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GHOSTS, HAUNTINGS, KINSHIP, AND CONTAMINATION: KEY TROPES FOR
NARRATING EXTINCTION IN JEFF VANDERMEER'S *HUMMINGBIRD*

SALAMANDER AND JAMES BRADLEY'S *GHOST SPECIES*

By

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Ghosts, Hauntings, Kinship, and Contamination: Key Tropes for Narrating Extinction in Jeff VanderMeer's *Hummingbird Salamander* and James Bradley's *Ghost Species*.

Chairperson: Louise Economides

This thesis examines the narrative portrayals of issues pertaining to anthropogenic extinction in two contemporary speculative fiction novels: Jeff VanderMeer's *Hummingbird Salamander* (2021) and James Bradley's *Ghost Species* (2020). This focus leads to consideration of narrative genre, tropes, and affective resonance. The first half of this thesis centers the genres of tragedy and elegy, their tropes of ghosts and hauntings, and the affective processes of grief and horror. Within these narrative frameworks extinction is experienced as a claustrophobic site of horror in *Hummingbird Salamander*, and as a time-warping inspiration of grief in *Ghost Species*. However, in each novel these genres of experience permeate one another, suggesting that grief and horror, tragedy and elegy are intertwined. The latter half of this thesis builds on this permeability to trace how tragedy and elegy can bleed into comedy, grief and horror can morph into hope, and ghosts and hauntings – reminders of loss – can be reconceived as kin and contaminants which affirm presence and connection. Ultimately, I suggest that VanderMeer and Bradley each accomplish the novel usage of kinship and contamination as comedic tropes through which to narrate localized, embodied experiences of the sixth extinction that trigger hope, in juxtaposition with the relatively well-worn usage of elegiac and tragic tropes of ghosts and hauntings to narrate the grief and horror with which anthropogenic extinction is generally met.

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I. Extinction, Clinamen, and the Non-Anthropocentric Swerve

Describing an Anthropocene poetics, in his volume of that name, David Farrier situates response to extinction as one of the core projects of “an Anthropocenic perspective in which our sense of relationship and proximity (and from this, our ethics) is stretched and tested” (5). Farrier suggests that aesthetically and affectively dwelling with and on extinction can aid in moving away from human-centered perspectives and ethics by tracing and highlighting the symbiopoetic entanglements that comprise being during the Anthropocene. Farrier “presents the figure of the clinamen, the swerve, to define a poetics of kin-making in an age of hemorrhaging biodiversity” (12). He writes: “To make kin is to incline toward another, relinquishing the illusion of the separate, bounded self for the startling reality of the self in community – that is, to perform a *clinamen*, a swerve between contexts” (90). This swerve ultimately constitutes a movement from anthropocentric modes of hierarchy and ethics towards ones founded upon non-anthropocentric modes of communality and relationality. The concept of clinamen suggests that this change is only possible after a moment of collision that changes the trajectory of each being involved. It is only through encounters between the human and other-than-human that the turn away from Western anthropocentric hierarchy can occur.

Crucially, such encounters are individual embodied and affective affairs. Clinamen can thus, following Farrier’s articulation of “the self in community,” only occur between an individual human and other-than-human individuals or communities rather than between populations or species writ large. However, these local embodied clinamen are shadowed by the global presence of anthropogenic extinction, which manifests itself in narrowing the potential diversity and decreasing the frequency of these individuated encounters. The losses entailed by

the sixth extinction suffuse the clinamen between human and other-than-human beings in the Anthropocene; summoning, as Anna Tsing and others have articulated, the ghosts of already-extinct species as well as the haunting potential extinctions of the future and thereby creating “haunted landscapes” marked by “strange temporalities” (Tsing et al, G12) while also instilling an urgent sense of the threatened value of extant other-than-human lives and livelihoods. As Farrier claims, these haunted clinamen can open onto non-anthropocentric modes by suggesting “that our responsibility in the Anthropocene is to cultivate collaborative rather than exploitative relations with other species” (Farrier, 128).

In this paper I set out to assess the haunted clinamen that occur in the context of the anthropogenic extinction crisis occurring today. I assess work by two contemporary novelists: Jeff VanderMeer and James Bradley. Following Ursula K. Heise’s argument “that biodiversity, endangered species, and extinction are primarily cultural issues, questions of what we value and what stories we tell, and only secondarily issues of science” (5), I regard the novels of these authors – *Hummingbird Salamander*, and *Ghost Species* respectively – as narratives that center the cultural issues of value and story-telling at the moment of clinamen between human individuals and members of other endangered, extinct, or de-extinct species.

This cultural dimension of the sixth extinction is reflected in a recent burgeoning of humanities scholarship and non-academic interest regarding the topic. Searching the term ‘extinction’ within the MLA database yields 622 results, with only 107 published prior to the year 2000, and 220 published within just the last 5 years. Extinction has come to play a significant role in recent work by many scholars across the disciplines of the humanities, including among many others, Donna Haraway, Ursula K Heise, and Claire Colebrook. Additionally, it has been the central subject of some recent collections and conferences: *Arts of*

Living on a Damaged Planet, a 2017 collection edited by Anna Tsing, Heather Swanson, Elaine Gan, and Nils Bubandt featuring essays by, among others, Haraway, Ursula Le Guin, Deborah Bird Rose, and Karen Barad; and *After Extinction*, a 2018 collection built from the 2017 conference hosted by the University of Wisconsin's Center for 21st Century Studies. Outside of academia, the cultural interest in extinction has exploded beyond the point of comprehensive or cursory survey, becoming – in no small measure thanks to Elizabeth Kolbert's 2014 book *The Sixth Extinction* – a buzzword in eco-journalism, a common theme for museum exhibits, a rallying call for environmental organizations from the moderate World Wildlife Fund to the more radical Extinction Rebellion, a plot device in an ever-increasing number of sci-fi media, and with materializations spanning the literary, musical, and visual arts.

II. Defining, Contextualizing, and Experiencing the Sixth Extinction

Before I venture to assay and add to the growing body of work on the cultural dimensions of the sixth extinction, there are three other crucial contexts in which to consider anthropogenic extinction: paleontology, the Anthropocene, and climate change. Paleontology is a crucial lens for the sixth extinction as the study of past extinction events is the foundational mode of understanding the current one. In the related geological context, the sixth extinction has been offered as a potential golden spike for stratigraphic definition of the Anthropocene. While this is a notable context, more relevant is the way that the sixth extinction challenges human exceptionalism, including in the form of eco-modernist and other anthropocentric articulations of the Anthropocene. Lastly, differentiating anthropogenic extinction from anthropogenic climate change is an important challenge to rhetorics of amalgamation that, in lumping them together,

obscure the meaningful differences between the socio-environmental causes and cultural affective impacts of the two.

Despite its broad articulation as such, the current extinction event does not technically qualify as a mass extinction event. In the formal paleontological definition, a mass extinction is an extinction event in which extinction rates are high enough above background rates for a long enough – but, relative to geology, short – period of time to the point of causing the extinction of 75% or more of the extant species. The ongoing anthropogenic extinction event does not (yet) come close to this definitional magnitude. However, a key part of this definition is a rate of extinction much higher than the expected background rate. The background rate of extinction is the expression of the amount of extinctions that naturally arise in the course of evolution and natural selection. During a mass extinction event, these rates dramatically increase, far surpassing the generally expected number of extinctions within a given time frame. Significantly, the current anthropogenic extinction rate exhibits such a dramatic difference from background extinction rates, with extinctions occurring as much as 100 times more frequently for at least the last few centuries (Ceballos and Ehrlich, 2018). Given the imprecision and wide margins of error inherent to paleontology, precise rates of extinction are impossible to quantify for the 5 accepted mass extinction events, primarily due to the difficulty in determining exact time frames more than determining the ratio of extant-to-extinct species. However, Valentí Rull offers the temporal definition of a mass extinction as “75% or more of the living species disappear within a couple million years or less” (n.p.). While the anthropogenic extinction event is currently nowhere close to a 75% species mortality mark, if current rates of extinction were allowed to continue, the current extinction event would acquire the distinction of “mass” in a relatively short, compared to the previous 5 mass extinctions, 400,000-year period across all known species (Rull, 2022).

This half-fulfillment of the paleontological definition of “mass extinction event” has inspired intense debate over the technical status and nomenclature of the present anthropogenic extinction event. Some frame the alarming rate of current extinction and its potential to temporally outstrip past mass extinction events as signaling the onset of a sixth mass extinction event that could very well reach the 75% mark. Ceballos et al.’s articulation that “estimates reveal an exceptionally rapid loss of biodiversity over the last few centuries, indicating that a sixth mass extinction is already under way” is a standard expression of this interpretation. Others, however, express doubt that the current rates of extinction will continue, for one reason or another, and thus the potential to reach the 75% criterion is seen as nonexistent: “It is not possible to anticipate whether *Homo sapiens* will continue to behave in the same way for millions of years—we have been here for barely 200,000 years—or if we will go extinct ourselves” (Rull, 2022). In this interpretation, the language of “biodiversity crisis” or “mass defaunation” emerges as a more accurate and appropriate alternative for labeling the inordinate amount of non-human death that marks the recent past and current moment but will likely not reach the magnitude of a mass extinction event (Rull 2022, Brand 2015).

Like geologically defining the Anthropocene, the scientific consensus on accurate or appropriate definition of the current extinction event is far from established. For this reason, I consciously avoid usage of the term “sixth mass extinction” throughout this study. Instead, I variously use ‘anthropogenic extinction’ and ‘the sixth extinction.’ Of course, following various critiques of the Anthropocene concept, I might substitute ‘capitalogenic extinction’ or ‘plantationogenic extinction’ in place of ‘anthropogenic.’ However, numerous authors have traced the beginning of the current wave of extinctions to the megafaunal extinctions of 60,000-10,000 years ago, when humans across the globe hunted most of the large Pleistocene mammals

to extinction shortly upon migrating to their respective ranges. Thus, the history of anthropogenic extinction, while being greatly heightened and prolonged within the mutually reinforcing systems of capitalism and colonialism, precedes the onset of those peculiarly Western hierarchies. While something like ‘capitalogenic extinction’ may be well suited to VanderMeer’s *Hummingbird Salamander* – in its focus on species driven to extinction via a black-market wildlife trade supported by a powerful multinational corporation – for *Ghost Species* – which narrates encounters with de-extinct Pleistocene megafauna including Neanderthal and mastodon, encounters that are thus haunted by the deeper pre-capitalist, indeed pre-historical, temporal horizon of anthropogenic extinction – this formulation would not serve. Additionally, while there may be value in introducing ‘capitalogenic extinction,’ in the present study the accessibility afforded by using familiar terminology outweighs the potential specificity, but risk of obscurity, introduced by neologism.

My use of ‘the sixth extinction’ may seem odd given my above consideration of the unsettled scientific debate. However, my use of ‘sixth extinction’ in place of ‘sixth *mass* extinction’ is purposeful. In omitting the ‘mass,’ but sticking to a phrase derived from the notion of an anthropogenic mass extinction, I intend to highlight the unsettled nature – not of the scientific debate – but of the actual embodied fates of particular human and nonhuman livelihoods. The trope of haunting will become central to my discussions later on, and the formulation ‘sixth extinction’ is itself haunted by the potential, but not certainty, that our species has set into motion an event experienced by life on our planet only 5 times previously. Yet, at the same time, it is imbued with the hopeful sense that we need not cause the same extensive or lasting mindless damage as the cyanobacteria that, in evolving the innovation of photosynthesis, suffocated their planet causing the first mass extinction event, or the meteor that crashed into the

earth of dinosaurs, pterosaurs, plesiosaurs, and mosasaurs in the fifth mass extinction. In using 'sixth extinction' I aim simultaneously for a sober confrontation of the death caused by humans as well as an affirmation that we might yet reject that legacy.

The notion of anthropogenic extinction as a substantial human legacy brings us to the context of the Anthropocene. Given the unavoidable biogeological physical record of anthropogenic extinctions within the fossil record, the sixth extinction – mass or not – has been proffered as a potential 'golden spike,' a clearly identifiable stratigraphic marker for the beginning of the Anthropocene. For instance, Kolbert writes "The Anthropocene is usually said to have begun... with the introduction of modern technologies... But the megafauna extinction suggests otherwise" (234). Significantly, the 5 mass extinctions of the past all serve as geologic golden spikes, delineating the shift between geologic eras and periods, which are measured in hundreds of million years in length. This geologic definitional significance of past mass extinctions makes for an interesting comparison to the Anthropocene, which if ratified would represent a change in geologic epochs, which are measured at the much shorter scale of a few million or hundreds of thousands of years. Whether anthropogenic extinction is identified as a golden spike for the Anthropocene or not – admittedly unlikely, most stratigraphers gravitate toward the nuclear fallout of the mid-20th century as a golden spike – the sixth extinction will still be manifested into the earth's deep future. In the closing sentences to her landmark best-selling book, Kolbert writes

Right now, in the amazing moment that to us counts as the present, we are deciding, without quite meaning to, which evolutionary pathways will remain open and which will be forever closed. No other creature has ever managed this, and it will, unfortunately, be our most enduring legacy. The Sixth Extinction will continue to determine the course of

life long after everything people have written and painted and built has been ground into dust... (268-9)

By looking to past extinctions, paleoecologists can estimate the duration of fallout of the sixth extinction. Ceballos and Ehrlich write “If past mass extinctions are any guide to the rate at which usual evolutionary diversification processes could restore a reasonable level of biodiversity and ecosystem services, the wait is likely to be millions, or even tens of millions of years” (p. 1081). The evolutionary and ecological gaps rent by anthropogenic extinction will be a key facet of the times often called the Anthropocene for a geologically long time, golden spike or not, and indeed, formal stratigraphic ratification of the Anthropocene as epoch or not.

Beyond its potential to stratigraphically define the Anthropocene-as-geological-epoch, I find a more pressing potential for the sixth extinction to impact our understanding and articulation of the Anthropocene concept at a broader level. There are numerous critiques of the dominant theories and nomenclatures of the Anthropocene as imprecisely and unjustly universalizing culpability among humans for things like anthropogenic climate change and extinction, hence the offered alternatives of “Capitalocene,” “Plantationocene,” and “the Geological Color Line” (Moore 2015, Tsing 2015, and Mirzoeff 2018). While these socio-cultural based critiques and alternatives are a valuable and necessary avenue of discourse, most relevant to the issues at hand is the criticism that

The very idea of an ‘Age of Humans’... reflects and reinforces the ‘human exceptionalism’ or ‘anthropocentrism’ at the basis of Western thought. Instead of understanding humans as living beings dependent on a network of other species and nonhuman actors, the term is said to reaffirm an instrumental, dominating stance towards nature. (Horn and Bergthaller 2019)

Following Farrier, I position affective engagement with anthropogenic extinction as a central mode of challenging, and swerving away from, such anthropogenic articulations of the Anthropocene. As is the focus of Chapter 2, affective and artistic engagement with the sixth extinction can affirm the ecological and evolutionary modes of connectivity that simultaneously de-center the human subject while also being the foundations for its life and wellbeing. This potential is reflected in the sixth extinction's crucial role in works that offer non-anthropocentric alternatives to the Anthropocene; namely Glenn Albrecht's "Solastalgia and the New Mourning" and Haraway's *Staying with the Trouble*. Albrecht and Haraway respectively produce the terms "Symbiocene" and "Chthulucene" to invoke alternatives or successors to an anthropocentric Anthropocene, alternatives marked by non-anthropocentric ethics of relationality and connectivity: "human actions and enterprise will be exemplified by those cumulative types of active and purposive relationships and attributes created by humans that enhance mutual interdependence and mutual benefit for all living beings" (Albrecht 307), "We must somehow make the relay, inherit the trouble, and reinvent the conditions for multispecies flourishing, not just in a time of ceaseless human wars and genocide, but in a time of human-propelled mass extinctions and multispecies genocides that sweep people and critters into the vortex" (Haraway 130). While I am tempted to use these alternative terms in the course of this study, again for the sake of avoiding the risk of alienation sometimes borne of neologism, I instead opt for the more familiar, and indeed almost ubiquitous, 'Anthropocene.'

