

Tick Tock: Insect Figuration, Temporal Estrangement and Historiographic Critique
in Postmodern and Contemporary Literature, Art, and Film

by

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Abstract

This dissertation engages with posthumanist and postmodern theory, critical animal studies, and critiques of modern temporality and historiography to examine how insect figures trouble dominant understandings of historical time in contemporary Western literature, film, and art. It argues that insect figuration, as a way of “thinking with insects,” offers a strategy for deconstructing concepts such as human exceptionalism, progressive linear history, and colonial imperialism. These concepts, which have been central to colonialism and the work of yoking human and nonhuman energies to capitalist production, are ill-suited to address the manifold challenges of the Anthropocene (the present defined by human impact on the planet); by denaturalizing these hegemonic modes of perception, insect figures aid in the timely work of reconceiving and reconfiguring multispecies earthly relationships.

The dissertation advances its claims by surveying critiques of temporal ideology and by closely reading a series of cultural texts. It gives an overview of insect temporality as a dislocating force in postmodern culture, before moving into a closer study of entomological artworks in the neo-Victorian and steampunk subgenres. It shows how these artworks reproduce a nineteenth century fascination with insects’ forms and affects, which is a key element of their efforts to defamiliarize that period’s culture and the clock-and-calendar-based historicity to which it gave rise. It then undertakes an extended case study of author China Miéville’s steampunk Bas-Lag trilogy and shows that, far from reifying pernicious values associated with the Victorian period, Miéville’s time-play exemplifies the use

of insect and insectile figures to contest such values. This dissertation charts insect figures' provocative yet under-recognized ability to unsettle normative structures, and explores how this capacity can proliferate affects in the present and future, while opening up foreclosed possible meanings for the past.

Preface

This thesis is an original work by Melissa Haynes. No part of this thesis has been previously published.

Dedication

I dedicate this work to my family,
and to the other critters with whom I have shared support and love.

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Introduction: Why Look at Insects?

Our everyday experience of time can be made strange by encounters with insects and their kin: hours can slip by while we watch a web being woven or a monarch emerging from its chrysalis, while an afternoon spent in the company of biting horseflies may seem an eternity. Insects like mayflies may live their entire lives in a day, yet the longevity of their lineage, which goes back over 400 million years, is virtually unmatched among land animals.¹ Looking at a mosquito trapped in amber perhaps 150 million years ago can make whole lifetimes seem insignificant: one photographer of such ancient insects describes amber with such inclusions as “the window into a vanished world – a second as forever frozen in time,” and carries a piece with him to keep “a wider perspective on our lives, the earth and evolution ... how short life is and ... how small and unimportant [his] problems are” (Damgaard, “15 Images”). Insects may also experience the world in disparate ways within one lifetime: bodily metamorphoses such as that from grub to beetle can involve radical transformations in environs and the sensory apparatuses through which they are assimilated. Insects’ unfamiliar life worlds remind us that there are myriad alternative experiences of time to our own.

The importance of insects’ capacity to defamiliarize time goes beyond the individual: thinking about time, and our relationships with and in it, has become a pressing intellectual and political task. The historical view of time, which focuses on humans and their interactions more or less exclusively, has become philosophically

¹ Only a few terrestrial creatures—millipede- and scorpion-like arthropods and some plants—have comparable evolutionary histories (Grimaldi and Engel 1).

untenable. Innumerable techno-scientific discoveries from evolution to global warming, and philosophical insights about the contingent, situated production of meaning, have challenged short-sighted anthropocentrism and left us increasingly aware that we are enmeshed in—and co-constituted by—a range of multispecies relationships.² Our sense that the earth’s ecological systems have destabilized, causing crises such as mass migration and extinction, further illuminates the importance of our nonhuman “companion species” (Haraway, *Companion Species Manifesto* and *When Species Meet*).³ Social inequality amongst humans, too, signals the urgent need for new praxes (Arendt). The sense of the present as a time of interconnection and crisis implies that we need to think differently *with* one another, as well as *about* one another.

This dissertation argues that the ways in which we think about insects can guide us toward new ways of understanding and experiencing otherness, including the otherness of time. It discusses how insects function as “sticky” figures that carry multiple associations, the historical bases of which are effaced even as they affect the present (Ahmed “Affective Economies” and *Cultural Politics*). Some of these associations relate directly to insects’ nonhuman temporalities: the brevity of their lives (potentially including drastic formal metamorphoses), the collective longevity

² For a discussion of “situated knowledges,” see Donna Haraway, *Simians* 183-201. Timothy Morton discusses the “mesh” in *Ecology Without Nature*. Gilles Deleuze and Félix Guattari argue for a radical state of connection in *A Thousand Plateaus*.

³ Companion species is Donna Haraway’s term, used to denote the range of interdependent human and non-human entities that have co-constitutively evolved and continue to do so (*The Companion Species Manifesto: Dogs, People, and Significant Otherness*). A constellation of related human and nonhuman beings and processes share certain temporal norms, such that the times that structure “human” existences pertain to many dogs, bats, and cell phones (and not all humans).

of colonies or superorganisms, and the depth of insects' collective evolutionary history all point to the embodied, contingent nature of human relationships to time. Insects also convey associations that less directly contribute to their capacity to denaturalize time. They suggest ideas of otherness, change, and transgressive intimacies, and inspire feelings of fear and disgust, which leads them to serve as metaphors for the other and the abject (Kristeva). They are frequently invoked as images of the limits to human control: they have close relationships with nature, death, contagion, excessive reproductivity, and border violations of all kinds. While these relationships are sometimes invoked to imaginatively contain border lapses—figuring the transgressor as nasty and insignificant—the power to defy various sovereignties is also a potent source of desire, making the insect a site for positive identification as well as harmful alterity. In these and many other respects, insects suggest ambivalence and, as Charlotte Sleight has argued, figure *différance* (“Inside Out” 281).⁴ This renders insects expedient deconstructive figures in general: they call attention to elisions and aporias in concepts they come into contact with. This dissertation focuses on instances in which insect figuration calls normative temporality into question and thereby makes space for alternative ideas.

I do not suggest a utopian vision in which insect figuration is a panacea for the shortcomings of the status quo. Certainly not *all* insect representations lead their audiences to question received notions of time; some are neatly subsumed into

⁴ *Différance* is philosopher Jacques Derrida's term for “difference and deferral of meaning,” or the undecideability that undoes or deconstructs the binary oppositions and hierarchies that underpin meaning (Derrida, “*Différance*”).

logics of neoliberal production and the like.⁵ Neither do I claim that challenging normative temporality will automatically lead to better lives for more beings. I *suspect*, as a long-time scholar of insects in culture, that thinkers who take an interest in insects (especially as curious other beings, rather than as more abstract figures or problems) are more likely to have a more critical relationship with temporal norms (as well as others associated with humanism), but my aim is not to prove that suspicion. Rather I intend to demonstrate that insects are “good to think with” for creators who are open to thinking about and representing time and history in more complex, less received ways.⁶ Insects can help vitiate human exceptionalism, and history as the humanist view of time, and thereby create some critical distance for the formulation of alternative perspectives. While nothing guarantees that such alternatives will be preferable (especially in the absence of assumptions about human progress), proliferating possibilities seems desirable if we believe that the world as it is could be better.

My use of “we” in the text is neither meant to efface difference between and among readers and myself, nor to evade personal responsibility for my claims. Though I recognize that “we” has been used as part of what Donna Haraway calls the “god trick” of claiming an disembodied objectivity and presenting one’s claims as the norm, I mean neither to assume specious authority nor to distance myself from my entanglements (*Simians, Cyborgs, and Women* 189). On the contrary, my uses of

⁵ See for example Bonabeau and Meyer; Kelly; Miller; and Mulgan.

⁶ I paraphrase Claude Levi-Strauss, who argues that animals are “good to think,” while remaining mindful of Steven Shaviro’s insistence that compared to the use of most (mammalian) totems, our relationships with insects tend to be “stranger, more uncanny, more disturbing” (Levi-Strauss *Totemism* 89; Shaviro “Two Lessons” 46).

“we” are meant to gesture to the work of alliance and the interdependency between others and myself. I follow William Miller’s “invitational we,” which is offered as “the voice of attempted sympathy and imagination, of a meditational position” that requests that readers “suspend local commitments on occasion” in order to consider a position that, if not exactly their own, is at least recognizable and hopefully worth contemplating (*Anatomy of Disgust* xiii). My “we” is a performative enactment of plurality that recognizes, as Judith Butler argues, that “full inclusiveness is not possible” in any such enunciation (*Notes Toward a Performative Theory of Assembly* 4). I agree with Butler that while interdependency is not a purely harmonious state (but can be fraught and difficult, like our interdependency with insects is),

only through a concept of interdependency that affirms the bodily dependency, conditions of precarity, and potentials for performativity can we think a social and political world that seeks to overcome precarity in the name of livable lives” (211).

When I speak as or for a plurality, it is to situate myself amongst a plurality of vulnerable human and nonhuman lives trying to live well together, and to invite my reader to do the same. It is my contention that if we consider insects when we try to envision an interdependent “we,” insects *and* many other beings will benefit.

Cultural Entomology

There is at present, a broad popular and scholarly interest in studying insects and culture. In popular literature, nonfiction entomology books aimed at a lay audience—often focused on the interrelation of insects and humans—have

proliferated.⁷ The line between these books and studies intended for a scholarly audience is not always easy to distinguish; academic research into insects as represented in art and architecture, and in literature and film, have also flourished.⁸ The 2006 publication of *Insect Poetics*, a widely-cited collection of essays on insect figures in literature, art, and culture edited by Eric C. Brown, marks an important point in the development of the field. Hugh Raffles' *Insectopedia*, an "anthropology of insects" and their interconnectedness with humans, has also increased the recent visibility and popularity of the cultural study of insects ("Ask an Academic"). As a tool for understanding more about humanity, and as a topic of interest in their own right, insects have become important cultural figures.

Works such as Brown and Raffles' fall into the category of "cultural entomology," which term Charles Hogue coined in 1980 for

⁷ For examples of popular entomology, aimed at the non-specialist audience, see Adams, J.; Berenbaum *Bugs in the System; Buzzwords; The Earwig's Tail*; and *Ninety-Nine Gnats*; Borel; David Gordon; Laufer, Lockwood, *Grasshopper Dreaming; The Infested Mind*; and *Locust*; MacNeal; Marren; Speart; Spielman and D'Antonio; Stewart; Wilson, S.; Winston; and Zuk, *Riddled With Life and Sex on Six Legs*.

⁸ For other important studies of insects in art and architecture, see the three insect-themed special editions of *Antennae*, edited by Giovanni Aloi; Angus, *Insects*; Cambefort; Dicke; Helyer; Klein, "Insects and Humans" and "Par for the Palette"; Knighton "Becoming-Insect Woman" and "Invasive Species"; Ramírez; Rooney; Sarsfield, and Schwartz.

In addition to the texts cited elsewhere in this dissertation, notable studies of insects in literature and film include Allewaert; Bauer; Cross; Bouchet and Talairach-Vielmas; Bruce; Budde; Busvine; Faragó; Johnston; McHugh, "Cross Pollinating"; McTier; Nankin; Rutledge; Samyn, and Woodard.

Of note are also books in the *Animal* series published by Reaktion Books, which looks at the interrelation of humans and animals around the world, drawing on many fields of research and textual archives. These books are academically rigorous, but accessible and entertaining for a non-specialist audience. Many of these focus on insects or similar creatures: see Connor, *Fly*; Copeland, *Cockroach*; Dodd, *Beetle*; Gandy, *Moth*; Jones, *Mosquito*; Kirk, *Leech*; Michalska and Michalski, *Spider*; Preston, *Bee*; Pryke, *Scorpion*; Reinhardt, *Bedbug*; Sleight, *Ant*; and Williams, *Snail*.

the branch of investigation that addresses the influence of insects (and other terrestrial Arthropoda, including arachnids, myriapods, etc.) in literature, languages, music, the arts, interpretive history, religion and recreation.

(“Cultural Entomology” 181)⁹

This has also been defined as the subcategory of “ethnoentomology,” that applies specifically to literate societies; ethnoentomology, too, applies to human engagement with “insects and related arthropods” (Posey 100).¹⁰ These fields’ indistinct definition of their objects—their inclusion of “other” and “related” animals—has to do with the “problematic disjunction between language and materiality” that naming creates (E. Brown xii). Cultural entomology attends to bodies that are understood to relate to one another, and are similar enough to compare within a discipline, yet too numerous and varied even to bear a single proper name. The apparent solidity of the word “insect” is belied by the variety of lives that teem beneath it.

Like many other cultural entomologists, my use of the term insect—which I use interchangeably with “bug”—is not limited to the Linnean class *Insecta*.

Ethnoentomologist Eraldo Medeiros Costa-Neto has shown that this capacious interpretation of the term is common: “most human societies” include some non-insect animals, including earthworms, scorpions, and spiders, in the “culturally-

⁹ This is Hogue’s 1987 definition, which is more developed than that he offered in 1980, in which the field is the study of the influence of insects upon the “essence of humanity as expressed in the arts and humanities” (33).

¹⁰ Posey provides a good history of ethnoentomology to 1986. Recent notable cultural entomology includes *Insect Lives*, a collection of excerpts from cultural and scientific entomology edited by Erich Hoyt and Ted Schultz, and May Berenbaum’s *Bugs in the System*. (See also Govorushko; Harris et al; Morgan; Morris; Kritsky; Kritsky and Cherry; and Rothenberg).

determined category ‘insect’” (70). I understand insect and bug as folkloric “ethnocategories,” under which lives are often named differently than they are in scientific or legal discourses (Greene 80). I choose not to use a term that foregrounds its own imprecision (such as Jacques Derrida’s “animot,” which looks like a singular word or “*mot*,” but sounds like the plural *animaux*) because most non-entomologist readers are already likely themselves to understand insect in its broader folk sense, as signifying a range of creepy-crawly bodies that may or may not have six legs and segmented bodies (Derrida, *The Animal That Therefore I Am*). For the purposes of this dissertation, insects and bugs are those bodies, lives, and signs that are freighted with insects’ associations and affects; that is, entities that are understood, in context, to be included within that term’s constellation of meanings.

I do at times, however, distinguish species when that difference impacts my analysis. The most apparent of these are instances in which humans are deemed “insect,” most commonly as a dehumanizing strategy. At times this difference will be important to clarify insofar as it may impact readers’ emotional and intellectual responses. This is also the case with some other representations of species: butterflies’ receptions typically differ from spiders,’ for example, and social insects (ants, termites, bees, etc.) often provoke specific responses in distinction from solitary bugs. Bees, in particular, tend to be held in higher regard than other insects. Their bodies appear to be fuzzy, like most mammals’ are, and they produce wax and honey. Moreover, Karl von Frisch’s 1947 discovery of symbolic communication amongst bees—a language expressed in a kind of “dance”—had a resounding

impact on the world over and above its influence on the the general perception of bees: by disproving humanity's exclusive claim on symbolic communication, von Frisch's work threw extant definitions of all animals—and humans—into crisis. Though this effect went well beyond changing perceptions of bees, it did cement their reputation as exceptional (Seeley, *Honeybee Democracy*, 9-13). Honeybees are to insects as dogs are to animals: uniquely familiar and beloved companions.¹¹ That is, there are instances when a bug's "insect-ness" might be perceptible to a lesser or greater degree. Rather than dwelling on the difference within the category of insects, though, I am interested primarily in how the category insect circulates, and what might be common to many of its uses.

Insects as Sticky Figures and Metaphors

I understand the insect representations I study in this dissertation as figures, or "sticky" signs, some of which are metaphorical; my practice here follows feminist theorists Donna Haraway and Sarah Ahmed's theories of representation. Figuration indicates proximity between insect sign, signifier, and signified, but suits the imperfect correspondence between these: as Haraway describes it, figuration "trouble[s] identifications and certainties" and "swerve[s] from literal-mindedness" (*Modest Witness* 11). For Haraway, "figures are not representations or didactic

¹¹ Because of bees' unique status amongst insects, I tend not to dwell on them as much as might be expected, though they are present in the dissertation: I neither go into depth in discussing philosophies based in apicultural experiences, nor discuss the discourse of Colony Collapse Disorder in detail. Cultural representations of bees have been thoroughly discussed elsewhere (see for example Claire Preston's *Bee*). I also only touch on the vast corpus of theories of parasites and parasitism, which overlap with, but are not wholly included in, cultural-entomological discourse.

illustrations, but rather material– semiotic nodes or knots in which diverse bodies and meanings coshape one another”; in these nodes, “the biological and literary or artistic come together with all of the force of lived reality” (*When Species Meet* 4). Figuration is a political and material practice, as well as an aesthetic act. Catherine Cassel, in her study of post-atomic insect representations, observes that figuration brings to mind “formal likeness through nearness of qualities or attributes ... [and] also acknowledges the ways in which real entities come to embody concepts, metaphors, similes, and other ideas (6). Insect figures, then, can take many forms, including literary representations, images, art objects, or even people. We understand figuration in relation to specific kinds of time, as figures “always bring with them some temporal modality that organizes interpretive practice,” and enmeshes with “particular spatial modalities” (Haraway 11). For this reason, figuration is appropriate for “resetting the stage for possible pasts and futures” (Haraway, “Ecce Homo” 86). Insect figurations, I argue, involve unfamiliar temporal and spatial modalities that can help us reconceive of our times, potentially helping us navigate epistemological and ecological crises.

Ahmed talks about figures’ historicity in her discussion of the “‘sticky’ associations between signs, figures, and objects” (“Affective Economies” 120). Ahmed’s close readings of figures of speech, metonymy and metaphor in particular, suggest that emotions come to inhere in such figures through repeated (and frequently concealed) “histories of association,” which generate affective responses to texts (Ahmed *The Cultural Politics of Emotion* 12-13). Figures adhere to objects, signs, and to each another as emotion moves “sideways” between them; they are

also shaped by “backward” emotional movement: “repression always leaves its trace in the present—hence ‘what sticks’ is also bound up with the ‘absent presence’ of historicity” (“Affective Economies” 120). The occluded historicity of figures can account for their occasional overdetermination, as is the case with insect figures. The meanings that accrete over time can complicate and contradict one another, such that the figure bears many residues that are more or less apparent in different instances of its use. Figuration brings together representations in different contexts and times; newer insect figures bear on our reading of older ones and vice versa as meaning resonates amongst and between them.

