Cassidy's burning house immediately moves into a description of industrial piping that

opens a pathway from the sewer system directly into the ocean. Thousands of gallons pour through every minute, the roar of it muffled in the vastness of the sea. Where the sewer exits, the churn is visible, white with fury and force. But even as the force dissipates and the new liquid begins to join the flow of currents and jet streams, it refuses to mix or dissolve, it won't give up its difference. It descends to the colder depths and collects on the seafloor, caressing the bodies of urchins and crabs in a heavy grip, swaying like the wind. (332)

This juxtaposition gestures to the possibility that the wildfires can cause the release of WAT-R into the land, and then into the global water cycle. Here, the journey and negative impact of bodily waste is laid bare, an aggressive and angry force that invades the seafloor causing permanent damage.

As noted in Chapter Two, the ocean is a particularly Gothic space, invoking a sense of the uncanny owing to its indeterminable nature and capacity to hide hidden depths: here, the hidden secret is the infection of WAT-R, an invisible contaminant with the capacity to infect and manipulate the body and mind of those who consume it. Yet the framing of water in the novel also aligns with Astrid Neimanis' understanding of water and watery embodiment: Neimanis argues that considering water encourages an awareness of human connectiveness with the networks of the natural world: as humans we are comprised of water, and considering watery embodiment encourages a "[stirring] up" of "dominant Western and humanist understandings of embodiment, where bodies are figured as discrete and coherent individual subjects, and as fundamentally autonomous" (2). A watery understanding of embodiment sees bodies as that which "[leaks] and [seethes], our borders always vulnerable to rupture and renegotiation" (2), constantly in a process of "intake, transformation, and exchange – drinking, peeing, sweating, sponging, weeping" (2). Furthermore, Neimanis draws attention to the fact that the wateriness of human bodies connects us to other bodies of water – "to other worlds beyond our human selves", even "[undoing] the idea that bodies are necessary or only human" (2). Awareness of watery embodiment acknowledges a watery relation with the nonhuman world, challenging discrete humanism and anthropocentrism that separates and privileges the human.

The descriptions of the WAT-R molecules align with Neimanis' notion of watery embodiment. A further vignette details the journey of WAT-R "[entering] the opening of a body", how easily it can "[fill] itself into invisible gaps […] making each organ gleam like living plastic", "[l]arge molecules [leaching] through the perimeters of cells" and "travelling the body circuit", some

getting stuck, "[l]odged within the brain and liver and heart", and making "each organ gleam" (347). This description shows the transformative impact of WAT-R on the material body, configuring the body as a permeable system of networks and entanglements rather than a discrete and whole being – a system which is connected with and part of the flow of the water cycle. The fact that the spreading of WAT-R is envisioned as being through sewage is also particularly notable: Alaimo states that "[f]orgetting that bodily waste must go somewhere allows us to imagine ourselves as rarefied rational beings distinct from nature's muck and muddle" (*Bodily Natures* 8), reflecting tendencies to separate humanity from the 'other' of the material world. The text refuses to let us forget bodily waste, and in acknowledging it, emphasises that humans are equally as part of nature's "muck and muddle", whilst also showing a literalisation of humans being the source of the infectant: both in creating WAT-R, and in producing it when showering or using the toilet. Having made the journey through the human body, molecules that are "left over [join] the rivers, the streams, the sea, the sky", using the journey of waste and sewage to show how WAT-R can move through the body and enter the water system, and using the human body as part of that journey. The human body is connected in a seamless osmosis within the wateriness of the world, demonstrating Alaimo's concept of trans-corporeality: the human body enmeshed and imbricated with the material world.