'The Anthropocene' in addition to its geological and socio-historical academic uses, is often used simply as a shorthand for the variety of anthropogenic impacts on bio-geo-ecological systems and beings. Predominantly, this shorthand usage of 'the Anthropocene' is a grouping together of anthropogenic extinction with anthropogenic climate change, as well as various

forms of pollution and ecosystem destruction. This rhetorical act of conglomeration is reiterated in various forms; ‘ecological emergency,’ ‘climate crisis,’ and ‘environmental disaster’ have gained rhetorical traction. While it is true that the sixth extinction and climate change share some causal factors and can be mutually reinforcing, treating them as synonymous crises, much less as a singular crisis, obscures meaningful and foundational differences between the two. Thus, differentiation from climate change is a crucial step for analyzing the sixth extinction and its cultural dimensions.

Kolbert opens *The Sixth Extinction* with a brief narrative of the long history of anthropogenic extinction, delineating and addressing the relationship between it and anthropogenic climate change. Kolbert writes that, before the modern era, the (pre)history of the sixth extinction is one of “fits and starts” (2). Then, in modernity, “several things happen more or less at once”: feedback cycles of overexploitation and population growth in Europe and its colonially occupied settlements, capitalism and colonialism’s purposeful and accidental global movement of species, and the onset of industrial usage of fossil fuels and concomitant climate change. As a result of these three interrelated forces, “extinction rates soar, and the texture of life changes” (2). Kolbert’s framing of these three as occurring “more or less at once” elides some of the questions of culpability that are key in some humanities scholarship, including debates over the concept of the Anthropocene noted above. Nonetheless, this sequence of events is a key point for distinguishing between the interwoven but distinct crises of anthropogenic extinction and anthropogenic climate change. Kolbert’s narrative highlights the fact that while colonialism and capitalism, and their repercussions in the form of climate change, greatly exacerbate the rates of anthropogenic extinction, they are neither precursor nor prerequisite of that phenomenon, and neither is climate change their only significant mode of causing extinction. This relationship is

manifested in the book's layout. *The Sixth Extinction* is equally split in exploring causes of extinction directly resulting from global warming (Chapters 6-9 on oceanic warming and acidification, bio-geographical islands, and swiftly shifting climatic ranges) and those that, while likely exacerbated by climate change, are not caused by it (Chapters 1-3, and 10-11 on overexploitation, the global movement of species, deforestation, and other means of habitat loss).

In focusing on the cultural manifestations of climamen within the sixth extinction, more important than these chronological and causal differences between anthropogenic climate change and extinction are the differences in how they are encountered, experienced, and narrated. This is the chief, but not sole, reason for my usage of Timothy Morton's theorization of "hyperobjects" to frame my discussion of the haunted climamen within the sixth extinction. The concept of a hyperobject is an object-oriented approach to reconceive of things, like climate change, which are usually treated as processes as, instead, extremely complex objects that exist on higher dimensional planes than human perception. In the case of climate change, events like unprecedented hurricanes or record heat waves, change from the potential effects of a process into the local manifestations, or "phases," of a hyperobject. As we shall see in Chapter 1, this definitional hyperobjective characteristic, and others, seem to hold true for the sixth extinction, suggesting that it is its own hyperobject, rather than a manifestation of climate change. Thus, since not all anthropogenic extinctions can be regarded as manifestations of climate change for the reasons discussed in the previous paragraph, the sixth extinction must be treated separately from climate change. Beyond this abstract value of accurate description, the conceptual shift from process to hyperobject has significant practical ramifications. Ethically, Morton suggests that treating climate change as a process leads to misconceptions of it as something manageable, and thus easily minimized or even temporarily forgotten whereas reframing it as a hyperobject

introduces a solidity which must be confronted and dwelt with: “Hyperobjects insist that we care for them in the open” (*Hyperobjects* 124). Additionally, and most relevantly to the current study, while we might be tempted to attempt to logically understand a process, hyperobjects actively resist this manner of knowing on account of their complexity. Instead, they must be attuned to. Morton defines attunement as an affective and embodied engagement which “bring[s] hyperobjects into human aesthetic-causal (social, psychic, philosophical) space” (171). Morton’s idea of knowing hyperobjects via attunement to manifestations is conceptually compatible with Farrier’s description of clinamen shadowed by the sixth extinction. In both theorizations of encounter, affect and art play a crucial role in engagement and understanding, highlighting what I regard as a key difference between anthropogenic climate change and extinction: their affective impacts and artistic manifestations.

Centralizing climate change as an exemplary hyperobject leads Morton’s discussion of attunement to be primarily dominated by horror at the sublime immensity and uncanny proximity of hyperobjects, and secondarily marked by responses of grief at the losses implied by a changing climate: “Art in these conditions is grief-work” (196). Key here is the fact that grief-based attunement takes work, while the paralysis of horror is a more natural immediate reaction. This, I argue, is not true for attunement to the sixth extinction. By simply being an immense and uncanny hyperobject, the sixth extinction may likewise easily be met with horror. However, the direct conceptual link between extinction and death means that grief can be an affective response just as easily experienced as horror, unlike the implicit and thus indirect relationship between grief and climate change. Thus, following Morton’s theorization of hyperobjects, anthropogenic extinction is positioned as a more easily and diversely attuned to phenomena than anthropogenic climate change. This is also borne out in the surprising potential for more affirmative or positive

affective responses to the sixth extinction. These differences in affective register are manifested in artistic presentation and narration of the sixth extinction. In narrating attunement to and clinamen within the sixth extinction, authors like Bradley and VanderMeer easily and fluidly utilize a variety of narrative tropes and tactics from across the tragic, elegiac, and even comic modes.

III. Overview

Several concepts guide my discussion of novels of the sixth extinction. Among these are the figure of the clinamen, Morton's theorization of hyperobjects, affective experiences of attunement marked by grief, horror, and hope, the relationship between these affective experiences and the narrative modes of elegy, tragedy, and comedy, and the narrative tropes of ghosts, hauntings, contamination and kinship utilized within these modes. I tie these together in such a way as to highlight the novel usage of kinship and contamination as comedic tropes through which to narrate localized, embodied experiences of the sixth extinction that trigger hope, in juxtaposition with the relatively well-worn usage of elegiac and tragic tropes of ghosts and hauntings to narrate the grief and horror with which anthropogenic extinction is generally met. Ultimately, conceiving of the sixth extinction as a hyperobject lends some utility to the more common elegiac and tragic engagements, as it shows that they can effectively serve to attune us to aspects of the sixth extinction. However, this also highlights the limitation of these modes, as they fail on their own to account for the broad range of affective engagements with the sixth extinction, including those marked with a hopefulness most accurately narrated within a broadly defined comic mode via the tropes of kinship and contamination.

In Chapter 1 I focus on the relatively common tropes of ghosts and hauntings for narrating encounters with extinction, as well as establish the legitimacy of treating the sixth extinction as a hyperobject. Chapter 1 opens on a systematic analysis of the sixth extinction via the 5 characteristics Morton outlines as definitional to hyperobjects: viscosity, nonlocality, temporal undulation, phasing, and interobjectivity. I then trace, in Jeff VanderMeer's *Hummingbird Salamander*, the role of ghosts and hauntings within the protagonist's affective response of horror as she is forced to confront anthropogenic extinction via taxidermy and an investigation of the black-market wildlife trade. In James Bradley's *Ghost Species* I trace the similar importance of hauntings in framing the intense grief experienced by the protagonists as they navigate the creation and then failure of an attempt at geoengineering reliant upon de-extinction technologies, of which one protagonist, Kate, is an expert and the other, Eve, is the result of Kate's successful work to resurrect Neanderthals. While ghost-story narratives, and narratives of wildlife trafficking and de-extinction are not novel innovations, reviewing them within consideration of the sixth extinction as a hyperobject which must be attuned to uncovers a value in such approaches as they can effectively and affectively attune us to realities of the sixth extinction. VanderMeer's use of horrifically experienced ghosts offers a mode of attunement to the sixth extinction's hyperobjective characteristic of uncanny nonlocality, which is experienced as a claustrophobic immanence. Meanwhile, Bradley outlines haunting experiences of grief as a mode of attunement to the temporal undulation and strange topologies, or haunted landscapes, created by the sixth extinction. I close Chapter 1 with a discussion of the essential mutual permeability of narratives of grief and horror, which I also respectively reframe within the similarly permeable elegiac and tragic modes.

In Chapter 2 I discuss what is missed by the grief-elegiac and horror-tragic modes of attunement to the sixth extinction that might be successfully narrated within the comic mode. Drawing on work by Joseph Meeker, I argue that some aspects of the sixth extinction cannot be attuned to via the negative affects of horror and grief, via ghost-story narratives of tragedy and elegy, because there is hope to be experienced at the possibility of survival. Thus, comedic narratives are needed in order to attune us to and affirm the modes and chances for potential survival, no matter how qualified, subconscious, or tenuous the experience of hopefulness is. I outline two basic approaches to comedic narration of the sixth extinction, both of which I find in *Hummingbird Salamander* and *Ghost Species*. From Greg Garrard's discussion of environmental apocalyptic rhetoric, I outline the comedy of both novels' open-ended conclusions which provide the hopeful – if humble – potential for the survival of the human and nonhuman protagonists, but not the falsely triumphant assurance thereof. Following work by Ursula K Heise, specifically her theorization of “species fictions,” I also track the comedic mode in each novel's usage of non-anthropocentric narration. Such narratives depend upon relocating the human subject from constructed hierarchical arrangements to the communal connectivity of shared geo-evolutionary time and ecological enmeshment. As ghosts and hauntings were useful tropes for the narration of the disconnection of loss experienced in the sixth extinction, I position kinship and contamination as key tropes for the narration of these ongoing modes of connection amidst times and landscapes of extinction. These tropes are not only comedic in undergirding non-anthropocentric narration; they also serve as modes of attunement to realities of the sixth extinction that can potentially inspire the hopefulness of comedy's affirmation of survival. In *Ghost Species* kinship affirms the importance of relationships of mutual care that will be necessary for human and multispecies survival both during and, at both shallow and deep

evolutionary timescales, after the sixth extinction. In *Hummingbird Salamander* contamination is offered as a ramification of, and thus mode of attunement to, the ecological connections and bodily permeabilities that conduct the material flows which are the very foundation of life's continuance and survival, human or otherwise.

Chapter 1. Attunement, Horror, and Grief:
Representing and Responding to the Sixth Extinction as a Hyperobject

I. Attuning to the Hyperobject: Encountering Extinction in Fiction

“Ecological coexistence is with ghosts, strangers, and specters,
precisely because of reality, not in spite of it.”

Timothy Morton, *Hyperobjects*, 195

The role and form of art changes dramatically in the shadow of hyperobjects: “Art in the Age of Asymmetry must thus be a *tuning* to the object. ...a way not so much to understand but to summon actually existing Cthulhu-like forces, chthonic beings” (Morton, 174/5). This “recognition of the uncanny nonhuman must by definition first consist of a terrifying glimpse of ghosts” (169). In response to the sixth extinction Tsing et al. articulate a markedly similar need for “an attunement to multispecies entanglement, complexity, and the shimmer all around us” (G11), which is specifically tied to the realization that “as life-enhancing entanglements disappear from our landscapes, ghosts take their place. ...In an entangled world... extinction is a multispecies event” (G4). The process of attunement to the sixth extinction, of summoning rather than understanding the vast hyperobject via intimately experienced localized ghosts thereof, is less an intellectual one than an affective one, less about education and more about revelation. Morton writes that:

We need to get out of the persuasion business and start getting into the magic business, or the catalysis business, or the magnetizing business, or whatever you want to call it. But with objects this huge, this massively distributed, this counterintuitive, this trans-dimensional, it’s not enough to simply use art as candy coating on top of facts. (181/2)

Art that properly attunes us to hyperobjects is thus not centrally concerned with re-telling the facts in a more “compelling” manner. As the terms “catalysis” and “magnetizing” suggest, the role of art is to actively change the reader’s embodied modes of perceiving and being in relation

to a reality dominated by hyperobjects, both of which acutely rely on modes of affective engagement. VanderMeer writes: “Supposedly we already know these things [facts about hyperobjects], but sometimes fiction can make us feel them in our bones” (“Hauntings in the Anthropocene,” np). At their best, fictional depictions of real hyperobjects “create a greater and more visceral understanding (render [them] more visible)” (ibid.).

Conceptualizing the sixth extinction as a hyperobject, framing encounters thereof through the concept of clinamen, and the narration of those clinamen via the tropes of ghosts and hauntings guides this initial foray into novels of the sixth extinction and specifically centralizes the importance of rapt attention to the variety of affects that can comprise the process of attunement and the types of narratives to which those affects lend themselves. In Chapter 1 I first briefly articulate the sixth extinction with the concept of a hyperobject. Sections III and IV assess the roles of clinamen imbued with the affective experiences of horror and grief in response to anthropogenic extinction, and position these as a crucial part of the protagonists’ attunement to the sixth extinction in *Hummingbird Salamander* and *Ghost Species*. I then consider the relationship between grief and horror as affective experiences of and modes of attunement to the sixth extinction, ultimately suggesting that there is a profound permeability between the two as well as between the elegiac and tragic genre conventions associated with narrating each mode of affective attunement.

II. The Amplification of Grief: Anthropogenic Extinction as Hyperobject

“Extinction is a local event as well as a global one.”

Anna Tsing et al., *Arts of Living on a Damaged Planet*, G5

While Morton provides no small number of examples of hyperobjects, extinction is not among them. Thus, I leverage the five uniting aspects theorized as common to all hyperobjects as

a rubric against which to measure the sixth extinction and establish its status as a hyperobject. The five characteristics are viscosity, nonlocality, temporal undulation, phasing, and interobjectivity. I believe that all five hold true for the sixth extinction and each would be a fruitful foundation for analysis of cultural representations of the clinamen in which I am interested. However, for the sake of scope I will at present only briefly discuss viscosity, temporal undulation and interobjectivity and focus on nonlocality and phasing as these seem the most illuminating concepts with which to think of extinction in the novels at hand later in this study.

In viscosity Morton articulates the function by which there is no distance or separation from hyperobjects. He writes that “*They are already here. ...hyperobjects haunt my social and psychic space with an always-already*” (29). Jussi Parikka articulates a similar realization of immanence regarding the sixth extinction:

any particular future extinction is part and parcel of the current... One word for that is of course *premediation*, as Richard Grusin has suggested: a form of ‘medial preemption’ that works by way of creating a constant atmosphere of possible future scenarios impinging upon us now. ...This poses an interesting dilemma for extinction that becomes less a predetermined event than a mediated future-present. (29)

This intense immanence is, in addition to these psycho-temporal articulations, spatially experienced; the hyperobject of the sixth extinction becomes something always close at hand. Kolbert writes “If you know how to look, you can probably find signs of the current extinction event in your own backyard” (18).

Temporal undulation denotes the way in which hyperobjects ripple through and collapse time, so much so that humans “just can’t tell whether it occurs in the ‘present’ or the ‘past’...

[and] its shadow looms out of the future into the present” (Morton, 67). Thus, while the effects of hyperobjects can be felt in all three subjective horizons of past, present, and future, the hyperobject itself cannot be pinned down into any one of these temporalities and instead forces us to encounter dizzying scales of deep time. Such complex temporalities are suggested of the sixth extinction by several authors. Tsing et al. write that dwelling with the notion of extinction “tell[s] us about stretches of ancient time and contemporary layerings of time collapsed together in landscapes... [creating] strange topologies” (G8). Likewise, David Farrier suggests: “Perhaps more than any other environmental crisis, extinction pitches us into deep time: into awareness of the richness of our inheritance from the deep past, and the depleted legacy we will leave to the deep future” (92). As these authors suggest, confronting the sixth extinction invokes deep time scales to collapse the past, present, and future into one another true to Morton’s theorization.

Due to the enmeshed nature of being, and as a result of their massive distribution through space and time, hyperobjects play an equally massive role in symbiopoetic processes of becoming for non-hyperobjects, an action that Morton calls interobjectivity. Those dwelling within hyperobjects thus become palimpsestic records of those hyperobjects: “We are living textbooks on global warming and nuclear materials, crisscrossed with interobjective calligraphy” (88). This is realized to be true of extinction in a number of contexts. Tsing et al. articulate that “Every landscape is haunted by past ways of life” (G2). In *The Ghosts of Evolution* Connie Barlow explores this notion at length by cataloging the vast number of plants – from the avocado to the honey locust – whose morphologies and life cycles evolved so as to be in sync with now-extinct coevolutionary animal partners.