Metaphor, too, relies on and reinscribes shared meaning. Not all of the figures I discuss are explicitly metaphorical, though some are; however, they frequently function synecdochally (a metaphorical relation in which the insect stands for a whole of which it is part: other insects, animals, nature, or the nonhuman). Metaphors organize thought, foregrounding certain features, relationships and affects in favour of others. José López argues that “metaphorical operations are one of the fundamental mechanisms through which meanings circulate within and across discursive formations” (11).¹² As metaphors with insect

¹² The idea that reality is constructed metaphorically is most commonly associated with Friedrich Nietzsche’s definition of truth (a “host of metaphors, metonymies, and anthropomorphisms ... metaphors that have become worn out and have been drained of sensuous force”), but less well known are the insect metaphors through which he extends this claim (“On Truth” 84). Nietzsche initially describes simple metaphor (the basic concept) as a beehive. He elaborates on this image by comparing aspects of metaphor to architectural structures, culminating with the spider’s web, which figures complex abstractions, formed by manipulating concepts that are themselves constructions: “whereas the bee builds with wax that he gathers from nature, man builds with the far more delicate conceptual material which he first has to manufacture from himself” (85). Sarah Kofman argues that Nietzsche’s

vehicles circulate, they allow for analogies between their tenors to form: that is, if insects, diseases, and people of certain nationalities are all figured as bugs, a rhetorical continuity is established between agricultural control, health protection, and border control measures, so that restrictions on trade and immigration may be implicitly taken to protect national health interests. In many such articulations, insect metaphors become rich sites at which to explore interactions between discursive fields.

George Lakoff and Mark Johnson's assertion that "metaphor is pervasive in everyday life" points to the generally unrecognized ubiquity of metaphor as a matter of cultural coherence (*Metaphors We Live By* 3). In their view, metaphors emerge as standing correspondences, conventions on which we can automatically draw in order to think and communicate about the world. Lakoff and Johnson suggest that paying attention to the way metaphors express a shared phenomenological experience can bring about greater empathy, leading to an "ecological ... embodied spirituality" that nurtures self, other, and the physical world (*Philosophy in the Flesh* 566). Noticing the intimacy of shared metaphor can foreground the role communities play in the circulation of meaning and emotion, but as Amy Vidali warns, we should be wary of ableist theories that "assum[e] that bodies have particular physical/cognitive/sensory experiences and related metaphorical expressions" (34). Such assumptions may also limit our capacity for interspecies identification. Basing empathy on shared metaphors overlooks their constitutive

metaphorical chains foreclose the idea of a best metaphor for any idea: the plurality of entomological and other images "symbolizes the plurality of the points of view with which the seeker after knowledge must play" (102). That is, Nietzsche uses insects figures to deconstruct the concept of truth contained in language.

reliance on imprecision: they stick things, ideas, and feelings together, but are irreducible to single, stable meanings.¹³ As metaphors and as sticky figures, insects do not all or always signify in a consistent way, but we can recognize patterns of associations and think about their effects.

Insect Affects

Many of the meanings that stick to insects relate to difference and ambivalence. Cristopher Hollingsworth, in his study of the insect metaphor in literature, argues that insects suggest “distance, reduced or negligible importance, [and] absolute difference” (8). By distance, Hollingsworth refers to the relationship between an observing (superior) *subject* and an observed (inferior) *object*; for example, the distance between a child and ants in an anthill, or between a person with an elevated perspective and people far below who, through distance, come to be dehumanized and insect-like. To describe insects as distant is not to ignore their successful colonization of most environments—in many ways insects are very close to humans. Rather, remoteness is created whenever someone relegates an entity to

¹³ Metaphors’ persistent liveliness—the unstable, ungraspable play that language can only aspire to fix—has led several writers to (metaphorically) equate metaphors and animals (Braidotti 125; Derrida “White Mythology,” and *The Animal* 35; Lippit; Willis 128).

Derrida draws specifically on *insect* imagery to illustrate metaphor’s ambivalence, reproducing Georges Canguilhem’s analysis of how the understanding of cellular structure was dominated by beehive metaphors, and Nietzsche’s apiary metaphor-for-metaphor. Derrida approvingly observes Nietzsche’s willingness to “risk... continuity between metaphor and concept, as between man and animal, knowledge and instinct,” as this move implicitly recognizes the polysemy and ambiguity inherent in even the most seemingly stable philosophical concepts (“White Metaphor” 64).

the category of insect, we should note that this is a *distancing* act: insects (arthropod and otherwise) are symbolically held at a distance *because* they threaten to become uncomfortably close. I would argue that amongst insects' associations, the threat of border transgression is key.

Insects are the archetype for uncontrolled circulation. Their small forms and large populations irresistibly infest bodies, homes and other buildings, food crops, territories, states, and biomes, leaving them literally or figuratively lousy. Implications of border violation get transferred to “bugs” incarnated as viruses and bacteria, surveillance devices, programming errors, and irritating presences (anything that “bugs” us) in general.¹⁴ The unknown extent of insects' abilities—to compress themselves, go dormant, metamorphose, camouflage, climb, fly, bite, sting, lay eggs, etc.—forestalls our ability to anticipate the form their incursions might take, and thus presents a constant risk.¹⁵ This is exacerbated by the way that the single insect, indistinguishable from others of its kind, insinuates the presence of an unknown, innumerable others. This is a state of protracted torment and pervasive crisis; in their capacity to provoke lingering irritation, fear, and vigilance even after an infestation has apparently been cleared, insects also reveal the permeability of our emotional worlds.

Considering insects' insistent transgressions reveals the logic common to Hollingsworth's definition of insects. He highlights the appellation of “insect” as a function that disavows an other's proximity, significance, and affinity—in spite of

¹⁵ Tiny, biting insects—midges, gnats, and small flies—are commonly known as “no-see-ums,” hyperbolically suggesting that their abilities include invisibility itself.

the ways in which lice, fruit flies and their ilk are demonstrably close, consequential, and, in some ways, kin. Defining insects in terms of distance can be seen as a residual of the modern nature/culture divide that persists despite mounting evidence for the many ways insects and other nonhumans are agentic. Disclaiming intimacy with nonhumans limits what we are capable of doing and being. Broad public recognition of this insight seems to lag slightly behind science and art that operates in service of profit: driven by the imperative to subsume and capitalize whatever remains external to exchange, scholars and creators are discovering myriad ways that value can be extracted from insects, as inspiration (e.g. for the design of new adhesives, textiles, and robotics) and as raw “stuff” (e.g. for animal and human consumption) (Gorb; Roos). As insects’ economic, ecological, and cultural contributions to our lives become more evident, theories and images predicated on identification with insects are beginning to become more common, yet difference remains central to most insect figurations.

“The animal” has been recognized as a figure of alterity against which the human has been constructed (Borkfelt; Nimmo, “From Over”; Vint). To the extent that alterity could be figured, insects—which are imagined as the most alien of animals—might be closer than others to embodying that figure: to paraphrase Levinas, the insect “is what I myself am not” (*The Levinas Reader* 48). Hoyt and Schultz note their different ways of living and the extreme difference of insect body plans:

they wear their skeletons on the outside, bite sideways, smell with antennae, taste with their feet, and breathe through holes in the sides of their bodies.

Their eyes are placid, unmoving orbs; when we humans look into them, we experience neither recognition nor empathy. (1)

They note that when these “alien creatures” *do* exhibit similar traits to humans (practicing forms of architecture and agriculture, for example), it is “astonishing” and “uncanny” (1-2). Charlotte Sleight describes insects as “zoology’s Other, the definitive organisms of *différance* (“Inside Out” 281). This description indicates not only the deep *difference* we perceive between humans and insects, but also the difficulty in pinning them down, so to speak: the multiplicity, metamorphosis, and adaptation associated with insects foregrounds the need to *defer* understanding them, to “take recourse ... in the temporal and temporizing mediation of a detour that suspends the accomplishment ... of ‘desire,’” (Derrida, “Différance” 8). Insects are undecidable: they are mundane yet bizarre; mindless yet geniuses of engineering and architecture; vulnerable but capable of succeeding in every kind of environment. Individually they are minute, yet their swarms and colonies can be immense, and collectively they pervade the globe. They are insignificant and utterly without value, but generate precious capital, and have shaped patterns of human migration and colonization. Though their lives last but a moment, their origins lie deep in history, and they are supposed to be indestructible, capable of outlasting even nuclear holocaust. Insects are definitively *not* “us,” but what they *are* is a harder question to answer. As figures of alterity, insects are associated with the inverse of everything that makes up humanist norms; they may therefore offer resources for undoing some of those norms and the troubles they have led to.

Insect figuration's function of denying significance to others entails the common exemption of insects from ethical consideration. Thomas Dunn and Richard Erlich argue that "the hive or machine" symbolizes "the things in human social life that can render us helpless, insignificant": figuration as a bug, especially as a *single* bug seen against collective structures, connotes vulnerability and irrelevance in relation to a greater whole (49). Stephen Loo and Undine Selbach note that scientific ethical codes have been designed in mind of mammals and other large animals, to the exclusion of insects: "Tiny, multitudinous and almost machine-like, seemingly with limited recognizable emotion or self-consciousness, they do not register easily as objects of moral consideration or agents of ethical change" ("Picture Book" 47). Philosopher Peter Carruthers argues that we may avoid harming insects out of sympathy and concern for our own moral habits (that is, out of self interest), but "most of us believe, in fact, that insects and spiders make no direct claims on our sympathy or moral concerns" (294). He claims that we do not avoid stepping on ants or breaking spider webs (for example) because we deem our own interests more important, but because we fail to consider insect interests at all: they "do not generate any direct moral requirement for us to take account of" (294). Overt acts of violence against insects can also fail to register as moral considerations; extermination of insect colonies is often taken as a matter of hygiene, instead. Apparently insignificant, disregarded matters have been coded that way historically: they have been left out of the "frames" we use to identify what and who is relevant (Butler, *Frames of War*). These frames support specific arrangements of power;

therefore, if one wants to disrupt the status quo, looking at what has been suppressed in order to maintain “normal” life may be a useful strategy.

Insects’ exclusion from communities of care derives in part from a perception that they are in some way less animate than other animals. Mel Chen discusses how animacy is not limited to “lifeliness,” or a simple living/nonliving dichotomy, but instead operates as a system that hierarchizes entities according to “which things can or cannot affect—or be affected by—which other things within a specific scheme of possible action” (30). Some beings, including humans, are not granted recognition within certain schemes, while other “lively” entities (cell phones, the economy, etc.) are perceived as more agential. Chen encourages us to recognize “how matter that is considered insensate, immobile, deathly, or otherwise 'wrong' animates cultural life in important ways,” arguing that the policing of animacy boundaries has political impacts (2). Insect figures trouble animacy hierarchies. Steven Connor, observes that flies, for example, have seemed to be “not a single organism, so much as an amalgamation of semi-autonomous parts”; are intimately associated with death, the transitoriness of sexual pleasure and life; and connote “the shifting or instability” of human attention and perspective. He argues that they are not so much opposed as “indifferent” to our disambiguating concepts, and suggests that perhaps “insects mark the sphere of exception itself.” The presence of microscopic bugs in and on our bodies undermines our sense of corporeal sovereignty, and from the inquisitive surveillance bug to the seething corpse, insect figuration animates the inert and calls into question the liveliness of the living. The insect may thus be a particularly appropriate to contemporary calls to think of time

beyond the life of the human (Baucom; Chakrabarty “The Climate of History” and “Anthropocene Time”; Colebrook; Klein; Povinelli).

The extent of animals’ animacy in comparison to that of humans has been a longstanding matter of philosophical debate, and to many, insects do not quite seem even to be animals, but a still lesser form of life. Until von Frisch’s discovery of the honeybee dance language, insects, like other animals, were exempted from most forms of moral and political consideration based on their lack of language: thinkers from Aristotle onward distinguished the human as the only “animal with *logos*” (Derrida, *The Animal*; Pearson; Suen; Wolfe *Animal Rites*). Utilitarian philosophers such as Peter Singer have maintained that the capacity for speech is irrelevant to moral consideration, following Jeremy Bentham’s famous question “can they suffer?” but insects capacity for suffering remains a matter of debate (Bentham 283; Singer, “Animal Rights”). Bentham’s question was raised in response to René Descartes’s claims about animals: that they are mindless, clockwork-like automata, and that “it is more probable that worms, flies, caterpillars and other animals move like machines than that they all have immortal souls” (Descartes 366). While the Cartesian view of “other animals” such as dogs has largely fallen away, insects are still frequently viewed as machine-like.

The trope that insects are machines “dominates American cultural discourse about insects, as they are figured as driven by blind instinct rather than imagination” (Cassel 15n25). Jeremy Biles likewise observes,

It is not difficult to see why insects make such apt metaphors for technology.

Their highly organized labor, machine-like movements, and apparently

imputrescible exoskeletons all liken them to machines. Moreover, the virtual indistinguishability to the human eye of, say, one ant from another in a colony perfectly describes the anxiety-provoking typicality associated with the increasing intimacy of humans and machines. This living metaphor has thus become a metaphor for vital declivity; the insect, a symbol of the machine, is also the machinic harbinger of death. The movement from organic to mechanical is literalized in the many recent occasions of technology mimicking insects, as in the mounting production of entomorphic robots. If the insect is a metaphor for machinery, it is now also its literal embodiment—both a model of technology and a model for technology. (124-125)

Biles reads the fetish for seeing insects crushed underfoot as literalizing the insect-machine association in order to master the anxieties produced by machine culture, the serial violence that Mark Seltzer argues inheres in it, and its threat of replacing sexual reproduction with technological. Insect-robots appear throughout Western culture, for example, in literature (Jünger; Malone; Murphy; Okorafor; Sheffield; Sterling), They are found in film (*Cronos*; *The Day the Earth Stood Still*; *District 9*; *Eye in the Sky*; *Exoids*; *The Matrix*; *Minority Report*; *Runaway*; *Wild Wild West*). Ad campaigns have also literalized the association in order to frame certain machines as being at home in nature (Haynes). Studies of swarm intelligence frequently fail to differentiate between insect, robot, and algorithms, while the number of insectile robots and micro air vehicles (drones) defies measure (Beer et al.; Stahl; Webb). Insects have been central to the development of technologies of vision and

surveillance, and the images and ideologies associated with them; this association may be especially prominent given the hegemony of an ocularcentric paradigm described by David Levin (Collignon; Neri; Thacker, “Pulse Demons”). The prevalence of the trope has predictably led to a body of insect-related media theory (Harpold; Parikka, *Insect Media*; Schuppli; Serres).

The tendency to perceive insects as more mechanical and less alive than other animals—and therefore as exempt from ethical consideration—persists in scientific study. Research on “mixed societies” of cockroaches and robots have treated the two kinds of bodies as equivalent and suggested that “these two distinct ‘species’ may, in fact, engage in ... transformative modes of cultural communication” (Magnet 38). Insects and similar animals are not universally accepted as capable of feeling pain (Adamo; Elwood; Sherwin; Smith). Their “pain-like behaviour” has been compared to that of robots; the question of whether insects are “sophisticated robots” or “like little people” implies that evidence of their pain can be disregarded if they cannot be shown to experience “subjective states such as despair” as a result of that pain (Adamo 75). Recent studies call into question the assumption that insects operate on machine-like instinct by indicating that they may exhibit “sophisticated cognition,” which in turn calls into question the anthropocentric view that capacities such as tool use or emotion require large brains (Perry, Barron, and Chittka). Insects’ uneasy fit in taxonomies of life and agency makes it an expedient “cyborg” figure for mediating questions about the relationships between humans, animals, and technology (Haraway, *Simians, Cyborgs, and Women* 149-181). This aptitude is made even more apparent in the machine-insect hybrid art objects

analyzed in later chapters of this dissertation. We should note, though, that even if insect suffering could be definitively proven, more caring treatment would not necessarily follow. Insects provoke negative emotions—fear, disgust, hate—that may supersede that information.

Amongst the many emotions that stick to insect figures, indifference, disdain, fear and disgust predominate (Costa-Neto 70; Kellert 850). In distinction from so-called “charismatic megafauna,” (larger, cuter animals, generally mammals, that have appealing faces to which people relate) Jonathan L. Clark describes invertebrates as being mostly “uncharismatic,” which, especially when combined with perceived “invasiveness,” creates a “moral comfort” around their dismissal: the concept pre-empts ethical debate, pre-approving their inhumane treatment or extermination (47). This has led to an underrepresentation of invertebrates in conservation, and delayed their consideration in animal studies.

The origin of human fear of insects has no simple, agreed-upon basis. Certainly some bugs can bite or sting, but the emotional responses they provoke are out of proportion to the pain they generally cause, and many insects that do not hurt humans are also feared. There is an unresolved disagreement about the extent to which this dread is innate, rational, and evolutionarily advantageous (based on the threats insects and insect-transmitted diseases pose to human health and food security), and the extent to which it is a culturally created aversion (Hardy; Kellert; Lemelin; Lockwood, *The Infested Mind*). Kellert identifies the aspects of insect-being that insect fears focus upon: he argues that anxieties are concentrated on their

“radically different survival strategies, most dramatically expressed in very different ecological, spatial, temporal, and morphological scales”; their perceived multiplicity, which threaten Western individualism; their perceived lack of mind and feeling; their mysteriousness; and their radical autonomy from human control, including the human sovereignty over our spaces and habitations (851). Insects remain figures of difference and otherness, which has become an important imaginative resource.

“Nature” has largely ceased in its modern function as the foundational “other” for human culture, society, and so on; while this dualistic distinction allowed us to imagine nature as a resource, for example for transformative encounters with difference, the dualism has become philosophically untenable (Latour, *We Have Never Been Modern*). Insects, as figures that have to a degree remained powerfully alien, can still be imagined as bearers of difference, which, if we can avail ourselves of it, can extend our human abilities. The very properties that have made people averse to contemplating insects may be what makes them useful now: as we face a changing climate and other destabilized planetary systems—with inegalitarian economic and political structures that exploit both human and nonhuman beings (albeit asymmetrically)—radically different survival strategies, especially those that decenter liberal individualism, are especially called for.