The final three paragraphs move beyond the end of humanity itself. Cassidy walks into the desert, presumably also succumbing to ROAD as she "[steps] into the nothing" and knows that she has "lost the words for the feelings she doesn't have" (349). From this point, the text takes an even further deep time perspective, looking from "the vantage point of the desert sand" as "daylight flashes on and off a thousand times in succession, strobelike", the stars "wheeling overhead" (350): the passing of 1000 days, the rising and setting of the sun happening extremely quickly from the long perspective of the desert floor. As these three years pass, the text observes that

> [f]or a while, there are automobiles and caravans, then long stretches of silence. Occasional fires in the distal cities, fierce rains that batter the roofs of untended homes. In the foreground, the cactuses multiply like rabbits, clusters of sharp spines growing dense, leaving only a ribcage-width for the coyote to guide its narrow body through. Nothing lasts until it lasts, and nothing is without its end. (350)

In this brief passage, we see the passing of humanity framed in a way that recalls the Gothic ruins within *World of Trouble* and *Black Wave*: the cars and caravans disappearing, the homes

now untended, signifiers of human existence falling into disarray and leaving behind ruins. But beyond this, new ecosystems emerge as remnants of human society disintegrate: new flora emerges from the wreckage as buildings collapse into steel frames and "chunks of concrete [rubble] among real rocks" (350), new ecosystems and imbrications created from the old. Eventually, after "eons have passed", "the sea rejoins the desert plains" (350-1), the water flooding the land as new species move in to inhabit this posthuman world. The sun is described as now "[rising] and [setting] in the longer after, without name or recognition" (351), emphasising the absence of human perspective or observation in the 'after' of humanity, just as it was lacking in the 'before'.

This final chapter thus dismantles the notion of humanity as an assured and consistent protagonist of the Earth's story, instead showing the susceptibility of humanity to extinction. The ending refutes a satisfying human narrative ending, instead showing an overview of human existence and placing it in context of the history of the planet in order to establish the briefness of the human era in comparison with the 'long before' and the 'long after'. The brevity of the explanation of human extinction evokes a sense of planetary indifference that contrasts with the perspective of humanity as the protagonist of the story. Kleeman notes that "[w]hen we change the scale of our perception of the world, it denaturalizes this feeling we have that the experience we're having is the only possible experience, and this reality is the most relevant reality", and that "[i]n literature, you can move people between these frames of reality and frame a seeing in a more controlled way that's easier to reflect on and inhabit fully" ("Hybrid Interview" n.p.). This final chapter works to change the scale of perception in order to distort the notion of human centrality, instead allowing a perspective that sees humanity in line with deep time: in other words, seeing humanity as not as significant as it presumes itself to be.

Even prior to the final chapter, the text examines variations in scales of perception: googling Cassidy Carter, Patrick notes that he "feels oddly unable, for some reason, to interpret the results. Is $850K a lot of money? Is three a lot of arrests?" (18). Moments like this allude to the distortion of human perception as mentioned by Kleeman, and also speaks to the difficulty of interpreting and coming to terms with climate change as a form of hyperobject: of being unable to interpret numbers that gesture towards the massive extent of damage done to the planet, and the long-lasting impact it will have. Clark discusses the scalar distortion of the Anthropocene, of the "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"

(*Ecocriticism* 30). *Something New* places everyday human realities in the context of wider planetary realities, and in doing so, the everyday human events appear to suffer a distortion of scale. In a discussion about traffic, another of the P.A.s suggests that the reason traffic exists is "because nobody can see the whole picture. There's enough road for all the cars to move along smoothly at the same speed, but even if we understand this at a rational level, we can't do anything with the knowledge" (16). This inability to see the whole picture, to act instead as "self-interested individuals", can also be read in line with the individualistic behaviour of worsening climate change: of being unable to pull back and see the 'big picture', and act accordingly to reduce our collective impact on the planet and the long future. Yet it also evidences the sense of defamiliarization of the Anthropocene as the world starts to shift, an uncanny sense of losing the ability to interpret and understand previously comprehensible 'human' concepts.