The nonlocality of hyperobjects is an expression of the fact that a hyperobject can never be directly pointed to, only localized manifestations thereof:

When you feel raindrops, you are experiencing climate, in some sense. In particular you are experiencing the climate change known as global warming. But you are never directly experiencing global warming as such. Nowhere in the long list of catastrophic weather events – which will increase as global warming takes off – will you find global warming. But global warming is as real as this sentence. ... Yet because it's distributed across the biosphere and beyond, it's very hard to see it as a unique entity. (48/9)

Here an interesting difference arises between the sixth extinction and global warming, Morton's hyperobject par excellence. As Morton here notes, we are vaguely aware of the reality of global warming but the effects of the hyperobject are only tied to the object itself through the tenuous strings of "association, correlation, and probability" (39). The hyperobject global warming does not arise from or inhere to its effects. The same is not true of the sixth extinction. While global warming can be pointed to as a likely or associated partial cause of any weather event, the sixth extinction cannot be considered the cause, to any degree, of any particular extinction. Rather, the hyperobject of the sixth extinction is caused, in a manner, by its local manifestations: its existence can only be concluded by looking at these manifestations in aggregate – by tallying up the massive scale of individual species extinctions. This, however, is not to say that the hyperobject of the sixth extinction does not exhibit nonlocality. Like global warming, the sixth extinction – emerging only in the aggregate – can never directly be experienced. Tsing et al. write of the sixth extinction that "big stories take their form from seemingly minor contingencies, asymmetrical encounters, and moments of indeterminacy" (G5). In "An Ocean and an Instant" Bradley grieves the sixth extinction as a "quiet dying [that] is all around us." He experiences this in the gradual disappearance of geckoes, skinks, slugs, butterflies, nautilus, seahorses, gar, and King George whiting – animals he regularly encountered en masse as a child

but are now met rarely if at all. He also crucially recognizes that these personally experienced losses “are only the local manifestations of a much larger catastrophe.” Likewise, Kolbert prefaces her considerations of particular extinctions and endangerments, the basic structure of *The Sixth Extinction*, by saying “Such is the scope of the changes now taking place that I could have gone pretty much anywhere and, with proper guidance, found signs of them” (3).

Morton describes the quality of phasing as the result of hyperobjects’ operation on higher-dimensional “phase-spaces” than us, a dimensional difference which accounts for the explanation of hyperobjects as processual flows: “A process is simply an object seen from a standpoint that is $1+n$ dimensions lower than that object’s dimensionality” (72-73). A crucial consequence of phasing is that the hyperobject, in its false appearance as a process, can seem to undergo gaps or to stop altogether. However, these “do not inhere in the hyperobject itself... the gaps and ruptures are simply the *invisible presence* of the hyperobject itself, which looms around us constantly” (76). The sixth extinction is much the same, appearing as a gradually unfolding process killing one species at a time yet also apprehended as a single bio-geological event. In the sixth extinction there is really no time “in between” extinctions: as the extinction of one species is formally announced, we can be sure many more have occurred that are just yet to be conclusively declared, and that even more still are well under way. Phasing’s creation of false processual appearances and nonlocality’s limiting us to experiencing local manifestations, ensure that, with every local manifestation or apparent non-gap “what we are dealing with... is an indexical sign that is a *metonymy* for the hyperobject. ... There is an inevitable dislocation between the hyperobject and its indexical signs” (77/8). Ursula K Heise suggests that trafficking in such dislocated indexes of a larger story is at the core of much cultural representation of the sixth extinction: identifying “a pervasive logic of what biologists usually call proxy and literary

scholars call synecdoche – the part standing in for the whole” (23). Additionally, Heise identifies potential cultural causes for perceived gaps in the phasing hyperobject of the sixth extinction: “Certain species... lack the cultural standing that might make them tragic or elegiac figures. ...we care about beautiful or strange frogs (somewhat), whereas fungi leave us indifferent. They do not fit into our narratives except as villains we are glad to rid ourselves of” (35/6).

Morton writes that “the hyperobject global warming churns away, emitting ghosts of itself for my perusal” (74). As a result of nonlocality and phasing the hyperobject can only be known through dislocated indexes, localized manifestations, or ghosts. Yet behind each of these the hyperobject looms on the edges of our perception. Thus, while we can only directly peruse the particular ghosts of a hyperobject, what most acutely haunts us is not any of these localized manifestations but the larger being of the hyperobject itself. This haunting, macabre as it may sound, is not necessarily cause for nihilism or despair. In fact, in “Hauntings in the Anthropocene” VanderMeer, echoing the importance Tsing et al. place on the figure of the ghost, suggests that experiencing such hauntings and ghosts are crucial conceptual and narrative tools for navigating hyperobjects: “In the Anthropocene, hauntings and similar manifestations become emissaries or transition points between the human sense of time and the geological sense of time.” Hauntings shuttle us between the particular and the widespread, the local and the nonlocal, the intimate and the vast.

Farrier articulates such a hauntological shuttling under the shadow of the sixth extinction: “In terms of extinction, individual animal deaths take on a kind of spectrality: when looking upon the isolated death of an animal whose species is threatened by human activity, do we also look upon the death of that species?” (12). This spectrality represents the cusp of perceiving extinction as a hyperobject: being forced to oscillate between intimate and vast scales of space-

time mentally, affectively, and ethically. Farrier terms this dizzying experience the “amplification of grief” (118). In the Anthropocene, grieving the death of a certain species or potentially even an individual creature forces us to confront the hyperobject that is the anthropogenic wave of extinctions currently underway. Due to the amplification of grief and the sixth extinction’s existence as a hyperobject, the moment of clinamen between the human and the anthropogenically endangered, extinct, or de-extinct other-than-human being shifts from an encounter between a discrete set of organisms to an encounter between the singular human and a spatio-temporally massive, nonlocal, and phasing hyperobject. Even though, per the nature of clinamen, we can only *experience* a localized manifestation of the sixth extinction, we are nonetheless forced to *encounter* the haunting hyperobject itself, just as any individual weather event might forcibly remind us that we live within global warming. Thus, as Morton suggests is true of any hyperobject, its scale and our ability to experience it only via localized manifestations make the sixth extinction extremely difficult to account for in Enlightenment-derived ontologies, to represent in dominant modern narrative and artistic modes, to respond to within traditional Western ethico-political frameworks.

The clinamen between human and other-than-human in the Anthropocene presages the turn toward new non-anthropocentric ontologies, poetic and narrative modes, and ethico-political systems precisely because it is acutely haunted by the hyperobject of the sixth extinction. However, while this turn can only be sparked by the existential disorientation that comes with confronting a hyperobject, the innate inadequacy of human perception to grasp the hyperobject simultaneously limits coherent representation of, and response to, the sixth extinction. That said, the radical possibilities for transition to a de-centered sense of multispecies communality are many and my hope is that identifying the limitations as the result of the sixth extinction’s

position as a hyperobject can help to not only better locate and describe said limitations, but perhaps actively address them. I thus turn to VanderMeer's *Hummingbird Salamander* and *Ghost Species* by Bradley as works which navigate differing but complementary possibilities and limitations at the encounter between humans and endangered, extinct, and de-extinct other-than-human beings in the Anthropocene, haunted as they are by the hyperobject of the sixth extinction.

III. Horror and Taxidermy: Narrative and Physicalized Ghosts of the Sixth Extinction

“Ghosts remind us that we live in an impossible present –
a time of rupture, a world haunted with the threat of extinction.”

Anna Tsing et al., *Arts of Living on a Damaged Planet*, G6

Jeff VanderMeer's *Hummingbird Salamander* weaves a complex set of narrative genres. Since the narrative is largely driven by Jane Smith's investigation of Silvina's death, the novel may fall most squarely into the genre of noir, although with a heavy dose of Poe-style psychological thriller as Jane's obsessive investigation leads her to the brink of insanity as well as science fiction as her investigation culminates in Jane's discovery of Silvina's hidden lab containing both an ark of living individuals of the presumed extinct titular hummingbird and salamander as well as a mutagenic compound intended to change human capabilities of perception – a compound which, despite it having killed Silvina, Jane takes at the very end of the novel. However, Jane's investigation of Silvina's work as an environmental activist-turned-eco-terrorist also makes the novel a narrative of epiphany as Jane develops an environmental awareness. These interwoven narrative genres are further interspersed with moments of horror as Jane passes through various grisly encounters with violence and death. All three narrative modes – noir/obsession, epiphanic awakening, and horror – are driven by Jane's experience of

hauntings which attune her to the hyperobjects of global warming and the sixth extinction. Reading Silvina's journal is certainly important to the plot, with Jane at one point describing her awakening thusly: "I had been brought into mysteries previously unknown to me through contact with a dead woman" (243). However, her haunted and haunting interactions with taxidermy specimens of extinct and endangered animals are at least as narratively significant. Before her death, Silvina sets in motion a plan for the hand delivery of a taxidermized specimen of the (fictional) extinct naiad hummingbird to Jane. Jane's reception of the bird initiates the dual arcs of obsession and awakening and sustains the plot through the first half of the novel. Shortly after the specimen is stolen from Jane – by men working for Silvina's father, Vilcampampa, a mining and real estate tycoon whom she suspects of having killed Silvina – another taxidermy specimen enters the novel: that of the (also fictional) likely extinct road newt. The road newt heightens Jane's obsession and awakening as it forces her to confront very personal traumas and interfaces with the environment. However, while the eponymous specimens of the hummingbird and salamander play central roles in the novel the real turning point in Jane's gradually building obsession and epiphany is precipitated by a third and even more viscerally haunting clinamen with the sixth extinction via taxidermy.

The retrospective first person narration gives us a direct look into Jane's mindset before her character shifts as well as the sharp regret at having ever thought and lived in that manner that comes with her investigation and awakening. Jane initially espouses a rather common mindset that recognizes environmental destruction, but accepts it as the cost of modern progress:

The sister's husband was a conservation biologist. That could not be easy. At the time, though, the biologist exasperated me. Such a narrow focus. All the wonderful things in the world. All the ways life was better even if the world wasn't. This stutter-step of

disaster after natural disaster was just a blip next to LED lights, driverless cars, a possible end to poverty through gene-edited crops. (43)

Encountering the taxidermy specimen of the hummingbird does not itself shake Jane of this tacit complacency, indeed, it highlights it. Upon learning the bird's conservation status, Jane reflects: "Not just rare, then, but presumed extinct. Last seen in 2007. I felt a pang of emotion, as if this was a twist. But a twist that you could have seen coming. And after the pang – it took no time at all – that emotion began to recede from me. ...I had learned to care less" (37). By living within the hyperobjects of global warming and the sixth extinction and their manifestations in ecological collapse, but perceiving them as processes to be easily forgotten or rationalized instead of hyperobjects to be lived with and attuned to, Jane becomes inured to such losses. However, her investigation does gradually thaw this affective numbness, and open Jane up to attunement:

Once you saw it all, you could never go back. Everything was alive. Overwhelming. I was overwhelmed eventually. Overcome. ... We must love what has been damaged, because everything has been damaged. And to love the damage is to know you care about that world. That you're still alive. That the world is alive. How did I not see the damage for so long? (101)

While Jane is keenly haunted by losing the hummingbird specimen and the immolation of the taxidermized salamander, the encounter that really cements the trajectories of Jane's investigation, obsession, and awakening, that brings her to the overwhelming realization that "everything has been damaged," is with a warehouse full of taxidermy of many endangered and extinct species.

Haunting and affecting as they are, Jane's encounters with the hummingbird and salamander are underpinned by a certain legibility or comprehensibility. Jane's strong affective reaction is, from the very start, mediated by its connection to the loss of her brother as a child. Just its mention on the note accompanying the hummingbird – without even its direct presence – is immediately and easily incorporated into Jane's pre-existing psychological structure: "Hummingbird. Salamander. One there, one not, and the one not there creature I knew so well from childhood. ...I was held by the outline of memories I'd left behind. The look of rage on my grandfather's face. The slack, pale form of my brother by the river" (15-16). While the details of Jane's memories regarding the death of her brother, and her murder of her grandfather are somewhat repressed, they still provide a psychological landscape on which the salamander – before and after the actual specimen is found – can be contextualized and thus understood. While the hummingbird is less personal than the salamander, it too is rendered comprehensible by Jane. While the salamander is apprehended via very personal psycho-mimesis, the hummingbird is contextualized within culturally sourced narrative, affective, and aesthetic registers.

Once Jane learns of the hummingbird's likely extinct status, rather than experience the overwhelming experience that she eventually faces, she rationalizes the loss of the hummingbird's extinction within narratives that Heise's work suggests are the standard for such reactions: epic and elegy.

I had a vision of that last small expedition, the last group, setting out. Maybe it was just a dozen, maybe less. Tried to imagine it as Silvina had. Trying their best to overcome those obstacles. Each one of those individuals on an epic journey. One they never came back from. But: the joy. Even then, there must have been moments of joy and of contentment

on the journey. Sanctuaries and times of plenty. It wasn't just a winnowing. It was a life.

I held fast to that. Even if it was selfish, for myself. (42)

While the act of narrativization helps Jane to affectively connect to the hummingbird's extinction on a deeper level, she also recognizes that it is a shallow consolation for a profound loss. Further, as Jane becomes more familiar and obsessed with the bird, it enters into her modes of affective and aesthetic comprehensibility: "This creature that was everything I was not. We could not be more dissimilar, and yet, inside, I felt a welling up of sympathy for the toughness" (45). As her obsession deepens, and after losing the taxidermized specimen, these registers remain her primary mode of encountering the bird: "mostly, I was thinking of how I missed the hummingbird, the softness of the fierceness of its wings" (184). Such personal connections to the extinct hummingbird and salamander are crucial to their haunting of Jane, and her developing obsession. However, it is the encounter at the warehouse that really triggers her obsessive spiral in the latter half of the book as well as her ecological awakening and attunement to the sixth extinction as a hyperobject.

The shootout and fire at the warehouse precipitate a number of crucial changes in Jane's narrative: estrangement from her family, direct contact with Vilcapampa, the immolation of the salamander specimen, and her decision to trace Silvina's steps to the secluded boat-house. However, Jane's confrontation with the violence done to animals in the Anthropocene, mediated by the heap of taxidermy in which she attempts to hide, is just as crucial as the inter-personal violence enacted in the scene. Jane's navigation into the heap of taxidermy has to be the most viscerally haunting moment of horror in *Hummingbird Salamander*. I suggest that this, as well as its narrative importance, is because VanderMeer uses the scene to purposefully stage an encounter between Jane – and thus the reader – and the sixth extinction *as a hyperobject*.

Initially, Jane registers the heap of taxidermy as “a sense of bulk, of heft, through the window, but it had been indistinct,” (194-5) reflecting Morton’s notion that hyperobjects, unless acknowledged and purposefully confronted, are rendered as a vaguely perceived looming on the periphery of our perception. However, as Jane is drawn further into its field of action, it resolves into “the outline of a monster. A creature made of many, many parts. A great, heaping pile... there was no way to get around it” (195). Jane’s description intimates several of the complex facets that Morton says are definitional of hyperobjects. Being a single “monster” with “many parts” the heap exhibits phasing in that “parts do not disappear into wholes... objects seem to contain more than themselves” (Morton, 78). This is further suggested in Jane’s description of it as “a great mound of snuffed-out lives, some common, but most rare and precious. A wall, or wave, and with my pathetic light I could only reveal parts of it. Was glad of that” (195). Additionally, its encompassing of the room, and thereby forcing Jane “to plunge forward, hide in the morass” (195) suggest the viscosity, the sheer inescapability, of a hyperobject.

Crucially, Jane cannot render the heap comprehensible in the same manner as the individual taxidermy specimens of the hummingbird and salamander. Like a hyperobject, it actively, violently, resists legibility: “It made me sick. I didn’t understand it. ...Some sights make the brain rebel, make a soul want to hide from itself” (195). Rather than lessen with further intimacy, this incomprehensibility only heightens as Jane burrows into the heap in an attempt to escape Vilcapampa’s gunmen:

I was hidden deep, cringing and shivering from the touch of so much unfamiliar texture. The smothered flat glossy feathers and furs against my arms and legs and face. The dead bright eyes I couldn’t see in the gloom. The dull-sharp beaks rasping against me. Hooves and paws from the wrong directions, against my back. I was trying to adapt to the

vastness of it... I couldn't process the smells... But the claustrophobia broke me down the most... I couldn't tell where my body ended and some other body began. ...I was already going mad... I was nothing but an animal myself, scrabbling for air, for freedom. (196-197)

The building sense of claustrophobia, panic, and sensual overload establishes the deep visceral horror of the scene much more than the suspense or violence of the shootout. Additionally, it is to be expected if we understand the heap of taxidermy as a local manifestation of the hyperobject of the sixth extinction. Attunement to the phasing and nonlocality of hyperobjects forces the recognition that we live within massive but immanent beings that “loom around us constantly” (Morton, 76). Claustrophobia, panic, and overload are an understandable set of psychosomatic reactions to this reality. The horror of this scene is thus only possible because it stages an encounter between a hyperobject, the sixth extinction, and Jane, who can only fail to comprehensively understand the hyperobject of the sixth extinction even as she is forced to confront it.