Insect fear and phobias are clearly based to a large degree, if not exclusively, in cultural norms. Mick Smith and Joyce Davidson argue that sufferers of “natural” phobias such as entomophobia somatically express and reproduce “*the* key feature of the modern Western symbolic order, namely, the all-pervasive boundary it constructs between ‘culture’ and ‘nature’” (47, emphasis in original). They point to

the cultural variability of disgust reactions and their use in disparaging others as evidence that these bodily reactions correspond to cultural sensibilities, which view is also supported by the finding that older generations fear insects more (Smith and Davidson 57; Kellert 851). Larissa Budde similarly argues that insects (and the insectoid alien trope) are alarming because they reflect and reinforce ecophobia: distress over the uncontrollable interconnectedness of planetary life. What we fear is not arbitrary. Ahmed discusses fear's "spatial politics," arguing that its creation expands some bodies' mobility while limiting that of others, as we see in political rhetoric that opposes freedom and the circulation of fearsome (i.e. terrorist) others (*Cultural Politics* 15, 71-72). Insects' mobility is synonymous with their frightfulness: "creepy crawlies" refers both to bugs and the unease they provoke. Ahmed's analysis suggests that fear does not police natural borders (and exclude inherently objectionable beings) but instead instantiates norms, regulating proximity and distance as it "slide[s] across signs and between bodies" (63-64, 67). Fear of insects may suggest that they are irredeemably alien, and thus inappropriate beings to learn from; it paints our intimacies with them as problems to be solved rather than sites for reconceiving our place in the world.

Even more than fear, disgust reactions to insects make them seem noxious, incompatible with the very matter of our being. Disgust seems more somatic than other emotions, and it attaches only to biological matter, making it seem less an emotion than defense reaction or nauseating illness (Kolnai). It seems to arise from the gut, such that it "seems almost pre- or sub-affective," as Sianne Ngai observes (*Ugly Feelings* 335). We feel disgust as a loss of control over our bodies: it "implies ...

a compulsion to say no, an inability *not* to say no” to the disgusting object (Menninghaus 2). Even as we are overtaken by this visceral “no,” though, on another level, we are enticed: as Ian Miller argues, “even as the disgusting repels, it rarely does so without also capturing our attention. It imposes itself upon us” (x). In disgust we are heaved by a strong rejection, but as Miller suggests, that convulsion arises to quell a horrifying impulse to contact or consume the insect or other disgusting object; in neither case do we *seem* to have a choice in the matter.

Philosopher Aurel Kolnai’s discussion of insects as a uniquely disgusting category of life form connects insects’ questionable animacy, mobility, and lack of charisma to our physiological and moral abhorrence of them. Kolnai argues that to some extent, “phylogenetically suppressed” desires to crush and eat insects may intensify disgust reactions; he insists, however, that *if* there is a “phylogenetically inbred” fear of insects’ dangerousness, it is not the primary cause of disgust. The form of Kolnai’s description of disgust supports Miller’s argument that disgust allures: insects’ foulness moves Kolnai to linger over it, heaping vivid prose into paratactic piles of images and adjectives. I reproduce Kolnai’s passionate description at length here to show how he luxuriates in describing insects’ odium; as well as to illuminate some of the impressions that stick to insect figures—including the moral projections that often creep into ostensibly rational analyses. Kolnai says that insects are disgusting because of their

slithering, creeping treacherousness, their chill activity ... their crawling stickiness, their appearance of being as it were ‘pasted over’ their substrate; ... their pullulating squirming, their cohesion into a homogenous teeming

mass; their evocation—partly apparent, partly real—of decomposition and decay. What is real is a frequent preference for putrescent organic material; what is apparent—without thereby being of no significance—is the impression that they themselves are somehow part of such stuff, as if they had originated from it, as if their frantic, teeming activity were a phenomenon of life in decay. Altogether it is in general the strange coldness, the restless, nervous, squirming, twitching vitality which they exhibit—as if it were all somehow an abstract demonstrative dance of life without however any appropriate feelings of warmth and without inner substance of life. Finally, however, there is the insidious, aggressive character that is to be found in most of these creatures. ... their quality ... of being malicious, their hidden malevolence, this quite peculiar mixture of sly furtiveness and demonstrative, impertinent activity, of futility with eager, stinging fervor. ... To sum up, ... disgusting creatures arouse generally the impression of life caught up in a senseless, formless surging, ... they somehow urge themselves upon the subject with a life-corroding breath of moldiness of decay which can be concretely perceived. The particular severity and force of this kind of disgust derives from the fact of the mobility and aggressiveness of the object (not however from its dangerousness), from the consciousness that contact with it could so easily come about” (57-58).¹⁶

¹⁶ Insects’ paradoxical simultaneous excess *and* deficit of animacy as described here might be understood better with (a necessarily cursory) reference to the Greek terms *bios* (collective, ordered political life) and *zoe* (natural, biological life) as expounded by Giorgio Agamben. It could be that insects’ expression of *zoe* in the absence of *bios* seems excessive and uncanny. There is an extent to which the fleshly

This description acknowledges a difference between insects' "real" and perceived qualities, but within its lists, it is difficult to distinguish between these: it doubts insects' genesis in dead matter, but seems to endorse their "malicious" and "sly" nature; its reference to their "coldness" seems to mean "cruel" rather than "ectothermic." Kolnai's portrayal of insects intimates the futility of trying to distinguish between real and imagined insect affects. The sensations, sentiments, and ideas that accrue to insect figures have impact regardless of their accuracy in describing specific living beings, and therefore they are "real" affects.

Like fear, disgust has a political dimension. It defines the moral and social boundaries of "the disgusted" and "the disgusting," binding the former as it repudiates the latter (Ahmed *Cultural Politics* 15). These distinctions are hierarchical: disgusting things are associated with the low, being below, being beneath—with the lower half of the physical and social body (I. Miller x). This spatial and social logic may be reciprocal; insects are generally beneath humans spatially, which may reinforce their metaphorical placement there, while their rejection causes them to be perceived underfoot more than overhead.¹⁷ Things that

life of our bodies is alien to the western consciousness-identified self; *zoe* (which exists, like animals, apart from *logos*) escapes our rational comprehension or control. We can scarcely imagine an insect *bios* (we come closest with the ordered hives of bees, which is why they are the least "insect" of the insects), and the image of insect *zoe* in the seeming absence of *bios* shows us the alien aspect of our own vitality without that with which we apprehend it. This is the case with all animals with whom we cannot for the most part converse, but to different degrees: a gorilla *bios*, or a dolphin *bios* seems far more plausible than a butterfly *bios*.

¹⁷ See Hollingsworth's *The Poetics of the Hive* for an extended discussion of insect metaphors' use in placing Others in an inferior position and rank. For a discussion of the politics of this spatial logic, see Achille Mbembe's "Necropolitics." Mbembe does not explicitly discuss the insect hive metaphor, but his discussion of "vertical sovereignty" in the creation of "death worlds" shows the same vertical division of

are below are “dirty,” marked by encounters that they are powerless to control or “rise above.” Disgust has to do with where things belong in relation to one another: Mary Douglas (following Émile Durkheim) famously defined dirt as “matter out of place,” and observed that social power structures are sometimes enforced via analogies of pollution (4). Insects disturb notions of purity, transgressing borders of all sorts and, in so doing, demonstrating their deficiencies. This makes them excellent images with which to think any number of postmodern transgressions and impurities. Our relationship to nonhuman animacy is (and should be) unsettled in this age of mass extinction, and Enlightenment subordination of biological materiality to abstract reason no longer serves us well. Bruno Latour reminds us that we can no longer imagine nature as a “dumping ground” into which the costs of civilization can be externalized; while Peter Sloterdijk argues that “Shit has to be encountered in another way. It is now necessary to think of the usefulness of the unuseful, the productivity of the unproductive ... the positivity of the negative” (Latour *Politics of Nature* 58; Sloterdijk *Critique of Cynical Reason* 151). Considering disgusting matter(s) such as feces or insects re-engages the low or embarrassing aspects of organic life, which do not disappear just because we decline to acknowledge them.

Miller and Ahmed both observe the transferability of disgust, noting that it operates via contagion. Something that comes into proximity with an object of disgust becomes disgusting *and* can then itself render other entities repellent;

space that distances, surveils, and dehumanizes lives in order to render them killable.

Sigmund Freud identifies this mechanism as the “contagious example” (Morales and Fitzsimmons; Freud *Totem and Taboo* 61). For example, a person whose home has cockroaches may be spurned, and a garment that person borrows may come to seem unclean even after it is washed. When the objects of contagion are *beings*, persecution and violence can follow; Ngai warns that to be deemed disgusting is to become intolerable (340). This is why Ahmed cautions against uncritically accepting our emotions as unmediated expressions of reality. She reminds us that we overlook the histories through which social values come to inhere in emotions: “if disgust is about gut feelings, then our relation to our guts is not direct, but is mediated by ideas” (Ahmed *Cultural* 83).

The transferability of disgust and the vulnerability that being disgusting involves makes it especially dangerous for people to be figured as insects by others who seek to disempower and dehumanize them. To be figured as animal, in general, has long been used to hierarchize and dehumanize people, as when animals and black people were described as similarly “irrational” in the attempt to justify American chattel slavery (C, Adams; Spiegel). Insect-specific examples abound: American urban poor have been compared to and associated with disease-spreading flies, bedbugs, cockroaches and other insects throughout the twentieth century; while rhetoric likening Japanese beetles and human bodies framed both of these as a threatening source of “yellow peril”: these figurations bolstered various control and containment policies that affected human and insect lives alike (Biehler;

Shinozuka).¹⁸ Nazi propaganda frequently figured Jewish people as “parasites, vermin, beasts of prey—in a word, subhuman,” while similarly, Hutu leaders described Tutsi people as “cockroaches” in an effort to vivify and justify the Rwandan genocide (Roth and Berenbaum xvii; Raffles *Insectopedia* 146).¹⁹ Such metaphors serve political rhetoric particularly well since the disgust evoked through figuration of insects can be manipulated to produce “righteous revulsion,” which implies that people figured as insects are ethically as well as viscerally objectionable (Lockwood *Infested Mind* 76). Insect figuration can be powerful even when implicit: archival footage included in director Michael Moore’s film *Bowling for Columbine* makes clear the correspondences between rhetoric about “killer bees” and racist panic about black masculinity and labour migration in America in the 1990s. Since this rhetoric is frequently applied to already precarious populations whose capacity to manage the insects’ intrusions may be diminished, it can often exploit those populations’ material intimacies with pests to suggest a corresponding symbolic intimacy or equivalence.²⁰

¹⁸ Leerom Medovoi argues that we should understand such measures as two instances of the common biopolitical control of population and environment, and suggests that including nonhumans in biopolitical theory makes it “becomes much clearer why the various histories of environmental degradation — the impoverishment of the land, the extinction of ‘surplus’ animal or plant life, the squalor of the city, the pollution of water and air — are deeply coarticulated with class struggles, racialization processes, sexual and gender normalization, and, in general, with the conversion of humanity into a biological population whose life processes are managed as one more natural input of production to be maximized.”

¹⁹ The Nazis’ dehumanizing animal metaphors, and the suggestion that shared suffering with animals might be a point of positive ethical identification, are examined at length in Charles Patterson’s *Eternal Treblinka* (see also Coetzee; Derrida *The Animal* 26; Herf; Wetherell and Potter).

²⁰ Not all pejorative insect metaphors are directed at the economically vulnerable. The wealthy—and people imagined as wealthy—have been figured as maggots,

Not all metaphors of these kinds are explicitly directed at extermination, but that is the implicit teleology of the image. Erin Steuter and Deborah Wills' analysis of dehumanizing metaphors of pestilence clarifies the ambivalent status of disgusting human-insects as simultaneously utterly weak and threatening; as vermin, human groups are "characterized by plurality and mass ... relatively harmless in the singular, they can be deadly *en masse*" (76). They describe how otherness attached to bodies via the insect metaphor forestalls empathy, and even the perception of individuality: once an "enemy" is rendered insect,

we seem to move inexorably to a corollary discussion of extermination and eradication. Like bugs, our enemies are there for the squashing ... extermination and eradication become the logical, responsible, even humane response. ... we seek not just to vanquish the enemy but to erase him utterly ... it would be ludicrous to try to separate out the individual bugs which have harmed us. (83; 82)

Because of the common logic and the strategies of elimination used against human and nonhuman pests, Clapperton Chakanetsa Mavhunga calls for the development of an inclusive "ontology of pesthood." This might include, he suggests, a redefinition of "pesticide" to include "not only the substances used to kill pests but also the theory and practice of killing them" (*Vermin Being* 152). The politics of disgust and insect figures' other associations would contribute to the development of such an ontology.

Insects—arthropod or otherwise—provoke disgust because they are abject.

Linguist and psychoanalyst Julia Kristeva used the term abject to describe that

worms, fleas, ticks, and other putatively parasitical, subhuman species (K. Hamilton; Jane Ford; Forman; Jajszczok; McKee).

which disturbs us—provoke disgust, horror, loathing, fear, or repulsion—because it can neither be expelled nor assimilated. Rejection of the abject cannot be completed, as its object is both inside and outside; it therefore confounds our fantasies of perfect bodily autonomy. The abject is “something rejected from which one does not part,” that “disturbs identity, system, order,” and that “does not respect borders, positions, rules”: it is “the in-between, the ambiguous, the composite” (Kristeva 4). Walter Benjamin describes the animal as such a figure for the human, suggesting that beneath the subordination and ingestion of animals lays a horror of recognition: an incapacity to accept our own animality (“Gloves” 28).²¹ The

²¹ Benjamin writes,

In an aversion to animals the predominant feeling is fear of being recognized by them through contact. The horror that stirs deep in man is an obscure awareness that in him something lives so akin to the animal that it might be recognized. All disgust is originally disgust at touching. Even when the feeling is mastered, it is only by a drastic gesture that overleaps its mark: the nauseous is violently engulfed, eaten, while the zone of finest epidermal contact remains taboo. Only in this way is the paradox of the moral demand to be met, exacting simultaneously the overcoming and the subtlest elaboration of man's sense of disgust. He may not deny his bestial relationship with animals, the invocation of which revolts him: he must make himself its master. (“Gloves” 28)

His argument that humans attempt to repress an undeniable kinship with animals is extended in Theodor Adorno's claim, in *Minima Moralia*, that animal killing establishes the paradigm for (mass) human murder:

The possibility of pogroms is decided in the moment when the gaze of the fatally-wounded animal falls on a human being. The defiance with which he repels this gaze—‘after all, it's only an animal’—reappears irresistibly in cruelties done to human beings, the perpetrators having again and again to reassure themselves that it is ‘only an animal,’ because they could never fully believe this even of animals. (105)

Adorno, like Benjamin, suggests that humans unsuccessfully try to disavow the trauma of organic death through a fantasy that exempts humans from their animality; he takes the argument farther by suggesting that this trauma leads to neurotic, compulsive repetition. Genocidal murders repeat the scene of trauma, as if the logic of exception might finally serve its intended protective purpose—as if acting *as if* one believes in exception will eventually lead to belief. Many people

relationship between insects and humans is complicated; we share animal embodiment in the broadest sense, but our uneasiness with the threat of recognition (the weight of our kinship with such vulnerable, persecuted lives) is conjoined with dread at its absence (the alien indifference to our identities, to every concept by which we make sense of the world). Recognizing insects as abject figures means learning about ourselves: we might read in them the things that modern liberal Western society and bodies would *like* to reject, but which inhere in them. That is, insects are abject to the extent that they embody our futile strivings; the persistent tensions that drain our energies; and the repressions, disavowals, and fantasies that interfere in our relationships.

As perhaps the ideal figures of ambivalence, insects bear positive associations as well as negative ones, but our appreciation is frequently less emotionally charged than our aversion, taking the form of dispassionate admiration more often than excitement or wonder.²² Insects, particularly social insects, have been imagined and

would claim never to have killed an animal yet will, if prompted, admit to having killed insects, thinking to themselves, “it’s only a bug”; most people are not murderers, but we might question the extent to which their behaviours seek to reinforce confidence in their insulation from their animality or animacy.

²² One noteworthy exception to this rule might be instances in which racist insect insults are reclaimed as images of perseverance, for example in works by Latinx writers and artists who reframe the metaphor of the cockroach as a symbol of the intense strength of diasporic brown bodies (see for example Agra Deedy, Arenas, Alcaraz, A. Castillo, J. Diaz, Valdez). Poet, scholar, and activist Audre Lorde practices this resignification also: she recounts a story in which she, as a child, noticed a nearby woman on a train recoiling in horror. The young Lorde assumes that the offense is “probably a roach,” but when she looks to avoid the insect herself, it becomes apparent that she, Lorde, is the hated and “dirty” being from which the woman had pulled away (*Sister Outsider* 147-8).²² After this formative experience, in which Lorde internalized the fact that as a racialized person, she was perceived by

admired since ancient times. The hive, for example, has been used as an image of the city since antiquity; classical formulations contrasted the golden beehive's orderly, harmonious perfection to the demonic ant heap's totalitarianism and slavery (Hollingsworth). Bees, especially, have been "the poetic models for ideal, organized communities, clockwork colonies of perfect governance and efficiency"; though these, too, have grim counterparts in entomological images figuring the failure of colonialist utopianism (E. Brown "Insects, Colonies" 21). Adeline Rother argues for the emergence, in the nineteenth and early twentieth century, of a beautiful "non-phobic insect," which served as the paradigm for both non-hierarchical, non-universalizing view of species development and for the decentering of human scale and perspective in favour of a scalar-relativist appreciation of the infinitely small and large (89-90). This dissertation explores a number of non-phobic insect figures, but it is important to remember that even the non-phobic insect is not necessarily "grievable," they may remain amongst those "lives [that] cannot be apprehended as injured or lost [because] they are not first apprehended as living" (Butler *Frames of War* 1). People can hold non-phobic views of insects, even those that esteem aspects of insects, and still view them with apathy or distaste.