The text encourages a consideration of the nonhuman perspective throughout. Descriptions of the landscape and animals are spread across each chapter, placed amidst the human story in order to draw attention to the inability to separate the human from the nonhuman world. Kleeman observes that the natural world is often "kept backgrounded by the ways we foreground our lives or the things that are most relevant to use as humans", and states that in *Something New*, she aimed to "[trouble] that foreground background relationship between humans and their setting" ("Hybrid Interview" n.p). By placing emphatic and detailed descriptions of the natural world amidst the human story, the text brings forth the nonhuman world, refuting the notion of human centrality and establishing a more equal grounding of humans and 'setting'. This culminates in the subversion of what Kleeman originally observed: the backgrounding of human lives and the stories that are most relevant to the human, and instead the foregrounding of the natural world.

The text highlights similarities between human and nonhuman beings; it establishes how the lines between human and nonhuman are blurry and less demarcated, raising questioning the surety of humans at the top of the hierarchy of existence. Rather than seeing humans as separate to and superior to the nonhuman world, they are seen as part of it, and also reliant on it. The text frequently establishes the proximity of the nonhuman world to the human world, showing how the distinctions between these two are not so clear-cut. A TV programme describes an increase in "violent encounters with wildlife on the fringe of urban spaces" (16), and the text is full of moments where the human narrative is encroached on by similar encounters with

animals. Ruth Heholt and Melissa Edmundson argue that unexpected animal interactions can be a "viscerally uncanny encounter; a brush with the 'other' that shifts perception, creates discomfort and uncertainty, and points to countless worlds of perception which are forever closed to us" (7). These encounters remind us of the animality of the world around us: Patrick and Cassidy almost run into a mountain lion, and Patrick thinks that "an animal like this exists in another world than our own […] [t]he actual world, maybe where the exact nature of a threat is […] real and tangible" (75). Patrick articulates the separatist perspective of animals living in a different space to humans and being impacted differently by threats, yet as the end of the novel shows, the threat of environmental catastrophe is just as real and tangible to all beings.

Despite exploring humanity's attempted repression of the nonhuman, the text also alludes to humanity's animality, with descriptions of characters often including comparisons to nonhuman beings. Cassidy has a "smooth neck [that] looks long, like a bird's", her hands "clawlike" (7); she is "like a sexy mouse", a "feral girl" (38). Patrick describes baby Nora as "a grub of love, more animal than person, her sounds creaturely" (106). Conversely, Patrick also describes the sound of coyotes crying out as being "like hurt children" (35), showing the similarity of animal and human sounds. These descriptions align humanity with its repressed animal side, evincing the "terrifying prospect of the animal 'within' breaking out and uncontrollably expressing a wild, inhuman, monstrous side of the human" (Heholt and Edmundson 4), refuting the categorisation of the human as rational and wholly separate from the animal world. A scene in a restaurant draws particular attention to the similarities between humans and the animals that the characters are eating: amidst the description of the meal, the text briefly explains the reproductive and life cycle of the quail, noting that they have a "small brain-to-body ratio" that has led to them being denoted "the least intelligent of birds, useful in laboratory experiments because of the relative artlessness of their mental processes and the speed with which they gestate" (40). Despite this apparent lack of intelligence, the text notes that the quail equally "shares the diurnal lifestyle of human beings: it sleeps through the night in a single, unbroken stretch – except during long winter nights, when, like a human being, it sometimes wakes in the middle of the night and falls back asleep" (40-1). This contrast between the use of the quail for laboratory experiments owing to its seemingly lesser and "artless" intelligence and the similarity in the diurnal lifestyle of the human underscores the propensity to judge and to rate animal and nonhuman intelligence in relation to the human, thus making the nonhuman lesser, acknowledging they share similarities in lifestyle and are similarly animal. This is underscored by the comparison of the quail carcass as being "the size and shape

of a human heart" (40), at once drawing similarities between the quail and the human, whilst also associating the quail and the human heart in a way that suggests the possibility of the human body to be similarly consumed as meat. The passage alludes to humanity's animal ancestry, blurring the perceived line between the binary of 'animal' and 'human', of 'meat' and 'not meat', thus raising the question: of two beings that share habits and the propensity to wake in the middle of the night, how is it decided that one is assumed to have agency and one not? Similarly to the Loom's treatment of biomatter in *Appleseed*, this scene draws attention to the 'edibility' of the human, and humanity's equivalency to all 'edible' species, deposing humanity from the top rung of the food pyramid.