While the specimens of the hummingbird and salamander, and their species' respective extinctions can also be considered as physical manifestations of the sixth extinction, in their personal, narrative, and affective-aesthetic comprehensibility, Jane readily avoids understanding them as such. Instead, they remain individual isolated – and thus rationalizable – tragedies. Conversely, the monstrous heap of taxidermy, in horrifically embodying so many of the hyperobjective aspects of the sixth extinction, radically resists such rationalization. Thus, while the heap itself is not the hyperobject – bounded as it is in time and space – it stands as a local manifestation of the sixth extinction that attunes Jane to the reality of the sixth extinction, and its existence as a hyperobject.

VanderMeer leverages the affect and conventions of horror, within broader narratives of noir and epiphany, to intimate crucial hyperobjective aspects of the sixth extinction and represent the haunted reality of life during the Anthropocene, the reality “that sometimes powerful forces pass through your life that speak to you but, in the end, keep their own counsel. That they wash over you like an extreme weather event, then are gone” (332). VanderMeer’s work is thus an excellent fulfillment of Morton’s injunction that “Art in the Age of Asymmetry must thus be a *tuning* to the object. ...a way not so much to understand but to summon actually existing Cthulhu-like forces, chthonic beings” (Morton, 174/5). While VanderMeer suggests in Jane’s spiral after encountering the taxidermy heap/monster, and the novel’s ambiguous conclusion, that there is no method for comprehending or coping with the horror of confronting hyperobjects, in the aftermath of that attuning and haunting clinamen there is also the hopeful possibility for radical change.

IV. Inhabiting Extinction: Temporal Destabilization and the Amplification of Grief

“Whereas Progress trained us to keep moving forward, to look up to an apex at the end of a horizon, ghosts show us multiple unruly temporalities.”

Anna Tsing et al., *Arts of Living on a Damaged Planet*, G7

James Bradley’s *Ghost Species* is, like *Hummingbird Salamander*, centered on the protagonists’ attempts to navigate schemes and events beyond their control. While Jane is trapped in the intrigue and struggle between Silvina and Vilcapampa as well as a society-ending pandemic, Kate, one of the lead geneticists on a team dedicated to cloning Neanderthals, and Eve, the resultant cloned Neanderthal whom Kate abducts/adopts, are enmeshed in Davis’s (an Elon Musk/Jeff Bezos-esque tech billionaire) mass implementation of de-extinction technologies, and then the socio-environmental collapse Davis’s programs were meant to stave

off. Like Jane, Eve and Kate are forced to navigate and confront, and are haunted by, the hyperobjects of global warming and the sixth extinction. However, while Jane's haunting and navigation is predicated upon obsession which opens up into the horrifically claustrophobic immanence – the affective result of the phasing and nonlocality – of hyperobjects, Eve's and Kate's take on somewhat different contours. While Jane's attunement is based in confronting horror, Kate's and Eve's attunement is mediated by grief. For each, attunement is initiated by the dizzying recognition of temporal undulation: experiencing the collapsing of vast and intimate time scales into one another, creating what Tsing et al. call "strange topologies" (G8). Both undergo intimate clinamen with loss and personal grief, which, after the destabilizing experience of strange topologies, prepares them to more readily attune to the general state of endangerment and death with which the sixth extinction marks the Anthropocene.

The narrative of *Hummingbird Salamander* is largely driven by the conflict between Vilcapampa, who contributes to global warming and the sixth extinction, and Silvina, followed by Jane, who become attuned to those hyperobjects. *Ghost Species* is instead driven by Davis's reactions to global warming and the sixth extinction, which he crucially misapprehends as processes instead of as the hyperobjects to which Eve and Kate become attuned. Davis's processual, instrumentalist approach to nature comes to light early on when he pitches his project to Kate and Jay: "Ecosystems are really just cycles of energy. We have the computational power to model them, to understand the way energy flows through them" (19). Portraying this approach, and its immense failures, is important work in fiction as it is the most common approach in our world. While Davis, unlike Vilcapampa, is attempting to combat global warming and the sixth extinction, his belief in the manageability of ecosystems inspires Davis to undertake a doomed project: the mass cloning and release of de-extinct Pleistocene megafauna,

paired with reforestation, in an attempt to restore landscapes and mitigate climate change, while also reversing some of the sixth extinction. In other words, he seeks to balance anthropogenic carbon emissions and ecosystem carbon sequestration as you would an equation. The faulty presumptive simplicity of this mindset is directly called into question by a reporter. She suggests his projects are

really just the distillation of the adolescent fantasy [that] the entire world is simply a computational problem, capable of being solved by an algorithm or an app, a way of avoiding the unfortunate fact the world is nothing of the sort, that its problems are often messy, intractable, or in the parlance of Davis and his cohorts, uncalculatable. (44)

This critique, however, apparently carries little cultural weight as Davis's various de-extinction and rewilding schemes are implemented and expanded over the next several years. It isn't until much later that his instrumentalist process-based approach to global warming and the sixth extinction, in which he believes these to be processes that can be managed and corrected by manipulating parameters, is proven to be disastrously inaccurate. Watching "a report on one of Davis's projects" that highlights its success in establishing de-extinct populations, Kate remarks that "the mammoth are beautiful" (168). However, Kate's involvement in Davis's projects makes her privy to information which undermines the report's triumphant spin:

what the report didn't reveal is that Davis's efforts seem to be making things worse rather than better. ...the reforestation programs have not been working, and while some of the resurrected fauna seem to be thriving, other animal populations in the regions Davis's programs are being implemented are not recovering. If anything, rates of mortality have risen. (169)

Just as the sixth extinction seems reversible in one instance, elsewhere, it is amplified. Davis's attempts to manage the sixth extinction as a process only highlight its existence as a hyperobject by illuminating the aspect of phasing wherein the hyperobject appears to disappear, but in reality is ongoing elsewhere outside of our attention, looming on the periphery.

While phasing seems to broadly render the sixth extinction and the associated impending ecological collapse as a manageable and largely ignorable process, Kate and Eve come to confront the reality of the hyperobject by encountering temporal undulation and locating themselves within strange topologies of collapsed time scales. For Kate and Eve this process of attunement is crucially accomplished by intimately experiencing death and grief, then being shuttled to the vast scale of other-than-human death within the sixth extinction via the amplification of grief.

Kate's attunement to temporal undulation begins early on in her participation in Davis's project. On her first day of work Kate remarks that "it still astonishes her, that it is possible to exhume the history of life from the deep past" (39). The very prospect of reviving extinct species begins to destabilize Kate's sense of time by putting her into intimate proximity with the vast, geologic scales of time that enfold the sixth extinction. This dizzying shuttling between the intimate and vast, of course, only heightens as Kate and Eve form bonds of kinship.

Each week brings worse news about the hastening changes in the north, images of sinkholes and rivers collapsing through the earth, of the melting corpses of ancient animals rising from the ground, as if the past is intruding, ghostlike and uncanny, into the present, and time is hastening, hastening, hastening. ...Glancing at Eve again, she feels a sort of vertigo, a feeling the world is shifting beneath her. (132-133)

The literal exhumation of remains of extinct creatures by global warming reinforces the intensity with which Kate is forced to navigate strange temporal topologies by virtue of the extended clinamen of kinship with Eve. Kate's experience of vertigo upon confronting temporal undulation closely parallels Jane's claustrophobia upon facing nonlocality. For each it is a profoundly destabilizing moment that opens them up to sharper attunement to the sixth extinction as a hyperobject.

For Kate, the disconnect between seeing the positive media spin of Davis's projects and knowing its deep failure becomes an opportunity for recognizing the difficulty of mentally fixing onto a hyperobject such as the sixth extinction:

This sense of accelerating collapse haunts her. ... There is something numbing about this process, a sense that with each new diminution the world slips further out of alignment. Yet while Jay and Cassie and many of her colleagues feel the same, few of them talk about it, except in the most guarded terms, and out in the street or the supermarket it is as if nothing has changed. Do people not feel it, the way death shadows them? This sense the world is coming apart? This sense they are all a part of it? (169)

The reaction of numbness is interesting here, indicative as it is of the profound challenge that comes to traditional modes of response and emotion upon confronting the hyperobject. While the pervasive language of experiencing the collapse presented in the sixth extinction via "senses," "hauntings," and "shadows," similarly suggests its general obfuscation, it also suggests that Kate has become attuned to the looming, peripheral aspect conveyed upon the sixth extinction in its phasing as a hyperobject. In positioning the sixth extinction as a rending of the entire world, and situating everyone as a part of it, Kate is articulating the simultaneous immensity and immanence of the sixth extinction – its existence as a hyperobject that is all-encompassing and vast, but also

immediately at hand and intimately experienced. Crucially, this scene occurs shortly after her mother's death, from which Kate is still reeling. Kate's ability to attune to the ecological crises manifested by global warming and the sixth extinction more than her colleagues is the result of her recent encounter with death on a personal level. Kate here undergoes the amplification of grief: it is only through the keenly experienced clinamen with loss on a particular and intimate level that Kate is able to attune to the widespread death manifested by the hyperobject of the sixth extinction.

In the latter half of the novel, Eve faces a parallel experience of destabilization through perception of strange topologies, followed by further attunement to the sixth extinction as a hyperobject via the amplification of grief. Once she is made aware of being a Neanderthal, Eve quickly comes up against the strange topologies which she inhabits by virtue of being a member of a de-extinct species. In researching *H. neanderthalensis* online, Eve comes across a virtual reality depiction of a recently discovered, formerly Neanderthal-inhabited cave.

But it is only when she is done, and she walks deeper into the cave and finds the handprints, that she finally understands. For there, in that pale-walled gallery, where once firelight flickered, illuminating this record of so many lives, of so much time, she lifts a hand and places it on one of them, suddenly aware that it fits, time telescoping in a rush like wind. (180)

Eve's sudden, rushing awareness closely parallels Kate's experience of temporal vertigo. Additionally, it shows a somewhat atypical reaction to encountering deep time, one that suggests Eve's incipient recognition of extinction's temporal undulation and phasing. Deep time scales are generally met with a sense of awe at their immensity, a reaction we would expect to be described as time telescoping *outward*, as expansive geologic time scales make one feel

infinitesimal. Eve's experience of 'time telescoping *in*,' of the collapse of deep and intimate time scales into one another, suggests the realization that the sixth extinction, as much as it represents a rupture in deep evolutionary time, is also something intimately inhabited by those within its field of action. In other words, because of her inhabitation of-and-as (de)extinction, this clinamen with an archaeological artifact opens Eve up to the recognition of the sixth extinction's simultaneous temporal immensity and immanence.

Like Kate, Eve's intimation of extinction's temporal undulation is associated with an intimate clinamen with death, and the amplification of personal grief into ecological grief. As Kate is diagnosed with terminal brain cancer, her rapid decline and eventual death become closely linked with the collapse of the West Antarctic ice sheet and the subsequent socio-environmental fallout. After receiving her diagnosis

Kate told her [Eve] she had been feeling tired for several months. She had thought it was just age, exhaustion, but in fact it was the tumour, the future that was already set contained within it. ...For months now the news has been about West Antarctica, the possibility the ice sheet has reached a critical point, but as she calls up the news she sees the story has moved rapidly in the hours she has been away, and the sheet really is collapsing. (207-208)

The months of media chatter overlap with the months of misapprehended signs of illness, signs taken to mean slow decline prove themselves to be signs of impending, sudden change. The physical existence of both the tumor and collapsed ice sheet lock in a future marked by death and loss, on local and nonlocal scales respectively. Thus, for Eve, the personal grief over Kate, and the ecological grief become coterminous, amplified in one another: "And when she [Eve] sleeps she dreams of shifting ice, the yaw and tectonic creak of it, the way it slithers down into waiting

ocean, dark as grief” (208). Kate’s cancer and rising seas and extreme weather events seem to worsen hand-in-hand. For Kate and Eve living in Tasmania, the initial fallout of the ice sheet’s collapse is a wave of heat and wildfires. “And then, on the day after the weather breaks, Kate has another seizure” (213). Where the looming signs of civilizational collapse end, the haunting signs of Kate’s impending death begin. The final moments in which Kate’s illness culminates in her death, and environmental disaster results in civilizational collapse closely mirror each other, cementing the resonance Eve sees between the two: “Kate gets weaker... the only sound her breathing, until just before dawn one morning that too falls still, and quite suddenly, she is gone” (225). “Through the window the lights by the road have gone out. There is an audible click, and the house falls silent, the fridge spinning down. And just like that the world is over” (229).

The amplification of Eve’s grief is expressed in quite an explicit manner, as Kate’s looming, impending death becomes, for Eve, a local manifestation of the sixth extinction:

Still, as they move through the weeks, it is as if the world has divided, and two different realities inhabit every moment. In one version there is Eve and Kate, together in the house, their lives entwined yet untroubled. In this reality it sometimes seems Kate’s time in the hospital was nothing more than a bad dream, already half-forgotten. Yet this reality is haunted by another in which Kate’s extinction hovers just out of sight, unable to be approached or imagined yet eclipsing everything. Which of them Eve inhabits changes, hour by hour, minute by minute. (212)

In addition to Eve’s personal and ecological grief telescoping in as the haunting of Kate’s death becomes that of the sixth extinction, Eve’s temporal description and navigation of these overlapping haunted realities suggests a strange topology like that experienced upon facing her own status as a de-extinct being. Thus, the amplification of grief between Kate’s death and the

sixth extinction is crucially connected to, borne of, Eve's own inhabitation of and attunement to the collapsed, undulating temporalities created by the hyperobject of the sixth extinction.

Eve's grief culminates in another clinamen with a local manifestation of the sixth extinction: the carcass of a deceased mammoth created by one of Davis's projects. This encounter in the final pages of the novel solidifies the importance of grief, and the amplification of grief, in Eve's reaction to and navigation of the sixth extinction as hyperobject. Just as Eve's sense of hearing highlights the connection between Kate's death and civilizational collapse, her experience of the mammoth carcass and Kate's cancer are linked by her sense of smell. Kate's cancer impinges itself upon Eve via her nose: "Whenever she is least expecting it she catches the smell of it, the foul waft of the sickness, its scent clinging to her... clinging to the air. At first Eve finds it difficult to ignore, its putrid undertone making her feel ill" (211). Upon encountering the mammoth carcass and the dying forest in which it lies "the smell [of the mammoth] is overpowering but she presses her sleeve to her face and forces herself to move closer... it [the forest] is dead, the smell of it lingering like the stink of the mammoth carcass" (263-4). Beyond underlining the affinity between Kate's death, and that of the mammoth and forest, the pervasiveness, the clinging and lingering, which Eve experiences in these smells also indicates the intimacy and immanence which characterizes the sixth extinction as a viscous, phasing, nonlocal hyperobject.