Representations that foreground insects' success in human endeavors inspire unease and animosity. E.L. Bouvier in his 1918 *La Vie Psychique des Insectes* observes the "profound inquietude inspired by these creatures so incomparably better armed, better equipped than ourselves...our rivals in these latter hours and

some people as she herself perceived cockroaches (i.e. disgusting and subhuman), Lorde went on to write poetry anthropomorphizing, identifying with, and at times speaking as a cockroach ("Brown Menace"; "Kitchen Linoleum").

perhaps our successors” (qtd. in Coutts 298). J.M. Coetzee’s character Elizabeth Costello (his mouthpiece for animal rights philosophy in *The Lives of Animals*) similarly argues that most animals are enslaved prisoners of the war humans successfully waged against animals, treated with contempt, pity, or superficial compassion; but vermin creatures such as insects “fight back” and, since they haven’t been defeated (and “may beat us” and “will certainly outlast us”) are still subjected to our hate (59). Whether or not insects are better equipped for survival, we perceive that to be the case; if it is true, we need to keep our antipathy from interfering with our study and emulation of them.²³ As the modern division of nature and culture loses credibility, and as we further instrumentalize insects’ affects, insect aversion may dwindle: being mobile, difficult to control, and evolutionarily successful are unappealing qualities in an adversary, but highly desirable traits to claim.

References in this dissertation to affect, as in “insect affects,” should not be understood as simply synonymous with emotion. My use of the term broadly follows that of Gilles Deleuze and Félix Guattari, who draw on Baruch Spinoza to see

²³ The notion that insects will last beyond humanity’s extinction is a common trope, and constitutes the conceit of *The Hellstrom Chronicle*, analyzed in chapter 2. Whether this is biologically likely remains a matter of debate. While the warming planetary climate *may* “generally increase the abundance and distribution ranges of a majority of insect species,” research supporting this view has notable limitations (Stange and Ayres). The notion that insects are “winning” is maintained by our thoroughgoing ignorance of their demographic changes. Perhaps due to their negative perceptions, there is a dearth of research into invertebrate extinctions: only a small percentage of the estimated thousands of insect extinctions have been documented, while conservation efforts focus mainly on vertebrates and plants (Dunn).

affect as the “ability to affect and be affected. It is a prepersonal intensity corresponding to the passage from one experiential state of the body to another and implying an augmentation or diminution in that body’s capacity to act” (Massumi translator’s notes, *A Thousand Plateaus* xvii). Deleuze and Guattari (who describe a tick’s ethology to illustrate their point) observe,

We know nothing about a body until we know what it can do, in other words, what its affects are, how they can or cannot enter into composition with other affects, with the affects of another body, either to destroy that body or to be destroyed by it, either to exchange actions and passions with it or to join with it in composing a more powerful body. (*A Thousand Plateaus* 284)

Insect affects, then, are nonhuman capacities and capabilities, those potentials that are unknown until they are revealed. I depart somewhat from Deleuze and Guattari’s definition in that, for them, neither affect nor affection “denotes a personal feeling (*sentiment*)” (Massumi xvii). Like Ahmed, I am unsure that distinguishing between bodily sensation, emotion, and thought can be more than an analytic strategy “premised on the reification of a concept” (*The Cultural Politics of Emotion* 6). Ahmed therefore speaks of “impressions” as she tracks the circulation of emotions, but (as with my choice to speak of “insect” rather than “insectile” figurations), I use the simple, available term affect, in an expansive sense that recognizes emotions amongst the other affects that shape what bodies can do.

Though I do not restrict my discussion of affect to emotions, I concur with recent scholars who emphasize the importance of studying emotional affects, especially those who, like Sianne Ngai, Heather Love, and Sara Ahmed, point to the

under-explored relevance of negativity, for tarrying with “ugly feelings,” “feeling backwards,” or sadness.²⁴ Considering only charismatic objects and positive feelings leave most of the operations of power unexamined; looking at feared, abject, hated figures such as insects broadens the affective terrain of animal studies.

Posthuman insects

Classical humanism understands humans and insects as having completely separate affects. However, attending to insects and their presence in philosophical history can contribute to the development of a posthumanism that attempts to recognize and avoid the harm done by the humanist perspective. The insect figure’s posthumanist work is inseparable from its deconstruction of history, as these are con-constitutive concepts: history is the notion of linear, teleological time defined by exclusively human progress (which claim is developed in the next chapter).

Posthumanism and historiographical critique are interrelated projects, both of which are advanced by insect figurations.

Going back at least as far as Aristotle’s distinction of the human (as having a rational soul, and as “more of a political animal than bees,”) Western philosophy has commonly imagined humans as exceptional: uniquely possessed of language, reason, emotion, imagination, soul, and so on (Aristotle 1129; Davies; Soper). “The” human recognised by traditional Enlightenment and post-Enlightenment humanism

²⁴ See also Berlant; Cvetkovich; Chen; and Halberstam *The Queer Art of Failure*.

lives in a world shaped not upon divine will, but by his (not her, or their) rational intellect and will; the exercise of his agency drives history forward toward greater freedom and good. These qualities are imagined (in idea of the Great Chain of Being, and Cartesian dualism, for example) to constitute not only humanity's uniqueness, but also our superiority over nonhuman life. Humanism appeals to a shared human essence, a universality that describes and explains all humans. In many ways, the idea of a "human race" is still the "common sense" of Western culture; however, this commonplace relies on the repression of great deal of (mounting) evidence.²⁵

Humans' claim to centrality and superiority has seen major disruption. Freud famously described three such "insults" to humanity's "self-love": Copernicus' discovery of Earth's heliocentric orbit showed that the universe does not revolve around us; Charles Darwin and Alfred Wallace's demonstration that humans evolved from and in relation to other species denied that we are special, perfect creations; and Freud's own theory, that humans are largely unconscious of their own motivations, exposed us as unable to know or control our own minds ("Traumatic Fixation—the Unconscious").²⁶ Others have suggested adding to Freud's list other similarly pivotal affronts to humans' primary place and significance. These include Karl Marx and Friedrich Engels' assertion that consciousness is influenced by socioeconomic context; Jacques Lacan's amendment

²⁵ Neil Badmington gives the Universal Declaration of Human Rights—the first Article of which states that all human beings "are endowed with reason and conscience and should act towards one another in a spirit of brotherhood"—as a strong example of the commonplace acceptance of universal humanism ("Introduction" 4).

²⁶ Freud's observation about heliocentrism and evolution was based on his reading of Emil du Bois-Reymond, who first made the claim, argues Bois-Reymond's biographer Gabriel Finkelstein (Horgan).

of the Cartesian “I think therefore I am” to “I think where I am not”; and Ferdinand de Saussure and Jacques Derrida’s deconstruction of the structures in which meaning is produced; as well as a whole range of more recent informational and biological techno-scientific breakthroughs that promise or threaten to radically reshape the collective and individual human body (Badmington “Introduction”; Derrida *The Animal* 136-140; Haraway *When Species Meet* 12; Morton *Ecological* 118; Sloterjijk “Rules”; Žižek 163-165). Various arguments that the concept of “the human” inadequately equips us to understand a chaotic, interconnected, nonteleological existence are grouped together—sometimes awkwardly—under the heading “posthumanism.” Thinking with the examples of insects (and other complicated figures), in place of the human, can help in posthumanist efforts displace the limiting human paradigm.

Posthumanism is explained somewhat differently by its different theorists, at times in incommensurable ways; however, despite this intrinsic heterogeneity, three central themes predominate, each of which is relevant to understanding why insects are so useful to posthumanist thought. While writers focus to varying extents on these— the imperfect construction of humanism, technology, and animals—and sometimes concern themselves with only one such aspect, these themes have not operated in isolation; names that are closely associated with one theme often also address the others to a lesser extent.

The first posthuman focus is the least clearly-defined, and generally the least insect-focused: critical and philosophical critiques of the human and humanism on the grounds of its historical construction and use (its genealogy, in Foucauldian

terms) precede and exceed explicitly posthumanist discourse. In addition to Darwin, Freud, and the other aforementioned names whose work has “insulted” the human, thinkers such as Michel Foucault, Claude Levi-Strauss, Roland Barthes, Frantz Fanon, Louis Althusser, and Judith Butler have been labelled “posthumanist” for their interrogations of the way “the human” has been used as a tool to enforce certain social arrangements. Both Foucault’s *The Order of Things* and Levi-Strauss’ *The Savage Mind*, for example, remind us that “the human” was not revealed by the Enlightenment so much as invented by it. Philosophical posthumanism might also be understood as an umbrella term covering a great deal of what Richard Grusin labels a “nonhuman turn,” such as thing theory, object oriented ontology (OOO), actor-network theory (ANT), or new materialism.²⁷ These theories are more amenable to including insects: work in these fields de-emphasizes human conscious intent and agency and foregrounds interconnected networks of ongoing causality (or processes) formed of human and nonhuman entities (including insects); however, these authors only sometimes invoke posthumanism. Explicitly posthumanist philosophy also includes writers who synthesize the others’ critical insights into theories of posthumanism (Badmington *Alien Chic*, “Approaching

²⁷ Grusin argues that the nonhuman turn is distinct from posthumanism, but this rests on his assertion that the posthuman is understood to come *after* the human, as a next step—which definition seems to apply mainly to transhumanism and only to a small subsection of nominally posthuman writing. For an explanation of “thing theory” see Bill Brown’s *A Sense of Things* and “Thing Theory”; for OOO, see Ian Bogost’s *Alien Phenomenology*, Timothy Morton’s “Here Comes Everything,” and Graham Harman’s “Well-Wrought”; for actor-network theory, see Bruno Latour’s *Reassembling the Social*; and for new materialism, see Jane Bennett’s *Vibrant Matter* and Iris van der Tuin and Rick Dolphijn’s *New Materialisms*. Karen Barad’s “agential realism” should also be included amongst these works for its prioritization of materiality over linguistic or semiotic meaning (“Posthumanist Performativity”).

Posthumanism,” and “Theorizing Posthumanism”; Hassan; Hill). Amongst these, Judith (Jack) Halberstam and Ira Livingston’s introduction to the essay collection *Posthuman Bodies* is particularly useful for considering the insect as a posthuman figure.

Halberstam and Livingston frame posthumanism not as an “evolution or devolution of the human,” but as a challenge to the historical use of the concept to “domesticate and hierarchize difference within the human ... and to absolutize difference between the human and nonhuman” (10). They point out that only those who are advantaged by the concept of the human have the luxury of remaining ignorant of its failings, and in that respect, posthumanism can be a common project of everyone denied that privilege, despite their difference from one another. For this reason, the authors refute the notion of a singular or “best” posthuman figure in favour of multiple posthuman bodies and “multiple viabilities” (18; 9-10). This is the sense in which I describe insects as posthuman—as a cluster of complicating figures that can help to displace dominant and dominating assumptions about the human, and potentially open up alternative possibilities. Insect figures act as embodied sites for deconstructive thought as they hold in tension apparent dichotomies such as nature and technology, or the intimate and the alien. This dissertation shows ways in which insects serve this function in discourse about historical time, which is an argument that is supported by Halberstam and Livingston’s claim that “posthuman bodies do not belong to linear history. They are of the past and the future lived as present crisis ... posthuman narratives ... have all but replaced previous masternarratives about humanity” (4). Stories that describe Man’s creation of

History and Progress are, as this dissertation shows, disrupted when one brings insects figures into the frame. The human has been co-constructed with history and progress; challenges to each of these necessitate revisions of the others.

Some writers have focused their discussions of posthumanism on technological challenges to humanism (Fukuyama *Posthuman*; Graham; Gray; Hassan; Hayles). These tend to argue that innovations such as information and computing technologies (ICT) and bioengineering necessitate a redefinition of the human. Technologically-oriented posthumanist thought overlaps at times with progress-centred “transhumanist” or “exohumanist” theories that imagine the human achieving control over its evolutionary progress and capabilities, potentially to the point of achieving a god-like status (Bostrom; Kurtzweil; Moravec; Vinge). Cary Wolfe and Eugene Thacker both argue that this latter sense of posthumanism intensifies Enlightenment-derived humanist ideals (inevitable human progress, the power of rationality, etc.) and should be distinguished from posthumanism as a form of critique (Wolfe *What is Posthumanism* xiii; Thacker “Data Made Flesh” 75). As a figure associated with the deconstruction of human exceptionalism, rather than the transcendence of the human, the insect is a better *posthumanist* figure than it is an *exohumanist* one.

Critical technological posthumanism frequently describes humans as “cyborgs,” co-constituted by their technologies (Haraway *Simians, Cyborgs and Women*). Insects’ frequent figuration as machinic/technological bodies, combined with their capacity for (often unwanted) intimacy with human bodies, inclines us

toward their use in imagining technological posthumanisms.²⁸ Scott Bukatman, in his discussion of Bruce Sterling's use of insects to figure the "imbrication of human and machine," observes that insects are "the most evident metaphorical process conflating a number of irreconcilable terms such as life/non-life, biology/technology, human/machine," and are thus useful to Sterling's posthumanist work of revealing "the human as a complex network of biological, political, technological, economic, and even aesthetic forces" (106, 107). Technological and aesthetic forces are simultaneously embodied in the insect in Norah Campbell and Mike Saren's conceptual development of a "posthuman aesthetic" and "posthuman biology." The authors argue that

contemporary technoculture is an era of *insectophilia* or a love of insects and arachnids; spiders, ants, and bees appear with regularity in images of high-technology, enlisted because they embody the logic of high-technology which values decentredness, microprocessing and swarm intelligence. Bees, ants, spiders and worms provide ways of conceiving life in a posthuman era.

Colonies, swarms and teems create metaphors to understand decentredness, rhizomaticity, distribution and microprocessing. (168-169)

Campbell and Saren analyze such posthumanist figurations and metaphors to elucidate "non-humanist conceptions of life"; in particular, they attend to metamorphosis as it reveals "life not as being, but as perpetual becoming" (152). They point out the difference between *morphing* (imagined as the technological achievement of effortless, painless ontological fluidity) and *mutating* ("the visceral,

²⁸ The insectile machine / machinic insectile tracking "bug" removed from Neo's navel in the film *The Matrix* offers a visceral image of this technological intimacy.

painful and embodied experience that results from ontological boundary clashes”)(165). Technological posthumanism fantasies can be at risk of imagining friction-free transformations and encounters. This suggests the value in maintaining the abject, visceral, organic, frightening or disgusting aspects of insects when using them to think with. Bodies, especially living ones, are messier and more difficult than they appear in abstraction. They are prone to leaky residues and breakage, and are not always easily compatible with one another. Insect-machine hybrids figure prominently in posthumanist imaginaries; this offers a number of opportunities to restore abject matter to sanitized, friction-free images of the future and thereby provoke more complex thinking. While intimacies with animal others (and other transformative encounters) are sometimes naïvely presented as purely good things, using insects and other abject animals as examples can require us to think more carefully.

The third main theme in posthumanist thought, which is especially important to understanding insects’ posthumanist work has been a critique of the distinction between human and non-human animals (Agamben *The Open*; Chen; Cole et al.; Derrida *The Animal*; Deleuze and Guattari *A Thousand Plateaus*; Haraway *Simians, Cyborgs and Women*; *When Species Meet*; *Staying With the Trouble*; Wolfe *Animal Rites*; Worsham). Claude Levi-Strauss argues that animals act as totem figures not just because they are “good to eat” but also “good to think,” that is, their variety of affects provided the material with which to figure ideas, social relations, and

cultural institutions (*Totemism* 89). This dissertation suggests that insects are good to think, particularly in posthumanist ways.

Animal studies scholars explore the historical and ongoing use of (frequently specious) statements about animals in order to consolidate a human identity, observing that animals are frequently possessed of affects imagined to be reserved for humans while humans are not self-identical with their definitions for their species. That is, animals have been aggregated and collectively defined by what they lack in comparison to humans—but not all *homo sapiens* “count” as human, and no human person can completely embody that category. Alternative terms, such as “non-human animal,” “more-than-human” “multispecies ethnography,” and “multispecies justice” have come into existence in an effort to avoid reifying the false dichotomy; they appear in this dissertation for the same reason (Kirksey and Helmreich; Heise *Imagining Extinction* 162). Not all of the work in the field of animal studies is posthumanist, nor do all of the writers who decentre the human in their discussions of animals associate themselves with posthumanist discourse.²⁹ However, implicitly or explicitly, animal studies discourse shows the borders between human and nonhuman lives to be inherently troubled. Insects’ capacities to trouble physical human boundaries mean that they are useful for troubling our conceptual boundaries also.

²⁹ Animal studies focusing on human relationships with, or representations of, certain animals can preserve humanist ideals. Animal studies emerging from an animal-rights lineage, for example, sometimes rely on an essential image of the human in order to assign blame, and/or to claim animals’ protection depends on some form of universal human ethics or agency.

Steven Shaviro, for example, uses insect figures to critique the humanist view of the primacy of language and consciousness in “Two Lessons From Burroughs.” Following Michel Serres’ work in *The Parasite*, Shaviro uses insects to argue against the autology of language (41-44). Shaviro sees tapeworms and their ilk as images of the “endless chains of appropriation and transfer” between systems (44). He opposes this insect-centred view to Martin Heidegger’s claim that language represents or makes available the world for humans, declaring instead that language “intervenes in the world, invades the world, appropriates the world” (42). Since the human subject is interconnected with (or infested by) others’ language uses, consciousness is not a sovereign ground from which to achieve transcendent knowledge. Instead, consciousness is parasitical and parasitized: opposed to humanist notions of individualism, self-determination, and personal sovereignty and autonomy. Shaviro thus sees insects as totems of postmodern, posthuman being. Shaviro explains embodiment as likewise dependent upon the bodies of others: no body can make moral claims based on being originary, when parasitism is the universal condition. Shaviro implies that this situation is intensifying: he describes contemporary biology as “increasingly oriented toward what might be called an insect paradigm” (49). That is, like arthropod bodies, postmodern bodies are “neither 'vitalistic' nor 'mechanistic'” but structured around experimentation, repetition, and the articulation and rearrangement of different kinds of segments.