The awareness of one's animal ancestry and the fear of 'becoming meat' is also explored through the image of the worm, which recurs to show agencies beyond the human whilst simultaneously destabilising the notion of human supremacy. Nora makes a vermiculture bin to decompose waste, a worm farm in which a balance is needed to break down matter: Nora describes noticing flies and adding in "a carnivorous plant" (216) in order to create balance. This vermiculture bin evokes Bezan's concept of necro-ecology, encapsulating the way that beings can connect, decompose, and recreate, and the balanced symbiotic relations between them all. Nora describes worms as "the heartbeat of the earth" (216), emphasising their importance to the natural world in a metaphor that can be read both literally (worms exist within the earth where a heart would beat) and figuratively (worms decompose matter to create rich fertiliser which keeps the earth going, akin to a heart pumping blood around the body). Worms are also used to emphasise scale: in a discussion of the varieties of shades of white in Brenda's excessively decorated home, one of the other P.A.s, states that he "[doesn't] even know if my untrained eye is capable of distinguishing them at all, I can barely make out a difference, but to Brenda it must be like a rainbow. I'm like a worm gazing up at the stars" (166). This comparison emphasises how perspectives can vary and how different beings can see things in different ways: things and occurrences that are important to some are trivial in the broader scale of things, as is demonstrated in the final chapter when seeing the brevity of human existence on the planet. To the long duration of existence, humanity is no different to the worm, looking up at the cosmic expanse of the stars.

Worms are also often symbols for mortality, as they eat dead and decomposing bodies. In *A Dictionary of Literary Symbols*, worms are described as being "symbols of mortality itself" owing to their propensity to "devour the dead" (Ferber 251). Further, "[a]s death is the great

leveller […] worms are revolutionaries" (Ferber 252), consigning all bodies to death equally, regardless of status or species. Considering worms can incite the awareness that our human bodies will one day be matter to be digested by worms, just like the matter in Nora's worm farm. As noted, Patrick's novel is influenced by Shakespeare's *Hamlet*, in which references to worms and mortality have been read ecocritically: Randall Martin argues that Hamlet adopts a "worm-oriented perspective" and "begins to question his own conventional Humanist reflexes" (135). By "judging the death of humans from the perspective of worms", Hamlet is invited to "contextualize his personal loss and grief within wider structures of ecological and cultural sustainability" (135-6). Individual grief is contextualised in the wider context of natural processes, and draws awareness to the human position within those natural processes. Martin explains how considering worms and the way "worms and people interact in mutually beneficial ways" (140-1) orients Hamlet towards a perspective in which "non-teleological transience binds human and nonhuman life in shared cycles of reproduction, death, and metabiotic regeneration" (141), akin to Bezan's understanding of decompositional vitalism. Considering worms and their interactions with human bodies also "[dethrones] humans as privileged consumers at the top of the food pyramid", instead "resituating them in a circular relationship with other life forms" (Martin 142). Including this connection to *Hamlet* with the references to worms emphasises the text's work to decentre understandings of humanity as something permanent and dominant: they act as an uncanny reminder of humanity's animal status on the food chain, drawing attention to how humans are part of the symbiotic relations within the natural world and the repressed knowledge that they are equally likely to become 'worm food' as any other animal. One can presume that when humanity succumbed to the WAT-R infection, the bodies will have been reworked into new matter for the posthuman world that is seen in the final chapter: a necro-ecological ending for humanity that encapsulates the vibrant animacy of the entangled and constantly dying and living natural world.