Eve's clinamen with the mammoth carcass also highlights the difference between her response, grief, and that of *Hummingbird Salamander's* Jane, horror. The description of the mammoth carcass bears marked similarity to that of the heap of taxidermy. Both narrators initially have trouble making out what exactly they are encountering: "At first she [Eve] thinks it is some kind of tent, a bedraggled hide or rug stretched across poles; it is only as she draws

closer that its shape resolves, revealing itself in all its mute ruination” (263). As Jane describes being “overcome” and “overwhelmed” by the monster of taxidermy, Eve describes the smell as “overpowering.” The description of the carcass is at least as visceral as that of the taxidermy:

The rib cage is huge, half as tall again as she is, the scraps of flesh and skin that hang on it flapping in the wind, viscera coiled and bloated in a pool within. Its head is intact, the trunk splayed in front of it, the thick, mahogany-coloured hair matted with leaves, the black skin visible beneath it. (263)

While for some this grisly clinamen might be occasion for horror, for Eve it becomes another node for the amplification of grief she has already undergone. The grief with which Eve responds to the mammoth carcass and dead forest mirrors and continues that with which she mourned Kate. After Kate’s death

Eve feels something give way and realizes this is what grief feels like. Shock, absence, and something else. Not the wrenching pain she imagined but something deeper, less easily articulated. She feels as if she is being unmade, forgotten, her past slipping away... all week she has felt time collapsing, the past bleeding into the present, the future already here. (227-228)

Eve remarks on the greater death and loss represented by the dead mammoth and forest:

Back then these trees would have been filled with slow awareness, whispering to each other in patterns of electricity and biochemicals, a deep web connecting them not just to each other, but to past and future, a wordless remembering. ...Is there a word for that loss? A word that might name this rupture in the world? A word that might capture the way all that has happened has sundered this place from its past and left it storyless and alone? (264)

At both nodes Eve's grief haunts her, bends and collapses deep and intimate time scales, and resists cogent articulation. Eve's grief, in its amplification from the grief of individual deaths into grief over the mass death wrought by the sixth extinction, is an affective attunement to that hyperobject and takes on its aspects accordingly.

V. Grief and Horror as Mutually Permeable Affective Modes of Attunement to the Sixth Extinction

“Underneath the disgust and the horrific uncanny is a type of melancholia...
Let's make it down into the sadness and proceed further from there.”

Timothy Morton, *Dark Ecology*, 119

For the protagonists of both *Hummingbird Salamander* and *Ghost Species* the role of the clinamen in attunement to the sixth extinction is not just one of physical proximity and encounter, but a crucial combination of this embodied entanglement and the affective register. I have argued that Jane's attunement hinges on the brief but visceral moment of horror in the warehouse of taxidermy, while Eve's, and to some extent Kate's, attunement is a more protracted experience of grief dispersed across several nodes of encounter with death and loss. While I believe that delineating these responses – horror and grief – is important, in this delineation I do not mean to suggest that they are mutually exclusive. Instead, I want to highlight the fundamental permeability between the two as affective modes of attunement to, and narrative approaches for, the sixth extinction.

In *Dark Ecology* Timothy Morton posits the following affective “layers of attunement to ecological reality” (159): guilt, shame, depression, horror, sadness, longing, and joy. Morton theorizes that each of these feelings arises from the next, with joy lying, however deeply or unconsciously, at the heart of all emotional responses to the socio-environmental catastrophes of the Anthropocene. For current purposes it seems significant that horror is sandwiched between

the similar responses of depression and sadness, suggesting a profound permeability between what I have so far termed grief and horror, what Morton calls the dark-depressing and the dark-uncanny.

Within this formulation, Morton aligns the dark-depressing with elegy. As the beauty that inspires longing is enfolded by ecological destruction, the “beauty is sad because it is ungraspable, there is an elegiac quality to it” (149). The beauty of non-human systems and beings is haunted by the possibility of destruction before, and indeed regardless of whether, it actually happens. Glenn Albrecht observes that “there is also anticipatory grief and mourning for that which is currently under stress and will most likely pass away in the foreseeable future” (“Solastalgia and the New Mourning,” 295). Like Morton, Gerry Canavan relates this to Romanticism, describing “this deep futurological perspective” as the “Neo-Romantic dimension of the Anthropocene... a melancholically sublime premediation” (“After Humanity,” 136). This ecological elegy is, of course, yet another manifestation of the amplification of grief occasioned by, and the complex temporalities inherent to, the hyperobjects of globalized capital, pollution, global warming, and the sixth extinction. Meanwhile, within the horror of the dark-uncanny “the ecological emergency looks like tragedy” (145). Morton suggests this because of the overlapping ways in which both horror and tragedy insist on being witnessed despite our foreknowledge of their grisly conclusions. The hyperobjects of the Anthropocene are uncanny on account of their immanence and nonlocality, and we cannot look away from them because of the irreversibility of attunement-as-haunting.

In both the dark-depressing and dark-uncanny modes attunement to, and narration of, the hyperobject requires a psychosomatic clinamen that leads to protracted entanglement. The uncanny and/or depressing quality arises from the other-than-human’s impression on the human

via physical sensuality, the sensual experience precipitates into the affective responses of horror and/or grief, which are then relayed via the narrative forms of tragedy and/or elegy. The mutual permeability of the depressing and uncanny is suggested in Morton's assessment of Percy Shelley's archetypal elegy *Alastor* in "The Dark Ecology of Elegy": "It is as if we have moved from the genre of elegy to that of horror" (266). Locating the sixth extinction within this formula of grief and horror, Morton sees the potential for both: "No wonder then that we find mass extinction depressing and uncanny" (*Dark Ecology*, 113). Thus, we would expect media strongly attuned to the realities of the sixth extinction to shuttle between the uncanny-horror-tragedy nexus and the depressing-grief-elegy nexus.

Such a shuttling between grief and horror is key to the portrayal of the sixth extinction in *Hummingbird Salamander*. While I maintain that the encounter with the taxidermy heap is a lynchpin in Kate's obsession and awakening, her responses to the titular hummingbird and salamander are profoundly characterized by grief and the elegiac narrative mode. It is this horrific moment of attunement to the sixth extinction in the warehouse that primes Jane for the intense affective responses of grief to the hummingbird and salamander. The narrative importance of the claustrophobic taxidermy heap in *Hummingbird Salamander* actually *relies* on the permeability between the horrific, tragic mode and that of grief and elegy.

Glenn Albrecht has pursued similar activities of mapping the landscape of visceral-affective responses to global warming, deforestation, industrial pollution, and other hyperobjects of the Anthropocene. Like Morton's ladder from joy to guilt and vice versa, Albrecht theorizes "a typology of psyche-Earth emotions and feelings... as sitting between the extremes of positive and negative responses" (302). He terms these poles the Terraphthoric (earth-destroyer) and Terranascient (earth-creator) which respectively correspond to "negative" responses to

environmental destruction or degradation and “positive” responses to ecological survival or restoration. While Albrecht’s focus is on grief and melancholia regarding particular places or more broadly defined landscapes, exemplified by his theorization of ‘solastalgia,’ the Terraphthoric pole contains the potential for other “negative” responses, varying both in their tenor – to include horror – and in their focus – so as to include nonhuman beings at a finer scale than the place or landscape. Albrecht coined solastalgia to describe the “chronic distress and melancholia of the lived experience of negative environmental change... [which] is succinctly described as ‘the homesickness you have when you are still at home’” (299). While the focus on “home” most obviously opens onto consideration of places and landscapes of belonging, Albrecht writes that “our home includes those non-human beings who share an environment with us” (301). Thus, the sixth extinction joins global warming, deforestation, and desertification as potential impetus for solastalgia: “[I experience] the state of being worried about the possible passing of the familiar and its replacement by that which does not sit comfortably within one’s sense of place. I begin to mourn for that which I know will become endangered or extinct even before these events unfold” (309).

While Albrecht’s articulations generally describe solastalgic distress opening onto the dark-depressing affective terrain of grief, mourning, and melancholia I see the potential for a solastalgic horror. In solastalgia, an individual ceases to experience psychosomatic comfort from a familiar landscape or place on account of environmental desolation of some form. While the home landscape is radically physically changed rather than entirely lost, the sense of homeliness is lost. The affective experience of loss itself is what leads Albrecht to tie solastalgia to grief. However, I think that what is being lost is important as well. Ultimately, solastalgia connotes a profound defamiliarization of place: the familiar, comforting, homely landscape becomes

unfamiliar, distressing, and unhomely. Re-phrased thusly, with Freud's *unheimlich* in mind, I see a clear path for solastalgia to unfold into horror via the distressing uncanniness of the newly unhomely home. Thus, tying in the inclusion of human-non-human interactions as a crucial part of the sense of home, the sixth extinction carries the potential to create the defamiliarization and distress of solastalgia which, I suggest, can in turn open onto both grief and horror.

In *Ghost Species* this implicit horrific potential of solastalgia lurks at the periphery of Eve's visceral, haunting encounter with the mammoth carcass and dying forest towards the novel's close. Ultimately the scene culminates in Eve's grief at the now "storyless and alone" landscape "sundered from its past," an articulation of environmental mourning that is highly suggestive of the desolation and defamiliarization of Albrecht's solastalgia – a reading further suggested by Bradley's own discussion of Albrecht's work in "An Ocean and an Instant." However, as noted above, this encounter shares with Jane's horror an initial confusion followed by a sense of overpowering presence. For a narrator other than Eve the distress of the scene – encountering the fetid carcass of an animal that is the product of a failed geo-engineering project, set within a dying forest teeming with crows – could easily and quite understandably open onto the dark-uncanny affective terrain of horror. Indeed, it is precisely this strong potential for a horror-centered response that makes Eve's grief-based response to these, and other, manifestations of the sixth extinction so remarkable.

For Jane attunement to the sixth extinction becomes an experience of horror at the claustrophobic immanence of a nonlocal and thus uncanny hyperobject, while for Eve it is the experience of grief, amplified from intimate to vast scales, that attunes her to the strange topologies created by the undulating and collapsing temporalities of the sixth extinction's existence as a hyperobject. In each case the dominant affective experience of attunement is

underlaid by the other. The protagonists' complex clinamen-driven attunement to the sixth extinction, in both *Hummingbird Salamander* and *Ghost Species*, profoundly relies on the permeability between the dark-depressing and dark-uncanny, between the affects of grief and horror, the narratives of elegy and tragedy. The mutual permeability between depressing and uncanny affective modes of attunement to the sixth extinction is importantly only a permeability within the realm of Albrecht's 'Terranascia.' However, as both Morton's and Albrecht's work suggests, this permeability extends further: into the positive realm of terranascient affect, down into the affective depths of longing and joy. Following Albrecht's call for "a way out of negative Earth emotions and into a new world of positive Earth emotions" (310), Chapter 2 turns from the affective experiences of horror and grief and narratives of tragedy and elegy to comedic narratives detailing affects of hope, longing, and joy within the novelization of the sixth extinction in *Hummingbird Salamander* and *Ghost Species*.

Chapter 2. Comedy, Kinship, and Contamination:
Repositioning the Sixth Extinction from Tragedy, Elegy, and the ‘Human’

I. Dark-Sweet and Terranascia: Comedic Narration of the Sixth Extinction

“When the existence of many species, including our own, and the continuity of the biological environment are threatened as they are now, we can no longer afford the wasteful and destructive luxuries of a tragic view of life.”

Joseph Meeker, “The Comedy of Survival,” 17

In Chapter 1 I focused my analysis on the dark-depressing nexus of grief and the elegiac mode, and dark-uncanny’s horror and tragic mode. Jane’s experience of horror proved to be a powerful mode of attunement to the immanent and nonlocal nature of the sixth extinction, while Eve’s experience of grief attuned her to the temporal undulation and strange topologies caused by the same hyperobject. In both cases what Albrecht terms the negative affects associated with Terraphthora show themselves to be effective modes of attunement to aspects of the sixth extinction, as well as compelling bases for the respective tragic and elegiac narrative inflections of *Hummingbird Salamander* and *Ghost Species*. Given that attunement is a necessarily affective process of experiencing rather than understanding a hyperobject, and the nature of the hyperobject at hand, the sixth extinction, narratives centered upon the dark-depressing and dark-uncanny affective experiences of grief and horror seem like an obvious and appropriate choice. This, however, leaves out Morton’s third darkness in the process of attunement: the dark-sweet, concerning affective responses of longing and joy and the comedic mode of narration. Likewise, solely discussing the potential for grief and horror within solastalgia isolates us to the distresses of Albrecht’s Terraphthora, neglecting the positive realm of Terranascient affect.

As argued in Chapter 1, using the tragic and elegiac literary tropes of ghosts and hauntings to narrate clinamen marked by grief and/or horror can be a successful approach to effect attunement to the sixth extinction. Yet the dark-depressing and dark-uncanny affective and

narrative modes of Terraphthora cannot on their own fill the gap between the knowledge and experience of hyperobjects, which is the role of literatures of attunement: “Supposedly we already know these things, but sometimes fiction can make us feel them in our bones” (VanderMeer, “Hauntings in the Anthropocene,” np). While elegy and tragedy can, via grief and horror, attune us to the pervasive destructive effects of the sixth extinction, they have their limitations, as Stewart Brand argues:

The [fatalistic] headlines are not just inaccurate. As they accumulate, they frame our whole relationship with nature as one of unremitting tragedy. The core of tragedy is that it cannot be fixed, and that is a formula for hopelessness and inaction. Lazy romanticism about impending doom becomes the default view. No end of specific wildlife problems remain to be solved, but describing them too often as fatal extinction crises has led to a general panic that nature is extremely fragile or already hopelessly broken. That is not remotely the case. (“Rethinking Extinction,” n.p.)

On their own tragedy and elegy provide a too-bleak image that, in addition to having ambiguous socio-ethical outcomes, fails to attune us to some conditions of the sixth extinction that are more accurately associated with positive affective experiences of hope, joy, and longing and are thus more appropriately narrated via a broadly defined comedic mode.

Joseph Meeker argues with keen force against the tragic mode as an anachronistic, anthropocentric philosophy violently ill-suited for ecological thought and affect. He describes tragedy as a uniquely Western masculinist mode that inevitably sets up a domineering relationship of humans towards other humans and nonhumans:

The tragic view assumes that man exists in a state of conflict with powers that are greater than he is. ...Tragic literature and philosophy, then, undertake to demonstrate that man is

equal or superior to his conflict. The tragic man takes his conflict seriously and feels compelled to affirm his mastery and his greatness in the face of his own destruction. He is a triumphant image of what men can be. (12)

It is worth noting that while Meeker does not explicitly address the elegiac mode, elegy's investment in the singular (usually Western and male) poetic persona caught in conflict with powerful forces of death, loss, and grief in such a way as to intimate but generally avoid the destruction of the self is markedly similar to his definition of tragedy. Thus I maintain that Meeker's critique of tragedy holds true for elegy. The material fallout of this philosophy of triumph and dominance is predictably destructive: "The tragic view of man, for all its flattering optimism, has led to cultural and biological disasters, and it is time we looked for alternatives which might encourage better the survival of our own and other species" (13). Meeker offers comedy as such a survival-minded alternative. The comedic is positioned, in a reversal of tragedy's anthropocentric hostility, as a mode directly attuned with the ecological conditions for cosmopolitan survival: "comedy and ecology are systems designed to accommodate necessity and to encourage acceptance of it, while tragedy seeks to avoid or to transcend the necessary in order to accomplish the impossible" (14).

The Terranascient, or dark-sweet, positive affective and narrative mode alternative to Terraphthoric dark-depressing elegy and dark-uncanny tragedy is fundamentally comedic in three interrelated ways. Firstly, the aspects of life during the sixth extinction to which hope, joy, and longing attune us are as comedic, in the traditional dramatic sense, as grief and horror are elegiac and tragic. Namely, hope, joy, and longing affirm and attune us to the multitude of precarious but perseverant potential forms of life's continuance through the mass death that comprises the sixth extinction. Meeker writes that "comedy is a celebration, a ritual renewal of

biological welfare as it persists in spite of the reasons there may be for feeling metaphysical despair” (13). Secondly, while the tragic and elegiac tropes of ghosts and hauntings may appear as strategies for narrating clinamen in the sixth extinction, those narratives’ foregone conclusions of death – be it of the tragic anti-hero, the subject of their revenge, or the elegiac persona’s beloved – are rejected in favor of open-ended conclusions that leave open, and thus invite hope regarding, the possibility for life’s survival. Lastly, the tragic and elegiac tropes of ghosts and hauntings are supplemented by other approaches to narrate clinamen in the sixth extinction that de-center the human subject in such a way that is “comedic in its basic thrust, not in the sense of being funny, but in the sense of not taking humans’ grandeur or exceptionality very seriously” (Heise 227). This non-anthropocentric comedic form of narrating clinamen in the sixth extinction dons the tropes of kinship and contamination as modes of attunement to the potential for lively ways of surviving the sixth extinction via the affective experiences of longing and joy.