Shaviro argues that as the epitome of life that incorporates otherness, insects provoke humans’ discomposure in the face of such intimacies. Insects—particularly those with metamorphic life cycles—demonstrate the potential of “radical

becomings,” (“even if ants and bees would co-opt this difference into the homogenizing mold of the State”), while in human observers, their alien ways of eating and reproducing inspire “vertiginous shudders of gastronomical nausea and sexual hysteria ... an enthralled disgust [that] is crucial to the postmodern experience of limits” (46, 48). The ambivalent reactions insects provoke show us aspects of existence that we cannot eradicate, but also have not assimilated; they also impede our collective disavowal of the fluid processes of exchange of which all our lives partake. Shaviro’s posthumanist critique moves between philosophically- and biologically-based argumentation, echoing the methods of those thinkers he counters, such as Heidegger, who have used only so much zoology and entomology as would support their claims to human exceptionalism.

Insects, Uexküll, *Umwelt*

The place of insects in posthumanism—and animal studies and theories of temporality—cannot be understood without considering their place in the work of theorist and biologist Jakob von Uexküll and those he inspired. Insects ground Uexküll’s biophilosophy, which decentres the human world—and potentially by extension the philosophies constructed thereupon—in favour of a relativist argument that ontologies are corporeal. That is, insect figures enabled Uexküll to argue that all creatures, including humans, exist in a world shaped by the limits of their perceptions. Uexküll uses the radical difference of insect temporalities to extend relativity even to the experience of time. In recent years, Uexküll’s writings have come to be recognized for their considerable influence on twentieth- and

twenty-first century philosophy and culture. His *Umwelt* theory, a major insult to solipsistic humanism, was widely circulated in biological and philosophical discussion at the time, and reappears in the work of important subsequent thinkers such as Martin Heidegger, Giorgio Agamben, and collaborators Gilles Deleuze and Félix Guattari. Of interest for this study is the reappearance of Uexküll's insect figures in his followers' theories: even at a remove, these insects demonstrate potent concept-transforming affects.

Umwelt ("environment," or "surrounding world") refers to the perceptual world inhabited by an organism, based on the specific sensory inputs their bodies are or are not equipped to register. Uexküll argues that beings are not clearly divided from their environments; therefore, we should

imagine all the animals that animate Nature around us, be they beetles, butterflies, gnats or dragonflies who populate a meadow, as having a soap bubble around them, closed on all sides, which closes off their visual space and in which everything visible for the subject is also enclosed. (*Foray* 69)

For each animal, the world consists only of what it can perceive: this goes also for humans, who cannot, for example, see some of the wavelengths that are perceptible to bees, or smell scents that dogs can register. This means that in Uexküll's view, different creatures' lifeworlds are incommensurable; different lives have different worlds. Humans do not have unique access to the objective world as a whole, as had been assumed by Enlightened Western humanist philosophy. According to Uexküll,

we can try to imagine—but never directly know—experiences beyond those of their own species.³⁰

Üexkull develops the theory with reference to his study of the tick, which becomes a central conceptual animal for his work. He observes that the tick manages to find a warm-blooded animal to feed upon despite being sensitive only to butyric acid, collision (touch) and warmth. While other scientists noticed that the tick responds to these stimuli, von Üexkull takes an interest in the *absence* of responses to other stimuli than these three: he theorizes that for the tick, the rest of the world, the “human world,” simply do not exist. For him, lifeforms only register the kinds of sensory inputs that are relevant to their life purposes:

From the enormous world surrounding the tick, three stimuli glow like signal lights in the darkness and serve as directional signs that lead the tick surely to its target. ... The whole rich world surrounding the tick is constricted and transformed into an impoverished structure that, most importantly of all, consists of only three features and three effect marks—the tick's environment. However, the poverty of this environment is needful for the certainty of action, and certainty is more important than riches (51).

The signs that the organism perceives are an “impoverished” subset of the information that surrounds it, so the world of the creature is only as complex as the

³⁰ Thomas Nagel makes similar point in his widely-cited essay “What Is It Like To Be A Bat,” a thought experiment in consciousness in which Nagel argues that though humans can *imagine* flying, navigating by sonar, eating insects, etc., the human brain has not experienced bat-embodiment from birth and cannot accurately empathize with the mindset of a bat. Nagel argues that objective knowledge is not strictly speaking possible, because any perceiving consciousness is formed by their subjective experience.

creature itself. The tick's entire world can be explained by only three signs; for it, the rest of the world simply does not exist. The simplicity of the tick's *Umwelt* allows Uexküll to expound his theory in an accessible way.

That different creatures register different signs is not, for Uexküll, a hierarchizing claim. Though he sees some animals as having simple bodies and environments, and others as more complex, he holds that "all animal subjects, from the simplest to the most complex, are inserted into their environments to the same degree of perfection" (50). The honeybee, Uexküll tells us, can distinguish between "open," bloom-like shapes such as stars and crosses and "closed," bud-like shapes like circles and squares; it can register four colours, ultraviolet, blue, green, and yellow; and it knows the smells and tastes pertaining to nectar and pollen (*Foray* 84; "New Concept" 120). Though its awareness is simple, it is neither machinic nor human: "the bee collecting honey does not see the meadow with human eyes, nor is it without feeling like a machine" (*Foray* 163). This understanding of the environment as something determined by subjective embodiment, rather than as an objective, consistent external milieu, brings Uexküll's theory into conflict with what he understands to be the predominant paradigm of the world.

Uexküll argues that canonical Western philosophy takes the view of the physiologist, which treats animals as unfamiliar machines operating in the human world (i.e. as Cartesian automata). He claims that the biologist's insight is to recognize that "each and every living thing is a subject that lives in its own world, of which it is the centre. It cannot, therefore, be compared to a machine, only to the machine operator who guides the machine" (45). This perspective grants non-

human life forms a form of something like subjectivity. Uexküll claims as much when he refutes the positivist insistence that objects do not vary, but are only misperceived by deluded subjects. He claims that such a belief is impossible for anyone who knows about animal *Umwelten*, demonstrating the variability of objects for different subjects with the example of a flower stem. In the human *Umwelt* the stem is “a support for the flower,” but for the meadow spittlebug, it is “a pipe full of liquid” with which to “build its foamy nest”; for the ant, it is “an upward path”; and for the cow, the stem is “part of a tasty morsel of food” (Uexküll “Introduction” 108). Uexküll does not reserve for humans the subject-position from which objects become “things,” but leaves them as one perceiver amongst many.

The inclusion of nonhuman animals’ subjectivities in the construction of worlds clearly connects to previous displacements of the human from the centre of the universe. Uexküll connects *Umwelt* theory to the Copernican revolution, likening the acceptance of the heliocentric universe to the realization that *every* animal is the centre of its own universe (109). He claims, too, that recognizing that the human world is circumscribed by *Umwelten* is “only a short step” from Immanuel Kant’s revelation that the universe is “merely a human form of perception” (109). Kant’s assertion, that humans do not access things-in-themselves, but only the reality that can be perceived by our senses (that is, we imagine ourselves to access *noumena* but really only perceive *phenomena*) suggests to Uexküll that other species’ phenomenal experiences are also valid worlds (Kant, *Critique of Pure Reason*). Whereas later theorists influenced by Uexküll, such as Bruno Latour, will suggest that individual subjectivity is not a particularly useful focal term for understanding processes and

interactions, Uexküll himself extends subjectivity to all animals, corresponding more closely to those who, like Donna Haraway, extend personhood beyond the bounds of the human (Latour “On Recalling ANT”; Haraway *Staying With the Trouble*; Uexküll “Introduction”). Uexküll’s interest in animals’ lifeworlds is not in locating the basis of human exceptionality, but in gaining a more complete appreciation of creation.

Uexküll sees animals and *Umwelten* as inherently interconnected, and explains his idea through a series of musical metaphors. Organisms and their environments are consistently described as harmoniously linked, similar to instruments and their musicians (*Foray* 189). Each musician plays notes that fit with one another, but collectively, these sounds also have a place in a greater score, which is harmonious in part because the instruments are compatible. This also describes Uexküll’s understanding of the relationships between *Umwelten*: they are “connected according to a plan as the notes of an oratorio are harmonically connected. It is thus musical and not mechanical laws that we need to study if we want to find out about the laws of Life” (Uexküll “New Concept” 117).³¹ Beings constitute elements of each other’s environments, and they can interact because they are innately predisposed to various kinds of harmonious couplings.

The harmonious fit between organisms is imagined as an interpenetration of being: Uexküll speculates that “were the flower not beelike and the bee not

³¹ Shaw et al. suggest this tendency toward creationism seems to be in tension with *Umwelt* theory’s emphasis on animals’ distinct inner worlds and general consonance with modern science (263). Indeed, Uexküll took issue with the incompatibility he saw between Darwinian evolution and “the interlinked purposeful harmonies of perceiving organisms” (*Foray* 5). Uexküll’s endorsement of a great universal harmony, however, still does not insist on a separate and ultimate destiny reserved for humans alone.

flowerlike, the consonance could never work. ... the spider's web is configured in a fly-like way because the spider is also fly-like" (Foray 190). The inextricable co-constitution of being and environment reframes discussions about the environment and human relationships with nonhuman lives. Rather than being a matter of the effect humans have upon a passive exteriority, ecological change is a more intimate process: "if every organism is not so much a discrete entity as a node in a field of relationships, then we have to think in a new way about ... the interdependence of organisms and their environments [and] their evolution" (Ingold *Perception* 4). That is, though beings cannot fully know the experience of one another, neither can they imagine themselves fully autonomous from one another. Terrestrial life is a song of which we are all part, but which no one can hear in its entirety. This insight poses a problem for addressing climate warming and other global changes, as is discussed in the next chapter.

The temporality of *Umwelten* is of particular importance for this dissertation's concerns, and for understanding the reception of Uexküll's work. Each *Umwelt* implies a specific temporality, which assertion is explained, again, with reference to the tick. Von Uexküll observed that in the absence of sensory inputs that would "disinhibit" it, a tick could be held in a state of suspended animation for eighteen years. While a human moment lasts one eighteenth of a second, he noted that it would be "simply impossible for an animal to endure an unchanging environment for eighteen years," which led him to argue that the tick must be "in a state similar to sleep" (Foray 50). The body of the tick, then, determines its

relationship to temporality; in *Umwelt* theory, the centrality of the experiencing subject is all-determining:

Time, which frames all events, seemed to us to be the only objectively consistent factor, compared to the variegated changes of its contents, but now we see that the subject controls the time of its environment. While we said before, “There can be no living subject without time,” now we shall have to say, “Without a living subject, there can be no time.” (52)

For von Üexküll, not only does each life create its own external environment through its sensory inputs, but each life also determines its temporality (a Bergsonian view of the life *as* rather than *in* duration). The view of time here is possible only because of the tick’s insect affect; only an unloved being would be kept un nourished for eighteen years, and most other creatures could not survive such treatment. *Umwelt* theory relies on the insect for evidence for its broader claim that there is no single world or universal time, but as many spatial and temporal realms as there are kinds of bodies.

Though we can never directly access others’ experience, our capacity to imagine insect *Umwelten* can lead to radical reconsiderations of time, as Uexküll and his tick show. This is due to insects’ alien temporalities, but according to Stephen Loo and Undine Selbach, imaginative work itself is facilitated by insect affects. They argue Uexküll can speculate about other *Umwelten* because he adopts a mode of perception based in a child’s relation to insect life. They claim that the “performative, imaginative dimensions” of childhood entomological encounters produce “new alignments between biological, psychoanalytic and ethical registers,

which are important for an ecologically oriented ethics, and emerge in the act of performance” (81).³² However we understand the mechanics of the affective relationship between insects and humans, it is apparent that they have an influence on our thoughts. Many contemporary posthuman theorists, particularly new materialists such as Jane Bennett, would thus encourage us to consider the ticks, bees, dragonflies, and other insects Uexküll observed as agential co-contributors to his theory of temporality and knowledge. Only through interacting with insects and their affects could Uexküll come to explain *Umwelten* in the way that he did. In that sense, we should include insects in the history of *Umwelt* theory and its considerable intellectual legacy.

Uexküll’s study of signs in the natural world brought together biology and semiotics, making his work available and appealing for an audience that extended far beyond the scientific community. He shows semiotics to be more than the study of human arts, but a way of interpreting life, and—given that beings navigate the world via their negotiation of signs—a way of living. Uexküll’s discussion of organisms’ control mechanisms and their interactions paved the way for the development of cybernetics, which discussion has not been confined to scientific and technological spheres, but has had a philosophical life of its own (Lagerspetz). *Umwelt* theory was taken up in early twentieth century artistic and architectural circles, influencing such avant-garde creators as Mies van der Rohe, Theo van Doesburg, and Adolphe Behne (Botar). In literary circles, Uexküll’s influence was

³² Children’s affects, like insects,’ imply unique temporalities; this is examined later in this dissertation, in the discussion of Please’s film “The Eagleman Stag.”

similarly considerable. He published in several cultural journals, reaching many writers such as Gottfried Benn, Thomas Mann, Rainer Maria Rilke, Raoul Hausmann, and Aldous Huxley (and eventually influencing contemporary authors such as Peter Høeg) (Herwig 554; Høeg). Malte Herwig suggests that this may be because Uexküll's "combination of physiology of perception and Kantian epistemology in a conception of reality ... made his theory an eminently attractive model for combining individual expression and universally valid truth" (554). Certainly Uexküll's work was pivotal in subsequent discussions of humans and humanism. It was taken up both by thinkers who wanted to retrench humanism, and those who wanted to explode it, particularly Gilles Deleuze and Félix Guattari and the thinkers they inspired.

Heidegger's Appropriations of Insect Ethology

Heidegger's philosophy exhibits important aspects of the humanist history that is troubled by thinking with insects, and reading the explicit and implicit presence of insects in his work demonstrates the deconstructive capacity of such an approach. Heidegger's critique of onto-theological philosophy was an important element in the intellectual history of posthumanism, yet he remained deeply invested in metaphysical, exceptional humanism. Heidegger writes,

that period we call modern . . . is defined by the fact that man becomes the center and measure of all beings. Man is the subjectum, that which lies at the bottom of all beings, that is, in modern terms, at the bottom of all objectification and representation. (*Nietzsche* 28)

Heidegger draws heavily on Uexküll's discussion of *Umwelt*, including insect examples, in developing his own philosophies of *Dasein*, uniquely human existence, or being, and *Welt*, world.

While Uexküll treats humans as one species amongst many, Heidegger describes humans and the (unitary, homogenous) animal as fundamentally different: animals are restricted to their environment, while man alone has access to the world (*Fundamental* 239).³³ Heidegger makes a comparison between a stone, which is “worldless” (*weltlos*), the animal, which is “poor in world” (*weltarm*) and man, who is “world-forming” (*weltbildend*) (272). In explaining what is meant by the comparison, Heidegger sets aside the stone, which is without agency or sense, more or less immediately. The animal is poor in world because it is—according to Heidegger's reading of Uexküll's insects—“captivated” by its sensory inputs, to which it is instinctually driven to respond (241-249).³⁴

Heidegger draws on Uexküll's descriptions of honeybee behaviour to make this argument. He argues that bees do not recognize nectar or honey *as such*, describing the behaviours of bees placed at a bowl of honey. Normally, a bee will consume some honey and fly away, but according to Heidegger this is not because it understands that there is “too much” honey for it to eat: a bee that has had its abdomen cut away will suck up honey indefinitely, which “shows conclusively that

³³ In *The Open*, Giorgio Agamben argues that this difference is intended as a difference of *kind*, not *degree*, though it is challenging to read the difference other than as another argument for animal privation (this is the way that Derrida reads the construction in his conclusion to *The Animal That Therefore I Am*, for example).

³⁴ Heidegger's stance on the status of the animal in relation to world varies to an extent across his corpus; at times the animal is world-absent rather than world-poor, for example (“Origin”).

the bee by no means recognizes the presence of too much honey” (242). The un-maimed bee’s instinctive drive to suck honey can only be interrupted by a signal of fullness from its abdomen, at which point another instinct (to fly to the hive) seizes it as completely as did the drive to eat. Insect affect, specifically bee affect, (or perhaps the pest ontology imagined by Mavhunga) is fundamental to Heidegger’s ability to make this claim. One would not so casually cut open the guts of a more charismatic animal such as a puppy, and if one did, the results would certainly be different: the relevant insect affects include their capacity to provoke a particular emotional response (indifference) in humans experimenters, as well as the ability of their bodies to persist in certain behaviours (sucking honey) even in the face of severe bodily mutilation.

In comparison to the human capacity to “apprehend” the sun *as* sun, or honey *as* honey, Heidegger’s bee (synechdotally standing for all animals) has “every apprehending of something as something withheld from it” (247). Animals are enclosed in their *Umwelt*, (which Heidegger calls their “disinhibiting ring”), in which their instincts bar them from everything but their immediate, present sensory experience, and are therefore unable to recognize patterns or form concepts by which they could come to understand the world. This is Heidegger’s reading of Uexküll’s description of *Umwelt*, and it explains why he claims animals “cannot die ... but can only come to an end”(263; 267). Without the capacity to narrate or comprehend itself as proceeding through a life, the insect or other animal cannot interpret its cessation as death; it can only cease.

While Heidegger insists that Uexküll's work is "one of the most fruitful things that philosophy can learn from contemporary biology," and that it should not be thought "philosophical[ly] inadequate," he also argues that Uexküll's "whole approach does become philosophically problematic if we proceed to talk about the human world in the same manner" as animals are discussed (263). He goes on to argue, *contra* Uexküll,

it is *not* simply a question of a *qualitative otherness* of the animal world as compared with the human world, and especially not a question of quantitative distinctions in range, depth, and breadth—not a question of whether or how the animal takes what is given to it in a different way, but rather of whether the animal can apprehend something *as* something, something *as* a being, at all. If it cannot, then the animal is separated from man by an abyss. (264)

Heidegger sees humans as uniquely able to perceive this abyss, because humans alone are able to separate themselves from the intensity and immediacy of stimuli enough to conceptualize their surroundings, and in this, he sees man as uniquely able to know the world, in its positive and negative possibilities, as such. Only a suspension of experience, that is, makes room for speech. The animal, according to Heidegger, cannot register possibility, or interact with beings "as such," and it is this lack (or in another sense, unimaginable sensory saturation) that forestalls the possibility of animal logos. That is, the lack of the "as such" precedes the lack of language.