Something New creates a narrative that leaves behind the human, whilst encouraging a reconsideration of what 'human' really means. In doing so, the novel proposes a reframing of humanity both within and without narrative. There is no resolution sourced in *Something New*, and the characters (and the readers) will never find the answers to the mysteries held within. Refusing these answers can be a provocative way of asking whether climate change will similarly find a 'solution', or whether a solution is even possible amidst continuing anthropocentrism. Instead, the novel emphasises the importance of acknowledging the intimate web of entanglement within the world, of foregrounding of the nonhuman beings and spaces

that have consistently been discounted and minimised, and of revising the status of the human within this entangled mesh.

Conclusion

Understanding the human imbrication with the vibrant and agential natural world is key in thinking through the Anthropocene. By imagining the possibility of extinction, these narratives are able to frame the human position within the natural world as one of equivalency and interconnectedness: as McFarland argues, the knowledge that our species may go extinct is "a possibility that demands we accept and embody our worldly entanglements" (4). They explore a trans-corporeal ideology that acknowledges the entwined composition of the material world. By drawing awareness to the connections that humans have with the nonhuman, these texts highlight human responsibility to nonhuman lives, bringing attention to the ease in which a singular act can have far-reaching and irreversible effects: the trapper's poison infecting the forest in *Appleseed* echoes the WAT-R infecting the wider water supply in *Something New*, showing how abuse of the land can spread and cause unintended and uncontainable consequences. These framings highlight how 'infection' can blend into the world, how easily it infiltrates: an uncanny reminder of the all-encompassing nature and inescapability of environmental damage.

The threat of extinction acts as an uncanny reminder that humanity, being imbricated with the matter of the world and being biomass like any other matter, will one day become worm food – a decompositional return to biomatter that signals humanity's integration with the animate material world. These kinds of framings are vital in promoting a radical rethinking of humanity's placement on the planet, and the relationship humanity has with other beings. Thinking of humanity as matter can promote constructive, and indeed hopeful, understandings of existence, positioning the end of singular and collective existence not as *the* end, but *an* end: the material human body will go on to support further ecosystems, entangled in vital connections and born into something new. Furthermore, Caroline Edwards argues that there is "utopian possibility" in the blurring of boundaries between the human and nonhuman world: she examines specifically how a rethinking of the human as being connected to the lithic can provide "a perspectival and ethical shift that is urgently required at a time of climate emergency" (2), highlighting narratives which reveal "surprisingly *hopeful* images of *human-lithic intimacy*" (4; emphasis in original). Such framings can include all elements of worldly

existence – the arboreal, the faunal, the celestial – as these extinction narratives have demonstrated. Rather than the bounded individualism of techno-utopianism, these narratives promote the possibility and positivity of being part of something wider, acknowledging humanity's destructive and dominant past and shifting towards a more equitable and entangled future.

CONCLUSION

REWORKING THE END:

RESTORYING THE ANTHROPOCENE THROUGH EXTINCTION

It matters what matters we use to think other matters with; 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.

~Donna Haraway, "It Matters Whose Stories Tell Stories" (2019)

One of the more startling admissions from my undergraduates in the Introduction to the Environmental Humanities course I taught recently – in answer to a pop quiz asking them if they 'feel like a species' – was that, for some, they feel like a species only insofar as they imagine themselves at the edge of extinction. Even more startling, for many students this feeling brings relief. They did not evince what I recognize as pessimism, but rather a complex acceptance akin to a posthumanist embrace of being thrown off-center, into the thick of other forces, other lives.