Ultimately, both *Hummingbird Salamander* and *Ghost Species* exhibit these comedic narrative innovations and affective experiences. Each novel concludes on an ambiguous note of qualified but insistent hope in each case with an importance placed on the notion of de-extinction. Additionally, each deploys one of the above non-anthropocentric narrations of clinamen. Bradley utilizes the trope of kinship as a way of decentering, without disempowering, the novel’s protagonists within intergenerationally embodied scales of deep time, thereby affirming and attuning us to not only the deep history of life, but its potential equally deep future despite the many deaths of the sixth extinction. Likewise, VanderMeer utilizes the trope of contamination to decenter the novel’s protagonist by relocating Jane within ecological entanglement with nonhuman agents that exert pressure upon and within her. Jane’s contamination undermines her status as independent or central narrative agent while also

reframing contamination or infection as a potentially desirable, even enabling, experience of affirmation of and attunement to the vibrant material and ecological interconnections that give rise to such clinamen even as other relationships of connectivity are lost to the sixth extinction.

II. Hope, De-Extinction, and the Comedic Rejection of Foregone Conclusions

“If the survival of our species is trivial, then so is comedy.”

Joseph Meeker, “The Comedy of Survival,” 15

Greg Garrard, in a discussion of apocalyptic environmental rhetoric, outlines a relevant description of tragic and comedic schema for narrative conclusions. Garrard’s discussion of apocalyptic rhetoric is relevant to consideration of the sixth extinction since extinction narratives, especially but not uniquely those of human extinction, often draw upon the apocalyptic tradition. Indeed, the obverse is equally true. Garrard writes that “If time is framed by tragedy as predetermined and epochal, always careening towards some final, catastrophic conclusion, comic time is open-ended and episodic” (95). Treating the sixth extinction as an apocalyptic event, following Garrard we expect anthropogenic extinction to appear as a fated, inescapable doom in the tragic tradition, or as a less assured, but nonetheless very real, threat within the comedic mode. While Garrard does not take such a strong stance against tragedy and in favor of comedy as Meeker, instead outlining the rhetorical and political value of both tragic and comic narrative, his and Meeker’s definitions are compatible. For Meeker tragedy is marked by a conflict that must resolve, falling in line with Garrard’s articulation of tragic finality. Likewise, Meeker’s affirmation of the comedic chance for survival is simply the optimistic rephrasing of the threatening but open-ended apocalypse offered by Garrard. In each description of the comedic mode, comedy is marked by a sense of hopefulness which both VanderMeer and Bradley bring to their novels of the sixth extinction by refusing the foregone conclusions of the

tragic and elegiac modes, thereby swerving from dark-uncanny horror and dark-depressing grief to dark-sweet hope.

While *Hummingbird Salamander*'s overall paranoid noir narrative – being centered on deaths and anti-heroes – is, along with the novel's moments of horror, associated with the tragic mode, VanderMeer forsakes tragedy's forgone conclusions. Regarding human life and death, the usual domain of the tragic mode, Jane is wrong in her belief that Silvina was assassinated by her father, and in fact that she was murdered at all. At the novel's close we are not sure whether the serum Jane takes in Silvina's lab/bunker will kill her – as it did Silvina – or if it will succeed in mutating her to make her more viscerally aware of natural systems. Crucially, a similar refusal of the tragic is also achieved with *Hummingbird Salamander*'s non-humans. During her years living in the seclusion of California's King Range, Jane observes that

The birds still migrated north, and south, despite the changes to climate and the disintegrating political situation. Uncertain, dangerous times. I felt for them and their journey. Did not take them for granted. They had not heard the news about the human world that so impacted theirs. They had no choice but to keep on living, keep on flying to sanctuaries that might no longer exist. But, also, the resistance in that. Some might survive. Some might adapt. Keep adapting. (330)

Like Jane's survival of the serum, these birds' lives are not guaranteed, but neither are their deaths. Here, Jane articulates a refusal of the tragic environmental narrative of endangerment and inescapable extinction without obfuscating the immanent reality of those threatening forces within the hyperobject of the sixth extinction. Additionally, this articulation is crucially tied to a refusal of the Anthropocene as centered on humans: these birds' potential survival and

adaptation is an act of resistance to the tragic anthropocentric notion that all life and death falls under human purview in the Anthropocene.

This articulation is reiterated with *Hummingbird Salamander*'s titular non-humans. In addition to the serum and Silvina's dead body Jane finds "a kind of ark" in Silvina's lab-bunker (346). This ark consists of 1) a massive ostensibly self-sustaining terrarium recreating a Pacific Northwest riverine ecosystem, and 2) an extensive DNA bank. As Jane's description of an "ark" implies, these offer a measure of hope for survival: "The DNA for revival... It would be there if the world destroyed itself, to help. Preserve, change, and save" (347). Within the terrarium are "hummingbirds and salamanders. Just in glimpses. In blinks" (346-7). Between the living specimens and DNA samples the ark challenges the finality of extinction as a tragic narrative for the hummingbird, salamander, and indeed all species. VanderMeer, however, does not position the ark as the perpetuation of the tragic-triumphant domineering arrogant and nostalgic eco-modernist reasoning all too common in de-extinction discourse. Jane remarks:

And I still didn't know if it was hubris, if it was folly. Would the ark begin to die now that Silvina was dead? Was it dying now?... In a hundred years, if this survived, would it be something strange and different and mutated? The roof set to open and the air that came in kill what had waited so patiently within for renewal. (347-8)

The ark cannot provide an *assurance* of continued survival of previous ecologies, which would be another manifestation of tragedy's logic of triumph, but instead offers a much more humble and open-ended *potential* for the emergence and survival of new beings and lifeways. The foregone conclusions of death or triumph in the tragic mode is refused, as is any elegiac notion that the ark may afford a nostalgic return to some pristine past: "What I saw when I came close to the window, was a scene lit by an artificial sun. The glass so thick and rimed with green, it

was like looking into the past. But it was actually the future” (346). The indeterminant hopefulness with which *Hummingbird Salamander* concludes its human and non-human narratives strongly suggests the work of the comedic mode and the ultimate refusal of tragedy’s catastrophic determinism and eco-modernist triumphalism, elegy’s anthropocentric nostalgia, and an anthropocentric conception of the sixth extinction and Anthropocene.

Likewise, *Ghost Species* rejects elegiac nostalgia, closing, as it does, on Eve’s joining another group of engineered Neanderthals. The Biblical allusion of her name positions this as the foundation for a potential resurgence of the Neanderthal species specifically as the *genesis* of something new rather than a return to a romanticized Paleolithic past. This is also suggested for the more starkly non-human de-extinct creatures derived from Davis’s attempt at geo-engineering. The periphery of Eve’s clinamen with the pseudo-horrific mammoth carcass is marked by the potential for a precarious hope like that which Jane finds in the ark:

She knows the Foundation released mammoths in Lithuania, but how did it end up here, more than a thousand kilometres from that site? And what happened to it? She has heard stories about humans hunting the new beasts, killing them, but there are no signs of violence apart from the depredations of the birds. Perhaps it grew sick. Or hungry. Or perhaps this is where its kind have begun to bury their dead. (263-264)

I see hope in this accounting for the mammoth carcass operating at three levels. First, and perhaps most obvious, is the suggestion that the resurrected mammoth populations are engaged in something we might call culture: funereal and grief rituals like those of extant elephants. The hope here comes in the successful return of mammoth lifeways, in the assuaging of Kate’s initial fears that “without an evolutionary context, a community... they’d be an exhibit, an experiment” (20). Second, and almost as obvious, is the suggestion of mammoth thriving implied simply by

their geographical proliferation. Lastly, I find hope in the fact of how this mammoth seems to have died. If it had indeed been hunted by humans, the carcass would simply be a visceral manifestation of the anthropogenic processes which caused its species' extinction and de-extinction, and would foreshadow its eventual re-extinction. In other words, it would stand primarily as a reminder of a tragic anthropocentric Anthropocene. It is, of course, haunted by those processes of human-driven extinction and de-extinction, and its mode of death – starvation or disease – is likely still an indirect result of anthropogenic environmental devastation. The mammoths, while potentially experiencing resurgence, cannot live outside of the mesh of the Anthropocene's hyperobjects. However, this simultaneously offers the hopeful suggestion that their resurgence is not an impossible elegiac return to pre-human conditions nor the onset of a new geoen지니어ed era of tragic anthropocentric dominance, but that “the new beasts” represent the emergence of truly new non-anthropocentric Anthropocene ecologies.

The dead mammoth, while eliciting grief and horror, is thus neither an occasion for never-fulfilled elegiac nostalgia nor the inescapable doom of tragic dominance. Instead, we can see the potential for hope – qualified, tenuous, latent, but hope nonetheless – that the Anthropocene doesn't have to foreclose the future of life, that unpredictable ways of survival may emerge. Morton suggests that “solutions like geoen지니어ing are ways of not going further, but of being trapped in horror or tragedy” (*Dark Ecology*, 119). Yet in *Ghost Species* when the results – Neanderthal, elephantine, or otherwise – of Davis' attempts at such solutions exert their own agency and assert their own ways of being, “slipping free of their models, their fantasies of control” as Eve puts it, they can indeed stand as comedic figures of hope for the continuance of life (265). As with *Hummingbird Salamander*, the novel's open-ended conclusions containing

the hopeful potential – if not assurance – for survival suggest that the comedic mode is indeed at work in *Ghost Species*.

Such a narrative shift is explored by Ursula K Heise, who describes de-extinction “as a means of changing the tragic and elegiac stories environmentalists usually tell about species loss” (210). She also acknowledges the potential for de-extinct animals to stand as “symptoms of our nostalgia for the nature of the past”: “Rather than a change of story, it might strike one as just a different material reincarnation of the same impulse that has so often informed conservation – restoring species and ecosystems from some point in the past” (ibid.). While this is true enough of Davis’ intention behind his rewilding schemes and the resurrection of mammoths and Neanderthals, Heise also affirms the radical change that de-extinction can – but doesn’t promise to – effect in environmental storytelling that I have found in *Hummingbird Salamander*’s and *Ghost Species*’ shared refusals of tragedy and elegy. Heise writes that this radical change from tragedy and elegy to comedy “depends on discarding the idea that de-extinction makes any significant contribution to restoring ecosystems of the past and welcoming it as a fascinating biotechnological experiment that might play a role in creating future ecosystems” (211). The storytelling practices borne of this shift portray “possible futures - including synthetic ecologies that feature (re)introduced and genetically altered species from the past, with a view not toward recreating ecosystems of the past, but toward creating ecosystems that provide new habitats for both humans and nonhumans” (213). *Hummingbird Salamander* and *Ghost Species* both conclude with intimations of such possible futures of human and nonhuman co-habitancy in novel not-quite-‘natural’ ecologies derived from de-extinction projects of one form or another. These novels “foreground that the nature of the future will not be ‘natural’ in the sense of any return to an originary past, but will be a readaptation... [providing] a deliberate counterpoint to

the usually bleak visions of the environmental future” (Heise 215). Ultimately both novels deploy de-extinction to narratively manifest the realization of the fundamentally comedic ecological condition “that survival depends upon finding accommodations which will permit all parties to endure” (Meeker 15).

III. Kinship and Contamination: Species Fictions and Tropes for Non-Anthropocentric Narration

“The decentering of the human is not simply a turn from anthropocentrism to ecocentrism (from culture to nature), but rather a return to a sense of relationality between species”
John Charles Ryan, “Where Have All the Boronia Gone?” 127

Heise articulates an additional iteration of the comedic mode exemplified in *Hummingbird Salamander* and *Ghost Species*: what she terms the narrative approach of “species fictions... [which] plunge their readers head-on into questions of multispecies assemblies and multispecies justice” (227). These questions are strikingly apparent in both novels as Jane, Kate, and Eve all engage in profound relationships of interest, care, and communality with nonhumans and exhibit powerful affective attunement to the threatening forces which they are prey to, as well as their potentials for survival, in the sixth extinction. Heise connects this narrative form, in its refusal of tragic or elegiac anthropocentrism, to the comedic mode at a deep and essential level:

Horror novels and science fiction, through their reduction of the human to certain types and their reduction of plot to encounters with the naturally or technologically other, portray humans in their entanglements with nature and technology... This portrait is comedic in its basic thrust, not in the sense of being funny, but in the sense of not taking humans’ grandeur or exceptionality very seriously. (227)

The questions raised by portrayals of multispecies encounters – what I have theorized as clinamen – comically and fundamentally de-center the human, as both biological being and ethico-political category, within such species fictions. Although she does not share Heise’s perception of the fundamental comedy of this narrative re-centering, Eva Horn suggests that such strategies are a crucial part of “the development of poetic and narrative forms which are adequate to the problems... that the Anthropocene confronts us with” including the sixth extinction (107):

the protagonists and their inner worlds, and the narrator as observer and organizer of events, lose their central significance in the text. The traditional placeholders for the ‘human’ in the text, the ‘anthropomorphisms’ of narrative, take a back seat. The background or ‘setting’ becomes the actual protagonist of the narrative, while the human actors function merely as nodes in the entangle-ments and transformations of a world that extends far beyond them. (109)

Horn articulates two such human de-centering narrative strategies with direct relevance to Heise’s notion of essentially comedic species fictions: “The hyper-complexity of the ecological relationships in which humans are implicated can be translated narratively into a de-centered, multi-layered web of narrative... An Anthropocene poetics can furthermore attempt to locate the human being in the deep time of geological history” (109). In Anthropocene narrative forms, re-centering focus away from human exclusivity relies on re-locating the human within webs of ecological enmeshment and/or evolutionary and geologic timescales. I suggest that each narrative structure is accomplished by VanderMeer and Bradley, and that *Hummingbird Salamander* and *Ghost Species* are thus non-anthropocentric, and in this manner comedic, species fiction Anthropocene novels of the sixth extinction.

Just as the tragic and elegiac modes use the tropes of ghosts and hauntings to narrate the affective and attuning clinamen of horror and grief, the comedic de-centering narratives of species fictions require tropes to trace and attune us to the clinamen that affirm the connections and contexts of deep time and ecological entanglement that comprise life and death, survival and extinction, in the sixth extinction. I suggest that kinship and contamination are two available tropes for such comedic narrative and affective re-locations of the human. In addition to both being well-suited to narrate non-anthropocentric systems of connectivity, and hence comedic in Heise's sense of species fictions, I also argue that kinship and contamination are aligned with Meeker's definition of comedy as the affirmation of survival. The clinamen of kinship and contamination, in framing the novels' respective open-ended conclusions, align *Hummingbird* *Salamander* and *Ghost Species* with Meeker's assertion that

Warfare is the basic metaphor of tragedy, and its strategy is a battle plan designed to eliminate the enemy. That is why tragedy ends with a funeral or its equivalent. Comic strategy, on the other hand, sees life as a game. Its basic metaphors are sporting event and the courtship of lovers, and its conclusion is a wedding rather than a funeral. (17)

Eve's joining the second group of Neanderthals, and Jane's genetic incorporation of the hummingbird and salamander via Silvina's serum can both be considered as queer weddings, as non-heteronormative states of being joined together. These weddings, rather than establishing the isolation of a domestic human unit, affirm the non-anthropocentric paths of connectivity that Horn suggests are key to Anthropocene narration and are necessary for Meeker's comic chance of survival. In *Ghost Species* I connect kinship to the narration of embodied and affectively experienced evolutionary timescales, and thus as the affirmation of intergenerational and inter-species relationships of care that de-center the human as tragic hero but will be necessary for

human and non-human survival of the sixth extinction. In *Hummingbird Salamander* the more ambiguous trope of contamination is used to narrate the embodied and affective experiences of ecological enmeshment, affirming the continuance of systems of material connectivity and permeability that, while subjecting human bodies to potential infection, are the very conditions for diverse life.

Central to my discussion of kinship and contamination as affirmative and anti-anthropocentric tropes is the work of Donna Haraway and Stacy Alaimo. Closely paralleling Meeker's call for comic alternatives to the collapsing anthropocentric tenets of Western tragedy, Haraway offers kinship as an answer to the question: "What happens when human exceptionalism and the utilitarian individualism of classical political economics becomes unthinkable in the best sciences across the disciplines and interdisciplines?" (57). Haraway describes intentional kin-formation as a practice that "unravel[s] ties of both genealogy and kin, and kin and species," positioning it as a potential trope for narrating experiences of both ecological enmeshment and evolutionary time (102). However, throughout *Staying with the Trouble* Haraway describes kinship as a mode of inheritance, whether via genes, memories, or stories. Thus, kinship becomes primarily a demand that "We must somehow make the relay, inherit the trouble, and reinvent the conditions for multispecies flourishing, not just in a time of ceaseless human wars and genocide, but in a time of human-propelled mass extinctions and multispecies genocides that sweep people and critters into the vortex" (130). In Haraway's formulation of kinship, the central issue of the sixth extinction is that "Many kinds of failure of ongoingness crumble lifeways in our times of onrushing extinctions" (132). Anthropogenic extinction is positioned, within narratives of kinship, as the threat of rupturing evolutionary chains of inheritance: "Extinction is a protracted slow death that unravels great tissues of ways of

going on in the world for many species, including historically situated people” (38). This generational formulation of the problems of the sixth extinction and of the affirmation of relationships of care is the most relevant articulation of the trope for Bradley’s *Ghost Species*.