For Heidegger, language and world are inseparable, thus only humans can make the world appear, as in artwork (not reducible to explicitly aesthetic creations), which *works* to reveal the world to us (“The Origin of the Work of Art”).³⁵ This capacity for world-building is temporal affect: Heidegger holds that “*time* is that from which *Dasein* tacitly understands and interprets something like being at all” (*Being and Time* 17). We can see this in the human experience of boredom, for in boredom we become aware not only of *a* possibility, but of the haecceity of possibility itself (in the positive and negative sense, as potential-to and potential-not-to) (*Fundamental*). The tick, suspended for nearly two decades, is assumed not to be able to become bored. The “abyss” that separates man and animal, then, is not only that of language, but has to do with the way that different bodies experience (and in the case of the human, “master”) time (80).³⁶

³⁵ In “The Age of the World Picture” Heidegger argues that the “fundamental event” of modernity is “the conquest of world as picture,” that is, the world-view of philosophy is superseded by a view of the world as a picture-object, apart from and mastered by man. Technological modernity limits our notion of the world to that which is present at hand to be used and used up. Heidegger here understands technology in an archaic sense; in ancient Greek, *techne* was both the power of making and the product made (as opposed to nature, *phusis*, which is self-generating and self-developing). This definition sees *techne* as a kind of revealing or bringing into being what wouldn’t come into being on its own, and thus includes *poesis* and *episteme*.

³⁶ A comment Slavoj Žižek makes about Kant in *The Parallax View* could also be applied to Heidegger to suggest that he had to focus on potentiality or abstraction as the realm in which human superiority could be registered, since humans had already been displaced from such a position in the physical world. Žižek describes “the basic paradox of the modern philosophy of subjectivity: the couplet of the humiliation of empirical man and the elevation of transcendental subject,” and argues that while “Renaissance thought ... celebrated man as the crown of existence, the highest term in the chain of created beings ... modernity proper occurs only when man loses his privileged place ... and correlative to this loss of privilege is the emergence of the subject as the pure immaterial void, not as a substantial part of reality” (164). We might similarly relate *Dasein*’s grounding in potentiality and

It is rarely remarked upon that the nonhuman linchpin of such an influential theory of human nature and “the animal” is in fact of a species—and a phylum—that is often excluded altogether from considerations of animals (not only in its absence from discussions of pets and meat, but also in discussions of the animal gaze, the human-animal bond, animal emotions, etc.). One has to wonder if Heidegger could argue with such confidence that only humans can register time, language, and death if he had been required to take into account animals who have been taught to use American Sign Language (ASL), including several dolphins; gorillas Koko and Michael; or Alex the grey parrot, who was shown to exhibit emotions and communicate with abstract concepts, including love and zero (Hillix and Rumbaugh; Pepperberg). Heidegger’s reliance on insect examples—and on a biosemiotic theory indebted to insects—advances his theory of human exceptionalism, because he generalizes his arthropod examples to apply to all nonhuman animals, and because he similarly essentializes human affects, while disregarding the possibility, (preserved by Uexküll), that human modes of imagination are simply one amongst myriad ways of revealing worlds. Heidegger’s discussion of animal being—which might more accurately be thought of as a discussion of insect being—allows him to figure the human as separate from the rest of the earth, which perspective is not helpful for thinking about situations such as genetic engineering and climate change.

abstraction to the Darwinian revelation of a “chaotic, nonteleological” evolving world: a rejection of the terrain of which we are no longer definitively master (Žižek 164).

Agamben's Critique of Bugs in the Anthropological Machine

Philosopher Giorgio Agamben draws on Heidegger's discussion of insects and other animals to theorize how the creation of human exception creates a logic that has also been instrumentalized to exclude people from the benefits and protections afforded humans. In *The Open*, Agamben presents Heidegger's use of von Uexküll's insect studies as an example of how Western philosophy has been a project of "anthropogenesis," the production of the human in distinction from the non-human animal. For Agamben, Heidegger is the apotheosis of a tradition in which ontology is anthropogenesis and metaphysics is the preservation of the human *meta* over the animal *physis*. Recalling that the *animal* figure at work in these theories could reasonably be imagined as an *insect* figure (for reasons explained above) adds nuance and gravity to the political theory Agamben builds from his reading of Heidegger: it strengthens the image of violence that Agamben claims modern politics exposes us all to, and clarifies the immensity of the political task he sets out.

Agamben parses Heidegger to explain the relationship between human exceptionalism and the formation of the political sphere. He reads Heidegger's human as distinguished by the ability to access (dis-close) "the open," the field of possibility and conceptualization, in distinction to "the animal not-open," (which, we will recall, is figured via the starved tick and the maimed bee) (79). This relationship between animal and human corresponds to that of the earth (which for Heidegger is "closed" and without concepts) and the world (which is "open" to humans, if concealed from animals, and created in artwork). In both cases, terms require their counterpart in order to assert their essence: Agamben explains Heidegger's vision

as one in which the open (human) world needs the closed, concealed (animal) earth as its raw stuff or physical basis, while the earth needs the world to unconceal it. Since, Agamben explains, the open is the place of the *polis*, “the originary political conflict between unconcealedness and concealedness will be, at the same time and to the same degree, that between the humanity and the animality of man” (73). That is, the human/animal distinction shares a root logic with the political/apolitical one. This production of the human in distinction from the animal—the production of political man—is a “caesura [that] passes first of all within man,” as the animality *within* man has to be rejected to produce his exceptionality (79). As this project can never be fully accomplished, it has to be constantly reproduced, and this, argues Agamben, is the political expression of the same anthropological (i.e. man-producing) machine at work in Heidegger’s philosophy. The work of delineating the political ambit is, in this theory, modeled on the repudiation of animal kinship; as the paradigm for animal difference, insects figure the epitome of political exception.

This idea is explained in another perhaps clearer way in *Homo Sacer*, in which Agamben holds that the originary moment of Western politics is when *zoē* (biological life, including that of animals) is excluded from *bios* (political life “proper to an individual or a group”). He explains that the framing of *zoē* as outside of *bios* (excluded or banned from it) is in fact an extension of sovereign political power, because the power to *decide* not to (have power over *zoē*) is itself an expression of power (over *zoē*) (*Homo Sacer* 4). Since Western politics has always been concerned to distinguish between itself and “nature” (or those things that *could be political*—

but have been deemed, for the present, not to be), Agamben argues that politics has always been biopolitics, or politics that assumes power over biological life.³⁷

Though in Michel Foucault's initial analysis, biopolitics emerges with 17th century liberalism, and for Agamben, "the production of a biopolitical body is the original activity of sovereign power," the two agree that the explicit politicization of biological life "constitutes the decisive event of modernity and signals a radical transformation of the political-philosophical categories of classical thought" (Agamben *Homo Sacer* 4, 6). Agamben argues that modern state power's increasingly overt focus on health and vitality effects a kind of "bestialization" of man, but he also believes that in so doing, "the modern state ... bring[s] to light the secret tie uniting power and bare life" (3, 6). Political regulations that explicitly seek

³⁷ In brief and reductive strokes, biopolitics is a concept used in social theory, introduced by Michel Foucault, that refers to the extension of political power to include management/control/optimization of (human *and* nonhuman) life processes; which transformation is associated with the ascendancy of liberalism. This transformation is not a *replacement* of sovereign power (the "right to take life or let live") but its supplementation with biopolitical power ("the right to make live and let die") (Foucault, "Society Must Be Defended" 241). Biopolitics involves the disciplining of individual bodies (whose "multiplicity can and must be dissolved into individual bodies that can be kept under surveillance, trained, used, and...punished") as well as the redefinition of the entire human population as a biological entity (no longer "man-as-body" but "man-as-species") (242-243). Under biopolitical governance, power operates and justifies itself through its interventions in the biological life and health of the population. In focusing on the human not so much as an inherently and uniquely rational, ethical, autonomous agent but rather as another biological species, biopolitics can be read as somewhat consonant with posthumanism.

Agamben agrees with the observation that modernity is marked by the ascendance of biological life into the political scene (and notes that Hannah Arendt had made this analysis before Foucault, in *The Human Condition*), but he departs from Foucault by suggesting that politics has always been concerned to regulate the life of the human species, insofar as it has exercised power by reserving for itself the right to regulate which bodies are included in "the human" (*The Open; Homo Sacer* 1-12).

to manage multispecies life—vaccinations against microbial “bugs,” or border control policies aimed at policing “invasive” human and nonhuman bodies alike, for example—for Agamben demonstrate that politics is fundamentally a ban on certain kinds of life.

If insect difference has fuelled the anthropological machine, as is suggested above, it also typifies the danger of being politically unrecognized—a state that we are all at risk of entering in biopolitical modernity, according to Agamben. When *zoē*—“nature,” the animality of humans, and the lives of animals *and* people not considered “human”—is (captured by being) excluded from *bios*, it becomes what Agamben calls “bare life.” That is, bare life is the politicized form of *zoē*. Bare life is vulnerable in the extreme: it is without recognized value and therefore devoid of legal, political, and fraternal protections; but because it is included, in the negative, in the political purview, it is exposed to limitless violence up to and including death—not necessarily for something it *does*, but potentially simply for what it *is*. If modern politics aims primarily to manage populations’ health, it can justify violence against any biological agents—including *any humans*—if they are perceived as health threats. Agamben identifies “overcomatose” hospital patients and prisoners in concentration camps as the paradigms of bare life, but if we take seriously his argument that the animal/human distinction is primary, than the animal that best represents bare life would be the insect, the original figure of difference.

The difference between *zoē* and bare life can be imagined as the difference between an insect outdoors and one inside the home. We can imagine the insect outdoors as never having crossed the householder’s mind: it is *zoē*-like, in that its

fate is entirely unrelated to that person's power. By entering domestic space, the insect becomes subject to the householder's decision: whether a spider, for example, is left alone or squashed, it lives, dies, or suffers according *entirely and only* to the sovereign householder's will. If it is let to live, that decision can at any moment be reversed: this is the precariousness of bare life. In order for this metaphor to function, the householder must represent the entirety of political power, and the outdoors must be un-politicized space (something similar to faraway land as imagined by pre-colonial power, perhaps). Insects outside the home are, in reality, also bare life: they are devoid of rights and subject to any form of pre-emptive violence in the name of health and hygiene. Insects' vulnerability to human decisions outdoors as well as in resembles biopolitical modernity as described by Agamben: there is no "outside" to power, and all insects' lives are bare. The right of decision that biopolitical power holds over any human is the same right humans reserve in relation to any insect. Analogizing insect and human precariousness in this way does not *necessarily* lead to reconsidering human rights and associated humanist concepts, but it does offer an opportunity to think about commonality in ways beyond those afforded by species discourse.

The emergence of a politics that takes an active interest in humanitarianism and the genetic and economic health of populations signals to Agamben that humanity now takes care of itself in terms of its animal life.³⁸ This leads him to posit that Heidegger was "perhaps the last philosopher to believe in good faith" that the

³⁸ If the insect outside the home is a kind of image of *zoē* and the insect in the home is an example of bare life, we might also say that housekeeping has encompassed gardening and agriculture, so that its scope includes the entire outdoors. That is, all insects, like all life, are subject to the decision of the sovereign.

“anthropological machine, which each time decides upon and recomposes the conflict between man and animal, between the open and the not-open, could still produce history and destiny for a people” (*The Open* 75). The notion of history as the unfolding of human will, expressed politically, toward greater freedom, depends on the exceptional human. Agamben doubts the exceptional human still exists, because the tasks of history (the progressive production of human exceptionalism) are incompatible with the transformation of politics into the task of sustaining biological life (76). Human achievements, when framed as the doings of one species amongst many, are less easily conceived of as exceptional, teleological “history,” and more easily seen, like the castles built by termites, as part of the ongoing and ceaseless evolution in which all animals are caught.

Agamben suggests that since the conditions are in place to recognize our own animality and the omnipresent precarity that it occasions, “two scenarios are possible from Heidegger’s perspective.” The first is that “posthistorical man no longer preserves his own animality as undisclosable, but rather seeks to take it on and govern it by means of technology.” That is, we begin to treat neither animals nor ourselves-as-animals as irresolvably mysterious: we evacuate any sense of the unknowable or of the inexhaustible potential that inheres in animality. The second possibility is that “man, the shepherd of being, appropriates his own concealedness, his own animality, which neither remains hidden nor is made an object of mastery, but is thought as such, as pure abandonment”; this would mean “the suspension of the suspension, Shabbat of both animal and man” (92). The image of Shabbat, specifically, evokes the suspension of the *work* of the anthropological machine; it

evokes that day of rest, restored wholeness, and the hope for a post-messianic, post-historical time in which oppression is suspended (Botwinick 418-21). This second possibility is posthuman: we embrace our inability to stabilize others' meaning into predictive categories. We instead dwell in the uncertainty of messianic anticipation, remaining open to each encounter as potentially apocalyptic. Rather than expecting to know a being, as an "animal" or "human"—or "self," or "insect"—we would see that being instead as a potential revelation; a source of unforeseeable, transformative difference. If we imagine an insect when we read Agamben's references to animals, we begin to get a sense of immensity of the transformation he imagines. Insect figures illuminate the starkness and seeming impossibility of the choice Agamben presents us with—and perhaps its hyperbole: the options he gives are to live in a world of hypercontrolled, utterly predictable banality, or to collectively give up the fright and disgust that attends encounters with insects, meeting each earwig, centipede, wasp, and maggot with curious welcome.

Becoming Insect with Deleuze and Guattari

The radically open-minded worldview Agamben imagines, which focuses on the transformative nature of otherness, comes closest to being articulated by Gilles Deleuze and Félix Guattari. Like Heidegger, they appropriate Uexküll's concepts and many insect-figure examples, but build from them a posthumanist, poststructuralist philosophy that differs from Heidegger's in the extreme. In their *A Thousand Plateaus*, insect figures are instrumental in the decentering and dismantling of the

autonomous, self-consistent human subject whose actions, carried out in a passive, external environment, drive history forward. The authors reject the western tradition's over-investment in identity and being, and instead expound a worldview based in interrelated groupings that are always becoming, or changing, and changing each other, in time.

Uexküll's tick figure highlights the importance of environment to an organism's being, suggesting that an animal can be understood through its relationship—its defining fit—with key elements of its surroundings. Deleuze and Guattari expand this vision to think about all being(s) as sets of non-unitary relationships and potentials that come together in “assemblages.” That is, rather than seeing the world as classical humanism does, in terms of consistent, universal terms (“human,” “animal,” “man,” etc.), they emphasize bodies' ever-changing capacities to affect and be affected by (similarly-changeable) entities around them. The authors explicitly cite Uexküll as a progenitor of this “ethological” approach: they “avoid defining [a body] by Species or Genus characteristics” in favour of “count[ing] its affects” following “Uexküll, [who,] in defining animal worlds, looks for the active and passive affects of which the animal is capable in the individuated assemblage of which it is a part” (257). They argue that these affects are generalized to species by physiology, but not by ethology, which recognizes that each body's capabilities, vulnerabilities and so on can only be discovered through experimentation and observation over time.

Departing from traditional, capacious, stable categories—or “molar” configurations—does not mean privileging “the preferred, domestic and

psychoanalytic individual,” with its attendant sticky ideas of uniqueness and autonomy (244). Instead the authors argue that the molar must yield to assemblages of “molecular” multiplicities, defined “by the outside: by the abstract line, the line of flight or deterritorialization according to which they change in nature and connect with other multiplicities” (9). These multiplicities are different groupings of heterogeneous terms (“for example, a human being, an animal, and a bacterium, a virus, a molecule, a microorganism”) that can be understood through their abilities (and inabilities) to change and be changed by one another—relations not of filiation but of “contagion, epidemic” (242). This is a radical departure from classical humanism—particularly from Heidegger’s notion of human Dasein.

Because relation is a continuous condition, entities are always changing in relation to one another, and so rather than “beings,” Deleuze and Guattari discuss “becomings.”³⁹ Things and states only appear, like still photographic images, in a moment of becoming. Human beings, for example, are not stable subjects that experience change but remain essentially the same, but, for Deleuze and Guattari, should be conceived of as the ever-changing intersection of processes (which changes are not infinite, but limited by the affects of each element of the assemblage). This materialist perspective discards the human/animal distinction even within the human, not by reifying one of the terms over the other, but by rejecting both molar categories as well as the divide between them. This perspective implies the possibility that not all of the meaningful interactions we experience will

³⁹ Deleuze and Guattari’s concept of “becomings” owes a debt to Friedrich Nietzsche, who also emphasizes the duration and dynamism in his philosophy (Lorraine 121).

be with humans, but more profoundly, that we are each of us constituted in part by what we abject, including insects.

Insects are helpful for figuring multiplicities and becomings, as we are already accustomed to thinking of them as linked parts of larger wholes (as in swarms of midges); as transformative bodies (as in locust swarms that strip crops); as transforming bodies (as in the transformation of the caterpillar to the butterfly); and as multiply-signifying (as in the silkworm larvae which can be both a grotesque grub and the producer of elegant silks). Reciprocal transformation of bodies can easily be imagined in parasitic figures that feed on and transform their hosts. If there is value in poststructural thought, strange-yet-familiar figures such as insects that help make it less alienating are very important, especially since rethinking the human entails thoroughgoing change in related subjects such as agency, history, identity, and society. Deleuze and Guattari seem to recognize the suitedness of insect figures for their work: Uexküll's tick is far from the only insect figure with which they advance a posthumanist transformation in the way we can understand the world.