~ Stephanie Lemenager, "The Humanities after the Anthropocene" (2017)

In the Introduction, I noted that extinction narratives are rare in comparison to the plethora of (post)apocalyptic narratives which presume human endurance and exceptionalism, even in the face of extreme planetary catastrophe. In Chapter One, I explored the various barriers to conceptualising, narrating and grieving extinction: barriers that are a contributing factor in its less likelihood of being explored and articulated in narrative. Yet there is a further possibility of why extinction narratives are less common: they can be deemed too fatalistic, risking a response of climate pessimism: a sense that it is too late to act and reverse near irreversible changes. Criticism surrounding the potential fatalism of extinction narratives emerged overwhelmingly following the release of McKay's *Don't Look Up*. The film explored climate change through a satirical lens, rejecting the possibility of a techno-utopian and redemptive ending. Yet it sparked much debate, with some critics and viewers arguing that the satire was too heavy-handed, the ending unnecessarily fatalistic. The film was described as "frantic, strident, and obvious. McKay's touch here is considerably blunter and less productive than it

has been in a while" (Dargis n.p.). The film was said to imply that humanity is "a dumb, doomed species, too perpetually distracted and misinformed and gullible to endure" (Fear n.p.), and that it could have been "great fun if it had been executed with some respect for our intelligence […] rather than glib nihilism" (Morgenstern n.p.). These critical responses show how extinction narratives might be perceived as being depressing, demoralising, or not an effective way to mobilise people to act.

When attempting to write climate fiction, authors may consider the importance of creating a careful balance between emphasising the urgency of anthropogenic climate change without leaving people completely paralysed by fear. Yet the presence of too much assurance and hopefulness within fictions of climate change can be also be dangerous, leading to complacency. Climate fiction with hopeful endings risk "[undermining] the urgency to stop anthropogenic climate change" (Rosenthal 280), reassuring people that action is not required, that climate change is not something to worry about. Texts which position climate change as something easily overcome within the boundaries of their narrative can "affirm the ever-abundant resilience and ingenuity of humanity", sending the message to viewers that "they have no reason to worry or take meaningful action" (Knox-Russell 215). Allyse Knox-Russell argues that such narratives are a "manifestation of […] neoliberal optimistic orientation" that functions to "meet the psychic need to cope with environmental change through an attachment to romantic notions of unassailable human and technological progress" (216). This optimism and reassurance of resilience can be dangerous, contributing to complacency and the continued assurance of human exceptionalism.

Indeed, in considering the possibility of extinction, these narratives reject dominant metanarratives of human exceptionalism, refusing to rely on optimism in the continuance of human mastery and technosolutions. However, I argue that these texts do this not for nihilistic or misanthropic reasons, but as a way to reframe and recontextualise humanity. By considering the Anthropocene and potential human extinction, humans are "reduced to having this more adaptive and responsive role", encouraged to consider "how we can better learn to sense, attune, and become aware of what the transforming planet is telling us" (Pugh 67). Narratives of extinction are a form of resistance to anthropocentric attitudes, a restructuring of the optimistic story of human exceptionalism. Indeed, constructing appropriate narratives through story is vital when it comes to environmental framings and environmental justice: as Haraway notes in the epigraph to this chapter, it matters what stories tell stories. Storytelling can be a

productive tool in communicating difficult concepts, evoking empathy, or spreading awareness of experiences and losses.[124] Stories hold power, and can be a way to enact control, as was detailed in Chapter Three: those with power and privilege, particularly within a capitalist and colonial society, can manipulate stories to their benefit, such as in the exclusion of Hansel's sexuality in *Alternate Endings*, or in the dominant story of the American West as being empty and barren that is explored in *Appleseed*, the settler's story of their invasion of the land being described as "aspirational mythologizing" with "many erasures of war and disease" (38), excluding the truth of settler/invader colonialism, the perspective of Indigenous peoples, and the violence enacted towards the land.

A vital response to environmental degradation is ecological restoration, which is, Gary Nabhan describes, a way to "allow people to participate in healing the wounds left on the earth, acknowledging the human power to create as well as to destroy" (4). However, Nabhan argues, successful restoration requires a shifting in how we view and perceive land itself, and that "[t]o truly restore these landscapes, we must also begin to re-story them" (4). This reframing of perspective towards the nonhuman world can emerge through daily practices, through language, but also through narrative: Cohen has proposed the need for an expanded frame of thinking ecologically that includes stories which are "disanthropocentric", decentring the human perspective and instead "[stressing] alliance, continuity, and mutual participation over elemental solitariness and human exceptionalism" (9). Extinction texts are a key example of disanthropocentric narratives: when facing the possibility of extinction, of a world with no future in which to pass on or tell stories at all, what alternatives might be explored?