I suggest that narratives of contamination centralize extinction as a threat to the threads of permeability and interface that comprise ecological enmeshment but affirm the essential durability thereof. Alaimo theorizes this permeability as ‘transcorporeality,’ and identifies the contamination of the human body as a key mode of attunement to this reality: “The traffic in toxins may render it nearly impossible for humans to imagine that our own well-being is disconnected from that of the rest of the planet or to imagine that it is possible to protect ‘nature’ by merely creating separate, distinct areas in which it is ‘preserved’” (18). Keeping in line with the comic potential, but not assurance, of Terranascient, positive outcomes, Alaimo does not imagine that the contamination of the human will necessarily lead to comic ecological attunement. Instead she outlines both comic and tragic responses: “The sense of being permeable to harmful substances may provoke denial, delusions of transcendence, or the desire for a magical fix... but it may also foster a posthuman environmentalism of co-constituted creatures, entangled knowledges, and precautionary practices” (146). However, again maintaining a comic philosophy, Alaimo remains hopeful that “Toxic bodies may provoke material, trans-corporeal ethics that turn from the disembodied values and ideals of bounded individuals toward an attention to situated, evolving practices that have far-reaching and often unforeseen consequences for multiple peoples, species, and ecologies” (22). The narrative trope of contamination is thus both comedic in Heise’s sense of non-anthropocentric species fictions by narrating “a kind of in-habitation, in which what is supposed to be outside the delineation of the human is always already inside. This stuff of matter generates, composes, transforms, and

decomposes; it is both the stuff of (human) corporeality and the stuff that eviscerates the very notion of ‘human.’” (143), as well as Meeker’s sense of affirming and attuning us to the conditions of connectivity and permeability that are fundamental to survival.

IV. Kinship and Intergenerationally Embodied Deep Time

“the question of how to live in the ruins that were still inhabited, with ghosts and with the living too... requires making kin in innovative ways... intentional kin making across deep damage and significant difference.”

Donna Haraway, *Staying with the Trouble*, 138

Bradley adopts non-anthropocentric narration in two crucial ways. Firstly, the novel’s narration is split between Kate, whose perspective is followed through roughly the first two-thirds, and Eve, whose perspective is centralized in the latter third. While this may initially be taken as a de-centering of human narration broadly speaking, as Eve is a Neanderthal, this is not exactly the case. While Eve is a non-human being in terms of species, she is also not an inhuman being. Through her third of the novel, as well as her childhood and pubescence as witnessed through Kate, we can clearly see that Eve contains the same emotional and ethical depths of any *Homo sapiens* character in the novel. More importantly, her origins – initiated via IVF then carried to term by Marija, a human woman – and upbringing – undertaken mostly by Kate and including socialization with other children and access to the internet – establish that she is not radically separate from humans in either a biological or cultural sense. Splitting the narration between these two characters may not then be a de-centering of the human writ large per se, but it is still a notable de-centering of the narrative authority of any given individual human. This narrative split actually accomplishes much more towards Horn’s second narrative form than the first; narratively the protagonists are more precisely located within deep time than in interspecies entanglement.

The split narration of *Ghost Species* has less to do with extending narrative authority across species divides, and more to do with it being shared across far-reaching intergenerational ones that locate the narrative within evolutionary timescales. Most obviously there are the somewhat shallow intergenerational ties between Kate and her estranged mother who dies mid-way through the novel, and Kate and Eve who share a mother-daughter relationship. On a superficial level this seems to anthropocentrically re-center the text on Kate, yet several instances within the text suggest that much deeper time scales of kinship are at work in Bradley's treatment of generational temporality: Kate's thoughts upon the sequencing of the Neanderthal genome and Eve's birth, and the novel's enigmatic prelude.

At the outset of their project, the first task of Kate and Jay's team is to sequence the *Homo neanderthalensis* genome. Ultimately, they end up deriving the large majority of the genetic code from the skeleton of a single Neanderthal woman. Kate remarks that "Although no one refers to her that way, all of them know that this woman, this member of a separate species dead for five hundred centuries, is as close to being the mother of the child they are making as anyone could be" (39-40). Eve, thus, is a bridge between the shallow temporality of birth – well within the scope of the traditional novel – and the deep evolutionary time of (de)extinction – particular to the Anthropocene novel – both of which are crucially rendered within the terms of (specifically maternal) reproduction. This is further suggested by Bradley's choice of "five hundred centuries" rather than "fifty millennia." The temporal scale of a single century is, like giving birth, within the scope of a traditional anthropocentric novel, but, when presented in such quantities it becomes a bridge between human and evolutionary time. Kate traces a related line of thought upon Eve's birth. Very shortly after Eve is born, Kate bottle feeds her and "realizes... that in the end the world narrows down to this one thing. The way that bond connects both, one

to the past, one to the future, or in this case, folds back in on itself, disturbing time, abstracting meaning” (59). It here seems crucial to follow Farrier’s suggestion that time in the sixth extinction is changed from an abstract past and future to “real embodied generations – ancestors and descendants – in rich but imperfect relationships of inheritance, nourishment, and care” (12). Kate enacts intergenerational care throughout Eve’s childhood, here in the form of literal nourishment. The pasts and futures spanned by this bond are not at all abstract temporal horizons. Kate’s opting-in to maternal relationality, a choice exhibited most dramatically in her decision to abduct Eve from Davis’ compound shortly after her birth, re-positions the all-too-often abstracted questions of deep, evolutionary time raised by (de)extinction and the Anthropocene within the affective and embodied realm of generational kinship in a bond spanning the ancestral past and descendant future.

Before we meet Kate, Eve or any other characters by name Bradley introduces the navigation of evolutionary timescales via maternal kinship bonds of care in *Ghost Species*’ prelude. The novel opens on a portrayal of an unnamed woman comforting an anonymous young girl during a storm by telling her stories. As we first read the novel it seems as though this must be Kate comforting a young Eve during their years on the lam from Davis, as they are the primary mother-daughter pair we encounter through the plot’s course. However, at the end of the novel a grown Eve finds another group of de-extinct Neanderthals in post-collapse France, among them a young child. Given Eve’s musing directly before this encounter that “the beginning becomes the end,” it is thus also possible to read the prelude as a scene of Eve taking on a maternal role with the young unnamed Neanderthal (265). In either case all three – Kate, Eve, and the unnamed Neanderthal – are located within evolutionary timescales of ancestry and descendancy via the act of storytelling: “And so she does what mothers have done since the

beginning of time, since before we were human” (1). Crucially, this intergenerational bond is, like comedic de-extinction, not a blind reproduction of the past, but a generative act for the future: in telling the story “she draws filaments from the darkness and weaves them together to create meaning, purpose, shape, arranging elements to reveal the world, or perhaps to make a new one” (ibid.). The relocation of narration within intergenerational evolutionary time thus simultaneously de-centers the individual within these massive temporal scales while also imbuing them with important generative agency. Kate, Eve and the unnamed Neanderthal child are located within long lines of people who survived and will survive only by caring for one another. It is because of this evolutionarily long line of kinship, rather than in spite of it, that their decisions to opt into relations of care truly matter. *Ghost Species*, in its generationally split narration and rendering of evolutionary time as the embodied kinship of ancestry and descendancy, espouses comedic non-anthropocentric narration appropriate to the Anthropocene in a manner that resists the alluring but ultimately destructive elegiac and tragic narrative modes that centralize but doom the human. Meeker writes “Comedy demonstrates that man is durable even though he may be weak, stupid, and undignified” (13). Their kinship does not elevate or heroize Kate or Eve; they each make mistakes and sometimes act poorly towards one another, showing temporary lapses in their imperfect relations of care. Like Bradley’s depiction of de-extinction, their kinship is not a perfect solution aligned with the tragic logic of triumph. Instead, it affirms an inherently comic open-ended opportunity for long-term survival, or evolutionary durability, within the sixth extinction via relationships of mutual care marked by intentional kin-forming.

V. Contamination and Transcorporeal Body-Ecological Entanglement

“Companion species infect each other all the time. ...
Bodily ethical and political obligations are infectious, or they should be.”

Donna Haraway, *Staying with the Trouble*, 29

In a certain sense Jane seems very much centered within the narration of *Hummingbird Salamander*, the novel being narrated in the first-person from her perspective. While extended passages from Silvina’s diary and the bizarre taxidermy text *Oddly Enough* moderately distribute the narrative voice, the reader experiences them via Jane’s own reading of those texts: selecting the excerpts we encounter and interspersing her own thoughts and interpretations thereof. However, I suggest that VanderMeer nonetheless accomplishes a non-anthropocentric narrative appropriate to the sixth extinction and the Anthropocene. While Jane holds the narrative reins, she by no means solely, or indeed even primarily, controls the unfolding of that narrative. Instead, *Hummingbird Salamander* is driven by multiple agentic beings and thus attunes us to Alaimo’s imperative that “transcorporeal subjects must also relinquish mastery as they find themselves inextricably part of the flux and flow of the world that others would presume to master” (17). There are of course the human agents – Kate, Silvina, Vilcapampa – but the novel is also crucially driven by non-human and largely non-living agents – the taxidermized hummingbird and salamander, Silvina’s diary and serum, and the hyperobject of the sixth extinction itself. *Hummingbird Salamander* espouses a narrative approach that, while delivered through a human narrator, ultimately de-centers the human as a core narrative force by re-locating the human within interspecies and material entanglements.

While Jane’s first-person narration may seem to serve as an anthropocentric form, it in fact accomplishes the precise opposite. Experiencing Jane’s dual narrative arcs of ecological awakening and noir-inflected obsession via her direct experience serves to highlight the degree

to which she is not in control of these trajectories. Following Morton's suggestion that the uncanny or depressing qualities of non-humans ontologically inhere to those beings, rather than being artefacts of human affective interpretation, we can see that Jane's narrative is the result of clinamen between herself and other human and non-human agents that exert force upon her. This follows from Jane's articulations of her obsession and awakening as the result of being haunted, contaminated, and infected. All three of these tropes de-center Jane as a human protagonist driving the narrative, and instead trace some of the connective threads of contact and response that comprise the entangled mesh of reality, and upon which survival depends. Jane is thus repositioned as a human node in the web of life whose affective and embodied existence is substantially impacted by other beings and (hyper)objects.

Throughout the novel the figure of the ghost and trope of haunting is used by Jane to describe the effects Silvina, the hummingbird, and the salamander exert upon her from beyond the grave via the physical artefacts of the journal, and their taxidermized bodies respectively. For instance, early on in the noir arc, when Jane discovers that Silvina is dead she has to reorient her investigation from "literally finding her. [To] tracking her ghost" (49). Later, upon finding the salamander specimen, Jane remarks "now I knew the salamander was real... I held on to hauntings" (233). While the figure of the ghost and trope of haunting are associated with an anthropocentric elegiac mode, VanderMeer retools them to function as an indication of Jane's narrative being driven by others. While much of Jane's action is in direct response to clues left by Silvina or threats made by Vilcapampa, her agency appears to be the strongest in her decision to fly to New York as part of her investigation, and her movement to relative seclusion within the Californian King's Range. However, I read each of these actions as the result of, to stick with the ghostly parlance, her being possessed by the various ghosts of the narrative. Her flight to New

York is in pursuit of information regarding the hummingbird, a flight I read as the reiteration of the bird's own epic migratory lifestyle. Her retreat into King's Range is driven by three ghosts: her long-dead brother who as a child dreamed of searching for a cryptozoological giant salamander in that area, Silvina who made the same journey, and the salamander itself as she mimics its amphibian lifestyle by living on a houseboat. While ghosts, hauntings, and possessions are pervasive tropes throughout the novel, *Hummingbird Salamander* ultimately centralizes the processes of infection and contamination as tropes to describe the process of ecological awakening and attunement to hyperobjects of the Anthropocene, including the sixth extinction.

The language of infection arises early on in Jane's arcs of attunement and obsession. When she is not yet in the thrall of the other narrative figures but is starting to investigate the hummingbird, Jane feels a "pang of emotion... Couldn't hold on to it. Self-inoculation.... People were poisoning vultures and shooting bats out of the sky, scared of pandemics. To care more meant putting a bullet in your brain. So, like many, I had learned to care less" (37). The connection between paranoia regarding zoonotic infection and the repression or resistance of ecological awareness suggests that in both cases what is feared is the proximity of the non-human to the human and the reality that this proximity permits a threatening permeability, Alaimo's transcorporeality, between the two supposedly separate spheres. Additionally, this connection suggests that Jane's increasing attunement is not a mental illness arising from within, but, like a viral infection, caused by the entrance of a previously external agency. As Jane's investigation of Silvina and the hummingbird progresses, it becomes increasingly hard for her to ignore this entangled proximity, the clinamen which she experiences every day, and so the perceived distance of inoculation collapses. Jane notices a beaver's lodge in the impounded creek

which runs through her corner of suburbia and becomes a metonymy for all non-human life. She remarks that

I hadn't seen it before, the pond or the lodge. Not really. It had registered as dead branches, just something clogging up the system. ...[Now] I saw it as a home. As someone's home. Something's home. Right in the middle of our subdivision. And how had that happened? Weren't they supposed to be out *there*, in the parks, in the wilderness? That was the agreement. Not here. Not with us. Beside us. (100)

Notably, this recognition is paired with phone "alerts popping up that a pandemic raged in far-distant places" (100). This pandemic will come to slowly and quietly burn in the background of the novel and ultimately cause the collapse of most governments as well as the death of Jane's husband and daughter along with significant swaths of humanity. The series of questions and short, incomplete sentences here suggests a panic in Jane's experience of the proximity of the non-human. Just as the pandemic's movement from "far-distant places" to her home eventually threatens Jane, so too does the rapid closure of perceived separation from non-human beings resulting in the vertiginous process of attunement to entangled life with hyperobjects.

VanderMeer thus substitutes infection for haunting in a fulfillment of Morton's statement that "The really difficult elegiac work would consist in bringing into full consciousness the reality of human and nonhuman interdependence, in a manner that threatens the comfortable way in which humans appear in the foreground and everything else is in the background" ("The Dark Ecology of Elegy" 257).

Consciousness of these ties of entangled interdependence and the correlated de-centering of the human are precisely the results of Jane's attunement-as-illness:

Soon my illness would get worse. I would notice what Silvina had noticed as a young person: how many dead things haunt us in our daily lives. ...As my illness progressed, over time, I would see also the complexity of what we took for granted in our landscapes and hidden lines of connection would attach to me until moving through the world was like being wrapped in chains. But it was the links, the chains, that made you free. (100-101)

After reading a section of Silvina's journal which relates her first encounter with the hummingbird, Jane is acutely affected: "Just reading it on the page destroyed me. Remade Jane. I was already in the grip of such exhausting emotions and impulses. Yet I let Silvina in again when I had resolved not to. Because I had let the hummingbird in first" (128). The language of "letting in" and being "in the grip" reinforces that this transformation is the result of the infection-like effects of the intense proximity another being. Here, this takes on the dark-depressing affect of grief or melancholia, but it is reiterated within the horrific mode at the warehouse: "I couldn't feel where my body ended and some other began" (196). In both instances Jane's sense of self is made incoherent through its entanglement with other humans and non-humans, whose proximity reaches the point where any separation collapses and bodies fold into other bodies. In other words, attunement to entangled reality collapses the apparent distances that support differentiation between self and other, between the human and non-human, between bodily interiors and exteriors.