The figure of a wasp and orchid (in relation to one another) is a figure on which Deleuze and Guattari draw frequently in order to illustrate how they understand the relationship between (what most would call) beings or (what they call) becomings.⁴⁰ They use this figure in detail to illustrate "deterritorialization (a concept referenced in the preceding paragraph as part of the definition of the multiplicity):

⁴⁰ The wasp and the orchid come up 12 times in the book (10, 12, 25, 31, 37, 44, 69, 190, 238, 265, 293-294, 314).

How could movements of deterritorialization and processes of reterritorialization not be relative, always connected, caught up in one another? The orchid deterritorializes by forming an image, a tracing of a wasp; but the wasp reterritorializes on that image. The wasp is nevertheless deterritorialized, becoming a piece in the orchid's reproductive apparatus. But it reterritorializes the orchid by transporting its pollen. ... It could be said that the orchid imitates the wasp, reproducing its image in a signifying fashion (mimesis, mimicry, lure, etc.). But this is true only on [one] level ... At the same time, something else entirely is going on: not imitation at all but a capture of code, surplus value of code, ... a becoming-wasp of the orchid and a becoming-orchid of the wasp. Each of these becomings brings about the deterritorialization of one term and the reterritorialization of the other; the two becomings interlink and form relays in a circulation of intensities pushing the deterritorialization ever further. (10)

The concepts of de/reterritorialization—as well as “code” and “becomings” have to do with the way organisms and other entities affect one another. In Uexküll’s terms, this has to do with how we appear in and interact with one another’s *Umwelten*; in Heidegger’s language, these concepts relate to how humans make the world appear from the earth. For Deleuze and Guattari, humans do not gain unique access to a world that reveals the earth as it is. They see each instance of world building as an instance of territorialization: a claim on what *is*, and on what is possible.

Deterritorialization is the process of countering territories’ limitations on possible futures; it creates other possible becomings (which is why de- and

reterritorialization are “caught up in one another”). Deterritorialization and the relationship of the wasp and orchid can be more easily grasped by considering how the concepts are rooted in an interpretation of *Umwelt* theory.

For Uexküll, beings can relate to each other when they share essential compatibilities, becoming elements in one another’s *Umwelten*. These compatibilities reveal for Uexküll inherent relations that precede the individual: the spider spinning a web is “fly-like,” for, even before encountering a fly, it spins a web that is the right size and shape to catch its prey (*Foray* 190). Deleuze and Guattari’s paraphrase this as “the spider’s web implies that there are sequences of the fly’s own code in the spider’s code; it is as though the spider had a fly in its head, a fly ‘motif,’ a fly ‘refrain’” (314). This is the same kind of “code” captured in the wasp/orchid image. By “code,” or “refrain,” the authors refer to something like meaning—in the broadest possible sense—used by Uexküll: only certain stimuli or “codes” have “meaning” in any given *Umwelt*, in that they are the only things with which an organism can interact.⁴¹ For Uexküll, these invisible structures of relatedness between beings—their preexisting capacity to share codes—indicate that no organism is autologous. We are always more than ourselves: we already

⁴¹ “Codes” are also “refrains” because we make meaning based on repetition, and we come to have meaning in one another’s lives because of repetition (313). An organism’s bodily colour change can signal readiness to mate, for example, or that same change may be read as meaning “ready to eat.” In both cases, repetition causes a quality to become a sign that cues certain possible interactions, or affects, while suppressing others. Deleuze and Guattari give insect examples (“the wasp and the orchid, or the snapdragon and the bumblebee”) to demonstrate that beings may reciprocally echo each other’s “codes” (314). Uexküll’s aforementioned example of the flower-stem that signifies differently for a spittlebug, ant, and cow clarifies that transcodings are not limited to binary interactions: each body correspond to *many* others’ bodies (Uexküll, “Introduction” 108).

“mean” something *to* and *for* the other (even if, as in the case of the fly and the spider, that something is “prey”).

Deleuze and Guattari see the act of ascribing significance to (making signs out of) another’s code (“transcoding”) as establishing territory (67-68, 315). Territory “borrows from” aspects or fragments of the *Umwelten* around it: “it bites into them, seizes them bodily (although it remains vulnerable to intrusions)” (314). Territories establish domains of properties (in the dual sense of possessions and characteristic qualities), and are therefore about power: they order bodies in assemblages, which contextually determines those bodies’ affects (or the set of possibilities for that grouping). Subjectification, for example, is a kind of territorialization (133, 451). *Deterritorialization* takes primacy away from that established relationship: the orchid deterritorializes the shape of the wasp in that wasp-shape is not only pertinent to wasp-things. It reterritorializes by recontextualizing wasp-shape as an element of its own reproductive system: for the orchid, the wasp’s shape becomes a mechanism of pollen transfer. The wasp, for its part, de- and reterritorializes the orchid by redefining the flower as something with which it can copulate. The “surplus of code” arises in that neither territory is primary; both insect and flower perceive codes that cannot be weighed against one another but which instead coexist. The two bodies shape one another reciprocally, so they can be understood as two co-constitutive elements of a single symbiotic process or becoming: this becoming is a mutual infestation of deeply unfamiliar (non-filial) bodies that redefines the capabilities of each. That is, the assemblages of which they are part determine their unique affects.

Specific insect figures—wasps, ants, bees, mosquitoes, butterflies, worms, cicadas and so forth—populate *A Thousand Plateaus*, but the generalized figure of “the insect” also operates to advance the book’s posthumanist project. In line with this dissertation’s claim that insect figures can help displace dominant temporalities—that insect figures can deterritorialize time—the insect comes up in two descriptions of the “age of insects.” In each of these cases, the figure’s relevant affects are unspecified. The authors exploit the manifold associations of this sticky figure to efficiently glue a number of qualities to the idea of the present time.

The first reference to insect temporality takes the form of a mysterious sentence fragment: “The industrial age defined as the age of insects...” (69, ellipsis in original). The reader is left to determine the meaning of these trailing-off words from the context in which they appear, which is a discussion of the separate levels or “strata” at which affects are articulated and can be observed. Becomings on one stratum can affect other strata, but such resonances are arbitrary: the strata are not hierarchical and their interactions cannot be predicted. For example, “microphysical sectors can serve as an immediate substratum for organic phenomena” and conversely, “cultural or technological phenomena [can] provid[e] a fertile soil, a good soup, for the development of insects, bacteria, germs, or even particles.” Listing these examples immediately before making reference to an “age of insects” foregrounds certain associations that should be metaphorically transferred from insects to the industrial age: collectively, the microphysical bodies evoke infection and contagion, but also imperceptibility and perhaps perceived irrelevance. The industrial age, then, would be one in which sub-perceptual becomings have an

unprecedented animacy or a new ability to bring about changes, the effects of which are not necessarily predictable or desirable. Insects evoke any number of interstrata phenomena: zika-carrying mosquitoes provoke congressional bills; mountain pine beetles depopulate communities dependent on the timber industry, etc. To suggest that disregarded bodies such as insects engage reciprocally with culture and technology constitutes a blow to human exceptionality: from this perspective, humans do not rise above their animality thanks to their transcendent rationality and creativity, but are only aspects of a complex, nonlinear system of emergence that produces both the cathedral and the chrysalis.⁴²

By calling the “industrial age” the “age of insects” at this point in the text, the authors suggest that bugs are an ideal figure for the relationship between specifically *industrial* modernity and contact between different domains and scales, a connection they clarify with another series of examples.⁴³ These examples include technologies of perception—in the broad sense that includes language and conceptions as much as machines—that render us more sensitive to the ordinary

⁴² Theories of emergence reference the decentralized organization of social insects, which are able to achieve feats like the construction of immense termite mounds despite the fact that their interactions are carried out in the absence of a dominant guiding intelligence. Because social insects have little perceptible individuality, they are understood as an element of a larger collective as much or more than as individuals.

⁴³ By “scales,” here, I do not necessarily refer to size; Deleuze and Guattari hold that “the molar works in detail and operates in small groups,” but nevertheless “the molar and the molecular are distinguished not by size, scale, or dimension but by the nature of the system of reference envisioned” (217). Rather, molarity has to do with aggregation and durability, with the formation of clearly bounded territories, and with stabilizing institutions; whereas molecularity is more closely associated with movement, difference, deterritorialization, flows, and process (215, 227, 334-335).

regular occurrence of strange interactions, such as when “a semiotic fragment rubs shoulders with a chemical interaction, an electron crashes into a language, a black hole captures a genetic message, a crystallization produces a passion, the wasp and the orchid cross a letter ...” (69, ellipsis in original).⁴⁴ Deleuze and Guattari, who have argued that industrial capitalism radically accelerates deterritorialization (breaking down the barriers—including space and time—that limit our capacity for desire and exchange), in this section suggest that the technologies involved in bringing about “new massive deterritorialization” also render us increasingly able to register the radical interconnectivity that binds the universe (*Anti-Oedipus* 244).

Deterritorialization (even when it is based on an imperative to reterritorialize the earth as commodity) can reveal the affects of unnoticed, disregarded, or rejected agents of change; because insects are associated with the imperceptible, irrelevant and abject, they can synecdochally figure many such partners in becoming. The problem is that our everyday conceptual apparatus ill-equips us to perceive or appreciate interdependent flows, as power, in western society, inheres in molar “frames of perception “ (Butler *Frames of War*). The ellipses following both of the above references to insects encourage readers to linger in their resonances, taking time to consider the many meanings insects might hold. Since metaphors by definition cannot be resolved, the ellipses amplify what metaphoricality already implies: that a final meaning is forever deferred. Thus, these

⁴⁴ I can't help but wonder if this last example of the wasp and orchid crossing a letter is self-referential, referring to the insect/flower's capacity to influence the authors' own writing. If this is the case, it also brings the reader into the assemblage and points out that the affects of an insect can include effects in readers in distant times and places (and potentially that reader's work, and therefore her readers...).

insect figures also evoke the multiplicity and undecideability of becomings, which cannot be captured by the concepts that would territorialize them into beings.

The second reference Deleuze and Guattari make to the “age of insects” connects becomings and the increasing deterritorialization of the world to an emergent posthuman ethics—though it appears as a theory of animality and music. In discussing becomings as moving from the molar to the molecular, Deleuze and Guattari observe that

the reign of birds seems to have been replaced by the age of insects, with its much more molecular vibrations, chirring, rustling, buzzing, clicking, scratching, and scraping. Birds are vocal, but insects are instrumental... The insect is closer, better able to make audible the truth that all becomings are molecular” (308)

Becoming-molecular refers to departing from molar formations, the well-defined, persistent aggregates by which the world is apprehended and governed. The authors see traditional categories of difference, particularly those pertaining to identity, as existing to privilege one term over another (man over women, adult over child, etc.). They take issue especially with the “moralities or philosophies of transcendence dear to the West,” which idealize historic, unchangeable unities (God is higher than, and transcends, man; man transcends his subordinated animality; rationality transcends sensuous experience, etc.) (*A Thousand* 18, 22, 24, 142, 205). Molar categories build territories. Power—the capacity to concretize the range of potentialities—inheres in molarities. For Deleuze and Guattari, ethics involves turning away from majoritarian values and normative identity categories, and

passing through their alterities or becoming-minor (e.g. becoming-woman, becoming-child, becoming-animal).

Voice, associated with the birds, is also associated with identity, or the self: molar units, territories, transcendent terms idealized in western philosophy. The noises of the insects, however, resonate with all kinds of rhythms or codes. They form connections across scale, strata and time:

the molecular has the capacity to make the elementary communicate with the cosmic: precisely because it effects a dissolution of form that connects the most diverse longitudes and latitudes, the most varied speeds and slownesses, which guarantees a continuum by stretching variation far beyond its formal limits ... [and] suggest[s] the idea of the relations between the infinitely long durations of the stars and mountains and the infinitely short ones of the insects and atoms ... through becomings-woman, -child, -animal, or -molecular, nature opposes its power, and the power of music, to the machines of human beings, the roar of factories and bombers. (308-309).

Becomings are molecular because they involve becoming vulnerable, becoming affected, becoming other-than-oneself. Against the stabilizing institutions of recognition, such as discrete, stable identity, becomings imply exposure to the immanent condition of change, which is also exposure to time.

Deleuze and Guattari insist that “the multiple *must be made*” (6). Their use of insect figures and Uexküll’s entomological ethology is part of the work of dismantling the power of the human and related molar concepts that limit the potential for what is possible. By focusing on individuals, humans, and received

versions of history and time, we reduce our sensitivity to the specificity and mutability of the world around us. We miss out on potential modes of relating or becoming-together, and accept the territories of power as they are drawn. Allowing thought to be influenced by insects—taking on insect affects—is a “relative” deterritorialization that takes a step in the direction of “absolute” deterritorialization, which “brings about a new earth” in all its possibilities. Deleuze and Guattari see the project of deterritorializing the earth as vital:

the stakes here are indeed the negative and the positive in the absolute: the earth girded, encompassed, overcoded, conjugated as the object of a mortuary and suicidal organization surrounding it on all sides, or the earth consolidated, connected with the Cosmos, brought into the Cosmos following lines of creation that cut across it as so many becomings. (510)

Like Agamben, who understands the question of the animal to imply a contest between a world devoid of creativity and surprise and one based on vulnerable receptivity to whatever being arises, Deleuze and Guattari paint an image that contrasts an ossified end of history—in which the humanist project of producing knowledge and mastery has grown to choke or consume everything but itself—to a vaguely imagined (or properly un-imaginable) state of co-evolution, remaining open to whatever-becoming occurs.

Allowing the becoming-insect of our philosophies expands our affects as well as our purviews. It helps us to recognize ourselves as co-constituted with the global systems that we now perceive to be critically destabilized. If we take on the posthuman lessons of becoming insect, processes such as class stratification, global

warming, and mass extinction cease to be something *will* happen, or something that is happening *around* us, but something that is happening *with, through, and in* us.

This dissertation adds to the work of the scholars, writers, and artists already engaged in the work of becoming-insect, and, through their work, including others in these becomings. Such work aims to break up the solidifying, even fossilizing, conceptual apparatus that would reify a specific, fixed fantasy of humanity:

sovereign over themselves and all other lives on the planet, driving forward through history on the path to some universal state of perfect control. I attend to the summons of a number of thinkers and writers who ask that we recognize insects as important others, whose presence on the earth matters. Foremost amongst these is Donna Haraway, whose insights are dispersed throughout this dissertation.

Haraway's Posthuman Menagerie

Throughout her career, Haraway has worked to illustrate and politicize the complex interconnections of which humans are part, insisting upon the variations, fractures, and omissions that mark the human "we" as well as our multifarious intimacies with other living and "lively" others. Haraway's "Cyborg Manifesto" is landmark for posthumanism and the recognition of insect others; in it, she argues for a globalized shift towards increasingly fluid and entangled political spaces and modes of control. Rather than framing this as a threat, she suggests that it has the potential to relieve some of the damage wrought by the "border war" of western scientific and philosophical tradition (*Simians* 150). She argues that three fundamental border breakdowns enable and necessitate new myths and politics: human/animal,

organism/machine, and physical/nonphysical boundaries have become unconvincing.

Haraway argues that existing theories are inadequate to form the basis for a radically inclusive coalition of resistance or response to such global change: Marxism fails to recognize and account for non-class-based differences such as gender, race, and age; psychoanalysis is too rooted in the family drama, ideas of prelinguistic wholeness derived from Judeo-Christian narratives of prelapsarian wholeness, and notions of woman as lesser and other to a universalist male position. Feminism is, for Haraway, the most promising avenue of collectivity, but it potentially too is limited by an essentialist tendency to naturalize concepts such as “women’s experience.”

Given that the dominant modes of analysis are all limited in their inclusivity by their prevailing humanism, Haraway offers the political and rhetorical figure of the cyborg, an “ironic political myth faithful to feminism, socialism and materialism.” Irony, claims Haraway, is necessary to dealing with the new arrangements of global society because it enables one to negotiate “the tension of holding incompatible things together because both or all are necessary and true” a powerful tactic when the range of political actors that now have to be considered may be overwhelming (149). Given that the insect figures the ineffectuality of the same key borders, and also remains ambivalent and undecideable, we may consider it as kin to the cyborg, potentially capable of the same political work.

In a subsequent manifesto, Haraway comes to think of the cyborg as “junior siblings in the much bigger, queer family of companion species” (*Companion Species*

Manifesto 11). Companion species, or “human, animal, and inanimate” beings (implicitly including plants and other non-animal nonhumans) are co-constitutive on “two sorts of time-space scales... 1) evolutionary time at the level of the planet earth and its natural/cultural species, and 2) face-to-face time at the scale of mortal bodies and individual lifetimes” (63). Haraway comes to focus on canine companions more than cyborg ones in order to suggest *unintentional*, undirected co-becomings, though insects, which are less beloved than dogs, are companion species on both of the identified timescales, who remind us that these companionships do not always take forms we would expect, desire, or even fully understand.

Haraway borrows Deleuze and Guattari’s terminology to describe contact between companion species as becomings. “If we appreciate the foolishness of human exceptionalism,” Haraway writes, “then we know that becoming is always becoming *with*—in a contact zone where the outcome, where who is in the world, is at stake” (*When Species Meet* 244). Like Deleuze and Guattari, she focuses on reciprocal transformations amongst companion species that cannot assimilate one another; also like them, she argues that “encounterings do not produce harmonious wholes, and smoothly preconstituted entities do not ever meet in the first place. Such things cannot touch, much less attach; *there is no first place* (287; emphasis added). The posthuman figure of the insect reminds us that there is no objectively correct temporal or spatial frame on which to register companionate becomings, nor any one perspective from which to understand them: becomings are resolutely monstrous, blending the familiar and the alien in unpredictable ongoing configurations.