As I have shown in this thesis, extinction narratives provide a 'restorying' of the redemptive apocalyptic narrative, into one that is less universalising and that refuses techno-utopian and anthropocentric responses that assume human continuation. Yet there are also further examples of 'restoryation' within the narratives themselves, such as through the reworking and melding of elements of genre as detailed in Chapter Two. Genres are broken down and revised together, becoming generic hybrids that query boundaries and categories, in the same way that the trans-corporeal posthuman hybrid does. Other stories and mythologies are spliced into the text,

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[124] There are numerous projects engaging storytelling as a way to enact environmental justice: for example, see Donna Houston on environmental justice storytelling in a conflict against the Yucca Mountain development (2012), and Sarah Marie Wiebe (2019) on mixed media storytelling as a way to share Indigenous lived experiences and envision "decolonial and sustainable futures" (28).

rewritten, reclaimed and multiplied: the multiple iterations of Hansel and Gretel in *Alternate Endings*, the three iterations of Johnny Appleseed/Chapman in *Appleseed*, the varying versions of Michelle's life story in *Black Wave*, and the intertextual references that occur across all the texts. The very idea of a singular authoritative 'story' is broken open, the extinction narratives forged from their ruins, reworked into something new.

With the reworking of these stories comes the reworking of notions of futurities: a way to reframe attitudes towards the future to include and centre the nonhuman world. Haraway argues that in the face of anthropogenic destruction, it is essential that we focus on forging entanglements and making kin with other beings, both human and nonhuman. Instead of continuing with the mindset of human exceptionalism and "bounded individualism", she argues that "staying with the trouble" requires making collaborations, combinations, and worldly entanglements situated in material semiotics and connections, making space for stories and connections that emphasise "webbed, braided, and tentacular living and dying in sympoietic multispecies string figures" (*Trouble* 49). Extinction narratives posit an understanding of intergenerational connection that not only refuses to centre the human, but also considers the importance of incorporating and acknowledging the nonhuman world within its acts of posterity, making equal kin of all beings. The symbiotic entanglement that Haraway maps out emerges most clearly in the figure of C-X, who ultimately becomes an archive himself: of all his past selves, but also of the nonhuman world. John describes how as he reprinted himself, he would splice in foreign DNA: "a black bear, a raccoon, domesticated corn, the apple tree" (443). This splicing transformed C-X into a posthuman biological archive, a trans-corporeal blend of species that can engender a new world beyond the end of the novel's close: a reframing of archivy into something that includes forms of kin across all species lines.

Indeed, trans-corporeality is key to the framing of humanity in these texts, with narratives often highlighting similarities across species lines, and even making comparisons with matter traditionally not conceived as being 'alive'. In *Alternate Endings*, Drager describes the consequences of "[w]hen illness invades a body – of flesh and tissue or of melted rock and crumbled shell and glass and bone", stating that "[t]his is the first step in understanding that everything expires" (45). In listing bodies of human, animal, mineral and celestial in this way and discussing the shared certainty that "everything expires", Drager establishes similarities across species lines, whilst drawing attention to the awareness that the human is just as susceptible to mortality and extinction as other species. *Future Home* similarly makes these