Alice Sperling articulates a very similar consideration of VanderMeer's Southern Reach trilogy in which she outlines the depiction of a material permeability between the human body and its environment, a dynamic remarkably similar to Alaimo's transcorporeality, but which she terms the "body-ecology." For Sperling narrating the permeable body-ecology involves

depictions that “redefine or dispose of categories like human and nonhuman” (“Second Skins” 216). As in *Hummingbird Salamander* this is accomplished through a “sickness... [that] contests the containment of the subject” and thereby collapses perceived space between human and non-human bodies (232). Sperling explicitly connects the body-ecology to the affective process of attunement outlined by Morton and Tsing et al.: “The trilogy posits this corporeal experience as a profoundly affective state, which manifests itself in hyperattunement to the world” (222). Thus, in VanderMeer’s work, the sickness brought on by environmental damage is a bodily and affective affair that is foundational to the process of attunement. Because of this fundamental relationship between infection or contamination and, beneficial if painful, attunement Sperling argues that VanderMeer narrates a counter-normative “weird ecology” which

eschews standardized valuations of wellness by refuting normative assessments of health and by challenging simplistic formulations of health as desirable and sickness undesirable. By refusing to fully condemn sickness, the novel suggests a more nuanced approach to the global contamination of bodies in the Anthropocene (230-231)

While Sperling is talking about the Southern Reach trilogy, this observation holds true of *Hummingbird Salamander*.

Towards the end of the novel, when she is internally debating whether to take Silvina’s serum or not, Jane, despite having already figured out that it killed both Silvina and Ronnie – a friend of Silvina’s and willing test subject – wonders

Could it mean a kind of healing? A kind of healing, an ebb and flow. A restoration of the health of the world? Is that what the diagrams meant? Incoming and outgoing. A contamination that meant the ecstatic. I was irradiated by my belief. Riddled through.

...Let the world in through your pores like a salamander, see all the colors of the flowers only a hummingbird could see. (345)

Jane's use of the trope of infection or contamination is not surprising in her final moments before taking a serum that will biophysically change herself into a state of death or radical mutation.

What is more significant here is that Jane reiterates the trope, here in the form of radiation, as a metaphor for attunement to the climate change and the sixth extinction even as she faces a very literal and threatening form of contamination. The connection established between literal contamination and mutation and attunement-as-infection reiterates the inextricably overlapping quality of the bodily and affective impacts that I have positioned as crucial to clinamen with the sixth extinction. Jane only decides to literally, bodily, incorporate the genes of the hummingbird and salamander via the serum because she has already, affectively speaking, "let the hummingbird in" (128).

Conclusion

I. Review

Throughout this study I have leveraged the clinamen as a useful framework through which to envision attunement to the sixth extinction, and the hyperobject to highlight the simultaneously bodily and affective nature of attunement. Chapter 1, in addition to establishing the accuracy of regarding the sixth extinction as a hyperobject, explored the dynamics of grief and horror as affective modes of attunement. Jeff VanderMeer and James Bradley effectively use horror and grief, and their tropes of ghosts and hauntings, to portray their protagonists' attunement to the uncanny and depressing realities of anthropogenic extinction. Further, they each highlight the mutual permeability between these affective experiences and their associated narrative modes of tragedy and elegy. However, the narrative capabilities of these modes are limited, and horror and grief can only account for so much. Thus, while grief and horror are two resonant and common modes for the expression of clinamen with anthropogenic extinction, ultimately the comic mode becomes essential. In Chapter 2 Meeker's description of comedy's affirmational focus of survival is critical. By combining Meeker's thoughts with Garrard's assessment of open-ended comic apocalypse, we find the affirmation of hope in the open-ended conclusions of both *Hummingbird Salamander* and *Ghost Species*. Following Heise, the comedy inherent to the de-centralization of the human subject becomes another crucial consideration. In *Ghost Species* and *Hummingbird Salamander* non-anthropocentric narration of clinamen in the sixth extinction is accomplished through the literary tropes of kinship and contamination. Re-positioning human protagonists within relationalities of kinship and contamination de-center the human subject in both time and space by revealing evolutionary timescales as generations, and the body as a permeable node within ecology. In addition to the de-centering work they

accomplish, kinship and contamination, marking a return of Meeker's thinking, affirm the ecological and evolutionary connections that are fundamental for survival, and thus reiterate a refusal of tragic and elegiac logics of foregone conclusions of death and loss.

II. Possible Areas of Further Study

There are several concepts throughout my thesis which are treated with some brevity or omitted all together. Many of these would provide a potentially fruitful basis for further discussion of narratives of the sixth extinction, and for VanderMeer's and Bradley's novels specifically. Further consideration of the apocalyptic imaginary and topics of human extinction, linkages between violence against humans and nonhumans (especially in the context of *Hummingbird Salamander*), and the narrative usage of maternity (with *Ghost Species* in mind) are potentially dangling threads that would certainly add more to the conversation. Additionally, my rubric of hyperobjects, clinamen, attunement, affect, tragedy, elegy, and comedy could be leveled at other artistic forms. Following Morton's investment in elegiac poetry and Farrier's focus on poetry more broadly, the poetic form is clearly one additionally area of application, but considerations of film media, documentaries in particular, could also prove to provide interesting findings. However, I think the most significant areas for further study are posthumanism, and further consideration of 'negative' affect, particularly within the context of affect theory and queer ecology.

Posthumanism

In earlier drafts of this paper I discussed confronting extinction as a core part of the 'posthuman turn,' intending, with that phrase, to indicate the swerve away from anthropocentric hierarchies that I instead ended up calling the 'non-anthropocentric turn,' a decidedly less svelte

term. While I believe this was the most appropriate decision for the present study, interacting with rhetoric both in favor of and against posthuman approaches to extinction as such would undoubtedly be a fruitful area for further research.

My avoidance of framing my discussion within posthuman theory is the direct result of that field's heterogenous presence across my theoretical and other secondary sources. Some of the authors I cite explicitly position their work within posthumanism, others take equally explicit stances against it, while nonetheless providing otherwise exceedingly compatible theoretical bases for my discussion of anthropogenic extinction and the swerve from anthropocentrism. Stacy Alaimo and Donna Haraway, central theoretical grounding points in Chapter 2, exemplify this pattern. Alaimo positions her work on transcorporeality in *Bodily Natures* as outlining “a posthumanist environmental ethics that refuses to see the delineated shape of the human as distinct from the background of nature, and instead focuses on interfaces, interchanges, and transformative material/discursive practices” (142). Likewise, in *Staying with the Trouble*, Haraway turns “to the senses, to mindful matter, to material semiotics, to mortal earthlings in thick copresence” to make “the argument that bounded individualism in its many flavors in science, politics, and philosophy has finally become unavailable to think with, truly no longer thinkable, technically or any other way” (4 & 5). Yet, Haraway assiduously resists the label of posthumanism being applied to her work: “We are compost, not posthuman; we inhabit the humusities, not the humanities” (97). Still other authors I've cited, Albrecht, Heise and Tsing et al. among others, conspicuously avoid framing their work in relation to either stance on posthuman theory, and, inspiring me to do the same, omit explicit mention of posthumanism altogether.

As with contestations over the concept and name of the Anthropocene, while my work is potentially imbricated with the debate over posthumanism, I avoided that particular imbroglio. However, unlike my use of ‘the Anthropocene’ rather than an alternative which had some logical basis, my avoidance of the posthuman debate was more a matter of scope and focus. In this paper, engaging with the debate over posthumanism would likely have primarily been a lengthy aside from my argument’s focus on different affective and narrative process of attunement. Nonetheless, reconnoitering potential differences and similarities between the treatment of extinction in avowedly posthuman and anti-posthuman theorization is a promising avenue of further research on this topic. The conceptual compatibility between Alaimo’s posthuman and Haraway’s compost could suggest that the differences between posthuman and anti-posthuman work more generally are largely, and only superficially, rhetorical, and that the two approaches are thus reconcilable. However, the similarities between Alaimo’s transcorporeality and Haraway’s kinship could be the result of those authors’ shared commitments to radical, anti-Capitalist, racially and ethnically diverse, and queer feminisms, and not representative of compatibility of contemporary posthuman and anti-posthuman theorizations more broadly. Addressing this, and other potential sites of both overlap and tension between posthuman and non-posthuman approaches to anthropogenic extinction would be a strong and worthwhile basis for further study.

‘Negative’ Affects and Queer Ecology

In this paper I accept the criticisms which Meeker, Brand, Heise, and others level at the tragic and elegiac modes; namely, that they are more likely to be narrative, political, and ethical dead-ends than not. However, this line of criticism is far from a settled manner. While Chapter 1

affirms the potential value of grief and horror as modes of attunement, several authors, especially within queer and affective environmental studies notably including Morton and Albrecht, maintain that there is an even greater potential for positive outcomes from these ‘negative’ affective experiences. In *Hyperobjects* Morton suggests that grief and horror can serve as powerfully de-centering experiences similar to those I outline in the latter half of Chapter 2, which I there, following Heise, describe as a fundamentally comic approach. Thus, seemingly paradoxically, there is a non-anthropocentric comedic potential within grief and horror themselves. However, this paradox is largely resolved in Morton’s book *Dark Ecology*, and his theorization of the permeable layers of affective attunement wherein the dark-uncanny of horror is underlaid by the dark-depressing of grief, which is in turn wrapped around the suite of dark-sweet affects. This conceptualization of affective attunement suggests that the comic potential for de-centralization within grief and horror’s is due to those modes being centered, ultimately if unconsciously, upon experiences of longing, joy, even hope.

However, other queer ecologists articulate grief as a politically and ethically significant mode of ecological thought and attunement without reference to its relation to more positive affective experiences. Catriona Mortimer-Sandilands’ “Melancholy Natures, Queer Ecologies” is the definitive text in this vein. Sandilands’ theorizes a queer form of eco-melancholia that extends grievability beyond the human realm, an inherently radical eco-political and ethical act of resistance “within the confines of a society that cannot acknowledge nonhuman beings, natural environments, and ecological processes as appropriate objects for genuine grief” (333). This eco-melancholia leads to a number of outcomes generally harmonious with discussions of haunted clinamen and attunement. Sandilands positions melancholia as “socially located embodied memory,” a definition compatible with the tropes of contamination and kinship, and

states that “melancholia suggests a present that is not only haunted, but constituted by the past,” which aligns with Tsing et al.’s notion “strange temporalities” (333 & 340). Notably, queer eco-melancholia, in addition to psychically and affectively holding onto and thus preserving the lost beloved, also affirms the fact of that love itself. While the centrality of love to eco-melancholia may be interpreted in a similar manner to the dark-sweet at the heart of Morton’s dark-depressing, this reading of Sandilands’ – and others’ – work is very much open to debate.

The potential role, beyond that of attunement, for the ‘negative’ affects of grief (whether mourning or melancholia) and horror in politically, ethically, and artistically engaging with the sixth extinction clearly warrants further attention. Most relevant to this study are the following questions: If horror and grief can accomplish de-centralized narrative, is it inappropriate then to consider non-anthropocentrism an inherently comic innovation (contrary to Heise)? Or does this ability of horror and grief mean that those affects are not necessarily tied to tragic and elegiac narrative modes (contrary to Morton)? Further, does this imply the hope and joy are not necessarily tied to comic narratives, but can instead lead to tragic and elegiac ones? If so, how? Queer ecology and affect theory are two particularly promising contexts for these, and other, considerations. More generally speaking, perhaps the most pressing work to be done in this vein is forging the connections between issues of affect, description, and narration to those of ethics and politics. This bridging from attunement to action is crucial for both the ‘negative’ affects as well as the ‘positive’ ones.

Works Cited

- Alaimo, Stacy. *Bodily Natures: Science Environment and the Material Self*. Indiana University Press, 2010.
- Albrecht, Glenn. "Solastalgia and the New Mourning." *Mourning Nature: Hope at the Heart of Ecological Loss and Grief*, edited by Ashlee Cunsolo and Karen Landman, McGill-Queens University Press, 2017, p. 292-315.
- Barlow, Connie. *The Ghosts of Evolution: Nonsensical Fruit, Missing Partners, and other Ecological Anachronisms*. Basic Books, 2000.
- Bradley, James. "An Ocean and an Instant." *Sydney Review of Books*, August 21, 2018. Online: <https://sydneyreviewofbooks.com/essay/an-ocean-and-an-instant/>
- ". *Ghost Species*. Hamish Hamilton, 2020.
- Brand, Stewart. "Rethinking Extinction: We are not Edging up to a Mass Extinction." *Aeon*, April 21, 2015. Accessed April 4, 2022 at <https://aeon.co/essays/we-are-not-edging-up-to-a-mass-extinction>
- Canavan, Gerry. "After Humanity: Science Fiction After Extinction in Kurt Vonnegut and Clifford D Simak." *Global Weirding*, edited by Gerry Canavan and Andrew Hageman, *Paradoxa* (28), 2016, p. 135-156.
- Ceballos, Gerardo and Ehrlich, Paul R. "The misunderstood sixth mass extinction." *Science*, Vol 360, Issue 6393, June 8, 2018. pp. 1080-1081.
- Ceballos, Gerardo; Ehrlich, Paul R.; Barnosky, Anthony D; Garcia, Andres; Pringle, Todd M. "Accelerated modern human-induced species losses: Entering the sixth mass extinction." *Science Advances*, Vol 1, Issue 5, June 19, 2015. n.p.
- Farrier, David. *Anthropocene Poetics: Deep Time, Sacrifice Zones, and Extinction*. University of Minnesota Press, 2019.
- Garrard, Greg. *Ecocriticism*. Taylor and Francis Group, 2011.
- Haraway, Donna J. *Staying with the Trouble: Making Kin in the Chthulucene*. Duke University Press, 2016.
- Heise, Ursula K. *Imagining Extinction: The Cultural Meanings of Endangered Species*. University of Chicago Press, 2016.
- Horn, Eva; Bergthaller, Hannes. *The Anthropocene: Key Issues for the Humanities*. Routledge, 2020.

- Kolbert, Elizabeth. *The Sixth Extinction: An Unnatural History*. Henry Holt and Company, 2014.
- Meeker, Joseph. "The Comedy of Survival." *North American Review*, Summer, 1972, Vol. 257, No. 2, pp. 11-17.
- Mirzoeff, Nicholas. "It's Not the Anthropocene, It's the White Supremacy Scene; or, the Geological Color Line." *After Extinction*, edited by Richard Grusin, University of Minnesota Press, 2018, pp. 123-149.
- Moore, Jason W. *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*. Verso, 2015.
- Mortimer-Sandilands, Catriona. "Melancholy Natures, Queer Ecologies" in *Queer Ecologies: Sex, Nature, Politics, Desire*. Catriona Mortimer-Sandilands, Bruce Erikson eds. Indiana University Press, 2010. pp. 331-358.
- Morton, Timothy. *Hyperobjects: Philosophy and Ecology after the End of the World*. University of Minnesota Press, 2013.
- ". *Dark Ecology: For a Logic of Future Coexistence*. Columbia University Press, 2016.
- ". "The Dark Ecology of Elegy." *The Oxford Handbook of the Elegy*, edited by Karen Weisman, Oxford University Press, 2010, p. 252-272.
- Parikka, Jussi. "Planetary Memories: After Extinction, the Imagined Future." *After Extinction*, edited by Richard Grusin, University of Minnesota Press, 2018, pp. 27-49.
- Rull, Valentí. "Biodiversity crisis or sixth mass extinction?" *EMBO Reports*, Vol 23, 2022. n.p.
- Ryan, John Charles. "Where Have All the Boronia Gone? A Posthumanist Model of Environmental Mourning." *Mourning Nature: Hope at the Heart of Ecological Loss and Grief*, edited by Ashlee Cunsolo and Karen Landman, McGill-Queens University Press, 2017, p. 117-143.
- Sperling, Allison. "Second Skins: A Body-Ecology of Jeff VanderMeer's The Southern Reach Trilogy." *Global Weirding*, edited by Gerry Canavan and Andrew Hageman, *Paradoxa* (28), 2016, p. 214-238.
- Tsing, Anna Lowenhaupt. *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. Princeton University Press, 2015.
- Tsing, Anna; Swanson, Heather; Gan, Elaine; Bubandt, Nils. *Arts of Living on a*

Damaged Planet: Ghosts and Monsters of the Anthropocene. University of Minnesota Press, 2017.

VanderMeer, Jeff. "Hauntings in the Anthropocene: An Initial Exploration."

Environmental Critique, July 7, 2016. Online:

<https://environmentalcritique.wordpress.com/2016/07/07/hauntings-in-the-anthropocene/>

". *Hummingbird Salamander*. MCD, 2021.