links and comparisons between the human and the nonhuman: looking up at the sky full of stars, Cedar thinks of "the neurons in [her unborn child's] brain connecting, branching, forming the capacity I hope you will have for wonder"; she watches them "connecting, like galaxies" (106), aligning the human brain with the galaxies that expand beyond the realm of the human. As such, these narratives highlight the materiality and mutability of the human subject, its existence in relation to the material world. Emotional connections with nonhuman beings are also foregrounded: whether it is through Hank's connection with his dog Houdini, or through Cedar's connection with her future potentially-hybrid child. The novels do not situate the natural world as a backdrop to the story of the human protagonist; they situate it as lively and animate, imbricated and familiar to the human. Morton details the uncanny familiarity felt across life forms, explaining how: "Every single life form is literally familiar: we're genetically descended from them" (*Dark Ecology* 29). The framing of the human in these narratives provokes an uncanny sense of alienation and connection: an uncanny feeling that can be mobilised into a restructuring of dominant and destructive metanarratives, and oppressive systems of violence. It is necessary to break down structures before building them back up: and what presents more of a complete breaking down than complete annihilation via extinction?

Extinction narratives are thus able to use extinction as a catalyst to reframe our thinking about humanity's position on the planet, their connections with the nonhuman world, and their responsibility to the nonhuman world and to future generations. As Farrier argues, "to appreciate the depth of kin-making entanglements, we need an apocalyptic imaginary: one that can envision deep futures of world-making and world-unmaking" (*Anthropocene Poetics* 13). This destructive world must be broken down in order to be remade, and so these extinction narratives position the ending of the human world not as something fatalistic, but as a possibility for positive transformation that encourages an unmaking of world in order to remake a new one, one that enables for an entangled, connective, and transformative way of living. In *Alternate Endings*, Gretel tells Hansel a story about the end of the world: "[w]hen the world ends, it will end because of heat […] [w]e will bury ourselves in sand, and when the lightning hits, we'll turn to glass" (57), a story that is reassuring for Hansel, as he finds comfort in the possibility of transformation into matter. Similarly, Michelle's final dream before annihilation in *Black Wave* sees Michelle transform into a hybrid being and swims in the ocean – the indeterminable Gothic space of liminality and fluidity, the boundaryless space that reminds us of our watery embodiment and connection with other ecosystems. She encounters another hybrid being, who reassures her by saying "*Did you know that bioluminescence is the most*

common form of communication on earth? When the world explodes we'll become light" (321; emphasis in original). Michelle is comforted by the assurance that they will transform into another form of existence: becoming light that is aligned with bioluminescence, a reminder of the extensive nonhuman communications that occur across the planet which are so often excluded when ascribing what is 'life'. Through their propensity for blending and transformation, both bodies and text become sites of the uncanny: ungraspable, indeterminable, in-between.

Indeed, despite the threat of imminent annihilation, the texts often express feelings of positivity: despite the chaos around them, Cedar feels what she describes as a "stupid joy. A sense of existence. A pleasure in the senseless truth – we happen to be alive. We didn't ask for it. We just are" (208-9). Drager expresses a similar hopefulness in her final chapter, which details the experience of the "original" Hansel and Gretel of 1378: Gretel notes that even when she feels most alone, she remembers that she is "part of the cosmos, a celestial event. We are part of a system, for better and for worse" (153). Rather than focusing on the loss of posthumous continuation, the texts instead source contentment and comfort in the present, and hope emerges: hope not for a post-apocalyptic continuation of the same hierarchical structures, but for an empathy with, connection with, and responsibility to others - both human and nonhuman – that might help us avoid an extinction overall.

Ultimately, the 'restorying' within these narratives has the potential to offer a framing of existence that is apposite to the attitudes required to prevent further extinctions and devastations via anthropogenic climate change: through a reframing of the relationship with the more-than-human world, and a dethroning of humanity as sole protagonist. The researcher in *Alternate Endings* observes that "[i]f only we were privileged with such distance, perhaps we could see how minor we all are, all our art and thought and illness and meaning reduced to a bit of debris, the detritus on one of a million spheres stupidly looping nothing" (92). Through a speculative exploration of a world without the human, extinction narratives identify the way that this kind of thinking threatens the security of things that give humanity comfort in the face of individual mortality, yet it is not presented as a devastation, but a privilege – a positive way of comprehending human life on the planet that does not fall back on exceptionalist perspectives.

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