Haraway and others' insistence on the need to recognize the creative agency of nonhumans corresponds to a number of recent appeals for the inclusion of insects in various domains (Beisel, Kelly, and Tousignant; Ginn, Beisel, and Barua; Casino). Vermicomposting, beekeeping and bee-eating, community gardening, public entomological information programming, and helminthic (hookworm-based) biome reconstruction have variously been given as sites from which to perceive insects' myriad contributions to social life (Abrahamsson and Bertoni; Green and Ginn; Botelho; Lloro-Bidart; Last; Strosberg). Garden slugs, insects deformed by the fallout from Chernobyl, insects in art and moths in machines (the original "computer bug"), disease-bearing mosquitoes, and unloved common ants have formed the bases of ethical explorations of our relationship to different and difficult species with which we cohabit (Ginn; Schrader; Chaudhuri; Ahuja "Intimate Atmospheres"; Kirksey "Interspecies Love"). Works such as these undermine the crumbling walls between humans and other species, asking for more complex, challenging descriptions of difference, kinship, and relationality that does not easily fall into either category. This dissertation argues that insects are not just others with whom we might reconsider our relationships. Because of the historically determined associations we attach to insects, they are also superb figures for rethinking many of the fundamental assumptions through which we assimilate the world. This project lays out a number of cases in which that supposition holds true, and attempts to lay the way for further research from this perspective.

This research emerges from my interest in the striking incongruity between insects' purported insignificance and their frequent appearance and considerable relevance in everyday life. As I became curious about insects, at the beginning of this project, and began to look at their representations in various forms and genres, I found that time was a recurrent theme. I was provoked by the appearance of a great deal of art that plays with time and also prominently features insects—which relationship, I found, was consistent in literature, film, and popular culture more generally. I noted an especially concentrated preponderance of insects in works that could be described as postmodern in their style, methods, or themes, though some of these works are quite recent; this tendency was especially pronounced—and especially stimulating—in neo-Victorian texts, including its subgenre, steampunk. These texts are consonant with science fiction in that they bid us to imagine other times than our own—and reimagine our present in light of the contrast thus created—but rather than reaching to the open future, they invite us to reconsider history and its appearance in the present.

The texts discussed in this dissertation were selected for their capacity to illuminate a pattern that I have observed in my broad readings of insect figuration. To readers who might suggest that confirmation or selection biases influenced the formation of this archive, I can aver that I have looked for and at contradictory cases, and have not found a sufficient volume of material to dispel my perception that insects are quite frequently (but not always) associated with weird time.⁴⁵

⁴⁵ I do not mean to suggest that the mere presence of an insect in a text is sufficient to undermine the homogenous, progress-oriented time of modern history. Some texts do deploy insect figures to support their arguments about the progress of

However and more importantly, this dissertation analyzes a body of texts that show a variety of ways in which insect figuration *can* powerfully disrupt received notions of time: it is meant to examine this insect affect as it operates in a number of discursive sites, rather than to provide a complete overview of every instance in which insects and temporality are both represented.

The first chapter of this dissertation is somewhat anomalous in that it does not focus explicitly on insect figuration. This chapter places subsequent chapters' analyses in relation to discussions of time, history, historiography, and periodizing movements. It outlines the dominant modern temporality that many insect figurations displace. It also explains how the texts I analyze can collectively be considered part of a project of historiographical critique that undermines the postmodern-contemporary divide. This chapter contextualizes my texts' work of displacing temporality in relation to recent critiques of late capitalist temporality and discussions of the Anthropocene; and concludes by synthesizing theories about the politics of temporal divergence, outlining how temporalities are normative, and alternative timespaces—such as those foregrounded in the later chapters—have been identified as sites from which to enact political resistance.

human society. These tend, however, to fit two categories: applied entomology, associated with agriculture and pest control, which field this research leaves aside for the most part; and explicitly didactic, highly abstract (often anthropomorphic) representations of bees and ants, particularly those that echo ancient Greek and early Christian moralizing narratives (Kritsky and Cherry). The latter includes numerous recent uses of insects as models for networked technological societies (Bonabeau and Theraulaz; List and Vermeule, Miller, Mulgan).

The second chapter focuses on insect figures' defamiliarization of historical time in popular science reporting, and postmodern literature, film and art. It identifies ambivalence in reports about the emergence of periodic cicadas, which are simultaneously figured as horrific spectacle and as possessed of deeply desirable temporal affects. It locates a similar effect in Kobe Abe's novels *The Woman in the Dunes* and *The Ark Sakura*, which levy cynical critiques of the banality and futility of conventions of post-nuclear time, and Michael Please's short film *The Eagleman Stag*, a wistful fantasy about escaping the inevitable contraction of subjective perceptions of time. Please and Abe's insect figures have strange powers that resist the impact of taxonomizing, bureaucratic logic on the perception of time, but these affects do not integrate well with human social norms. This chapter also shows how *The Hellstrom Chronicle's* insect figures satirize both documentary film and human historical progress or mastery. It concludes by exploring the contraction of historical time performed by Klaus Enrique's entomological *Darth Vader* portraits, which calls into question the relationship between personal perspective and collective history. The textual analyses in this chapter demonstrate how insects' decentring of normative temporality also destabilizes associated norms relating to human identity.

The third chapter focuses on insects' figuration in the postmodern subgenres of neo-Victorian and steampunk visual art (J. Banerjee; Schiller). The chapter surveys a wide range of artworks in these genres, focusing on their mimicry of the Victorian enthrallment with insects. Their reproduction of the insect motif resonates with neo-Victorian art's capacity to critique normative views of time and

history (many of which originate in the Victorian period). This chapter also explores how these insect figurations evoke ecological trauma and undermine ideals of accumulation. It emphasizes history's co-articulation with ideas about the natural world, and how that entanglement extends insects' capacity to render *time* strange, such that the meaning of nonhumans is also called into question.

The fourth chapter of the dissertation, an extended case study of author China Miéville's steampunk Bas-Lag trilogy of books—*Perdido Street Station*, *The Scar* and *Iron Council*— considers in greater detail the politics of temporal estrangement. It focuses more explicitly on insect time's potential consequences for ideas about race, sex, Empire, and the frontier. Neo-Victorianism has been charged with romanticizing and reinforcing nineteenth century social values. This chapter analyzes the trilogy's figuration of insect and insect-like figures, showing that Miéville uses them to advance historical critique on a number of fronts. Insect figures in the Bas-Lag books enable Miéville to confront gender stereotypes and rape culture; racism; the relationship between diaspora, history, and intergenerational trauma; the interlocking suppression of colonized peoples' resistance and speech; the symbolic function of the frontier in reconstructing multispecies life as resource for consumption; and political, ethical, and epistemological power of art. By presenting emotionally affecting figures of difference in situations that evoke history—but evacuating real-world historical specificity—Miéville uses insects to estrange readers from assumptions that they make about *specific* human populations. Insect-otherness bypasses sets of associations that could impede readers' ability to fairly consider the situations that

the texts evoke. Because no one can perfectly inhabit these insect figures, they can bear multiple associations, thereby calling into view shared points of experience and possibly generating empathetic understanding. Miéville's insects also call historical narratives' self-serving aspects into view, particularly by representing pre-emptive melancholia: the framing of a loss as historically inevitable in advance of its occurrence, in order to avoid the witness' ethical responsibilities (for example the obligation to intervene in the situation). This chapter shows some of the far-ranging transformative potential of insects' figuration of temporal and historical critique.

Insects have been widely disregarded as, for the most part, insignificant forms of life. Anthropocentric historiography represents the world as determined by human will alone, while the nonhuman world has been figured largely as resource or obstacle. Despite an increased interest in the contributions of more charismatic animals to human existence, insects continue to be perceived as no more than minor nuisances. The dismissal of insects has been naturalized over time, which has prevented us from recognizing it as the logical counterpart to human exceptionalism and questioning its validity. Insects and other "weird" life forms evoke the unknown—but more than that, they expose us to the unknowable. They defy the Enlightenment-based belief that man's rationality will, as time progresses, give him knowledge of—and mastery over—the world. This dissertation questions the degree to which insects' assumed irrelevance is in fact a disavowal of the limitations of rationality: a disavowal of that which is difficult or impossible to pin down and fully know. Insects defy borders, change places and forms, and refuse to be self-

consistent in space or time. This dissertation takes seriously the fact that we have reduced a teeming multiplicity of mysterious others, with whom we share myriad intimacies, to a concept—"insect," or the even more trivializing "bug"—with which we attempt at once to contain and dismiss them. When this effort fails (and insects are not ignored as "just bugs"), we witness breakdowns (or bugs) in the anthropological machine, and the singular, obvious distinction between humans and nonhumans appears as a complex, contingent array of questions. Broadening animal studies focus to include uncharismatic animals gives us a better view of anthropocentrism's operations and effects, and augments our sense of the possibilities that lay outside of it. This dissertation thinks with insects to reveal how changes in the way we think about history correlate to changes in the way we understand—and consequently relate to—the environment, nature, animals, and humanity. In so doing, it provides a model for research into other dimensions and ramifications of insect figuration, as well as the metamorphic potential of other non- or posthuman figures. It also promotes becoming-insect as a compelling strategy for scholars and other creators: working with (and through and as) insects exposes humanist assumptions and oversights, increases our affects, and expands the possibilities of our engagements with other times and lives.

Chapter 1: Modern and Postmodern Historical Time

This chapter defines modern historical time, traces key elements in its development, and identifies its major effects, in order to provide background and context for my claim that insect figurations can displace dominant ideas about time. It explains how the texts I analyze are postmodern in their aims and strategies. It also identifies and explores various appeals for alternative ways of understanding time—focusing in greater detail on discussions of the Anthropocene—and specifies how non-anthropocentric and specifically insectile representations might respond to these calls.

Though time and history are not synonyms, history has been the fundamental temporal measure of events' significance in western capitalist society. It has been widely argued that a linear, clock and calendar oriented measure of human progress emerged with the development of modern capitalist production (Adam; Anderson; Birth; Giddens; Neal; Ogle; Postill). While these changes in the concept of time are commonly associated with modernity, they can be observed beginning in the Victorian period, which bears significance for readings of neo-Victorianism, and supports recent work contesting the disciplinary separation of the modern and Victorian eras. The nineteenth century saw the advent of a secularized, instrumentalist, and collectivizing sense of time: workers were intensively yoked to a common clock that measured daily progress. This progress could be compared to that of other nations according to a universalizing calendar. The summation of events measured by the clock and calendar creates the progress oriented, anthropocentric narrative of history.

In the late twentieth century, burgeoning doubt that history, seen as the accretion of human improvements, could be clearly known and understood from the perspective of the present appeared as part of postmodernism's broader questioning of universalizing narratives. Postmodern artists and theorists troubled—but did not wholly displace—modern historical time, demonstrating its increasingly apparent shortcomings. Though criticism of modern historiography predates postmodernism, in this period, such discourse became exceptionally abundant. Despite the putative demise of postmodernism and the proclaimed “return of history” (Barros, Kagan, Welsh), contemporary texts—including neo-Victorian and steampunk texts featuring insects—continue to use postmodern modes of historiographical critique, further contesting the sufficiency of period-based disciplinary boundaries.

Though scholarly confidence in historiography has been deeply shaken, technological changes in daily life have in some ways expanded the linear, universalizing concept of progressive history, and rendered it more *intensive* (for example, athletic and financial histories are made in fractions of seconds) and more *extensive* (as seen in 24/7 capitalism described by Jonathan Crary, and the geological calendar implied by Anthropocene discourse). This entrenched historical time, implicated in social and ecological injustice, is undermined by the insect-centred texts analyzed in the succeeding chapters.

Commonplace ideas about history and human progress are not necessarily or entirely negative, but as unquestioned assumptions, they limit our creative and imaginative capacities; since these ideas have also supported colonialism and

industrial capitalism, they are implicated in the destruction and exploitation of human and nonhuman lives. Time-troubling insect representations can thus be seen as attempts to resist the narrowing of pasts, presents, and futures available to us.

Nineteenth Century Clock and Calendar Time

Ways of thinking about time, including the ascendance of historicity, themselves have histories. The rise of an ideology of rational, linear, efficient time has been described as a key feature of modernity, picking up in the nineteenth century, particularly in its second half (Ogle). Departing from Christian religious temporalities concerned with the infinite and the eschatological, modernity was marked by the standardization and secularization of time, brought about by “social, technological, and economic transformations—from the invention of mechanical clocks to the rise of commercial capitalism to the dawn of the Industrial Revolution” (T. Martin). Lewis Mumford famously argues that the clock is the most important of these, because in extricating time from the daily rhythms in which it had previously inhaled, the clock “create[d] the belief in an independent world of mathematically-measurable sequences: the special world of science” (*Technics and Civilization* 14).⁴⁶

Vanessa Ogle argues that the calendar was more instrumental than the clock in

⁴⁶ Mumford’s claim echoes Henri-Louis Bergson’s work distinguishing “pure duration,” or the personal, embodied experience of movements in time—which elude measurement and can only be imagined intuitively—from a mechanistic, homogeneous and “surreptitiously” spatial sense of time that “enables us to use clean-cut distinctions, to count, to abstract, and perhaps also to speak” (*The Creative Mind: An Introduction to Metaphysics* 2-3, 11-14, 165-68; *Time and Free Will: An Essay on the Immediate Data of Consciousness* 97).

promoting capitalism because it “positioned societies and nations in historical time by inspiring comparison and conversion between different systems” (179)⁴⁷. In the case of both the clock and the calendar, the tool stabilizes and standardizes history. When time can be bound into discrete, measurable units, the actions of workers (in and outside of the workplace) are subordinated to the objectivity of the clock, and the calendar renders nations’ progress commensurable.

E.P. Thompson famously developed the idea that the dominant mode of production engenders a unique temporality and worldview. Thompson contrasts the “task orientation” of pre-industrial labour to the “time discipline” of industrial capitalism (59-61). Task orientation attends to the “natural rhythms” that arise from the rise and fall of the sun, the needs of plants and animals, changes in season and weather, and so forth; it is constituted by “observed necessity,” and involves a softer separation between social life and labour.⁴⁸ To those whose work is time disciplined, task orientation comes across as laziness (60). For them, efficiency is not just an economic but moral value. Thompson posits a “marriage of convenience” between Puritanism and industrial capitalism (similar to the “Protestant work ethic” hypothesized by Max Weber in *The Protestant Ethic and the Spirit of Capitalism*) that

⁴⁷ Ogle does not take the relationship between capitalism and clock and calendar time to mean that the former necessarily depends on the latter; she observes that “capitalism ... continue[s] to thrive on informal temporal arrangements and heterogeneous clock and calendar times” (204).

⁴⁸ Observing that domestic labour, including childcare, is the most task-oriented form of labour, “endurable only because it disclose[s] itself as necessary and inevitable, rather than as an external imposition,” Thompson also characterizes motherhood as having “not yet altogether moved out of the conventions of ‘pre-industrial’ society” (79).

restrains leisure and orders “time thrift,” drawing society together around the idea that “time is money” (95). As currency is by necessity interchangeable, so the individual’s time under industrial time discipline loses its unique character. As described by Thompson, time as experienced by the preindustrial labourer was personal, unique, changing; threaded through the natural and social life of a specific community. The disciplined time that displaces it is universal, in accordance with nineteenth century liberalism: in it, individuals are understood in the context of human history, rather than tradition or community.⁴⁹

Historical time corresponds to the isolation of the industrial labourer, which is also the transformation of the community member into the autonomous liberal subject, according to Walter Benjamin. While Benjamin concedes that changes in religious, aesthetic, and geographic life (e.g. secularization, the rise of the novel and mass media, and urbanization) contributed to the reshaping of time, he singles out modern labour modes for having replaced community-based and -sustaining temporalities with historical time, which situates individuals in relation to capitalist

⁴⁹ Thompson follows Marxist historiographers such as Georg Lukács, Léon Trotsky, Antonio Gramsci, and W.E.B. DuBois. Lukács’ *History and Class Consciousness* is particularly consonant with Thompson’s essay: responding to what he sees as an insufficient account of the historicity of capitalism in Max Weber’s theory of modernity, Lukács locates transformations in the proletariat in relation to historical time. He argues that with the measurement and commodification of labour, cyclical pre-modern time becomes quantifiable (i.e. composed of measurable and therefore comparable units), which he associates with a spatialization of time:

Thus time sheds its qualitative, variable, flowing nature; it freezes into an exactly delimited, quantifiable continuum filled with quantifiable ‘things’ (the reified, mechanically objectified ‘performance’ of the worker, wholly separated from his total human personality): in short, it becomes space.” (90)

In this temporality, workers are alienated—from tradition, each other, and themselves—by a temporality that focuses on the metrics of their labour at the expense of their selfhood.

progress (and, as Benedict Anderson later argues, the nation). The factory's focus on consistent, rational productivity, argues Benjamin, segregates the experience of the modern worker from their⁵⁰ context, so they have but "isolated experience [*Erlebnis*]" ("On Some Motifs in Baudelaire" 336). The standardization of labour evacuates "long experience [*Erfahrung*]," forsaking handcrafting, tradition, skills developed over time, and tradition (336).⁵¹ Martin Jay explains Benjamin's concept of *Erlebnis* as an "immediate, passive, fragmented, isolated and unintegrated inner experience," whereas *Erfahrung* is a "genuine experience": a "cumulative, totalizing, accretion of transmittable wisdom over time, of epic truth," a "wisdom [that] could occur only within a community" (49). Bereft of *Erfahrung*, we can imagine workers' time becoming undifferentiated: people's days are homogenized by the industrial obligation to repeat non-spontaneous tasks; their identities are standardized insofar as their labour is largely interchangeable; and their societies lose the unique character that comes from inheriting, expanding upon, and passing forward traditions of local crafts. Jay notes that Benjamin was dubious that *Erfahrung* had a place in capitalist modernity, (barring, perhaps, the arrival of Revolution or Messiah) (49-50).

⁵⁰ I support and practice the use of the singular, gender-nonspecific "they" in the English language, both out of a desire to linguistically support a less restrictive notion of gender, and out of an aversion to the clunky and exclusionary "his or her."

⁵¹ Benjamin's view of social change participates in a tradition that distinguishes between personal and impersonal societies perhaps best known through German sociologist Ferdinand Tönnies' *Community and Society*, which outlines *Gemeinschaft* ("community"; based on spontaneous personal interactions and traditional social bonds such as family and religion) and *Gesellschaft* ("society"; based on rational will, indirect and impersonal interactions, and bureaucratic social organization).

In his “Theses on the Philosophy of History,” Benjamin relates the emergence of individual-focused temporality to the rise of universal history. Just as messianic time takes all of history as a monad, as the “before” that leads up to the moment of apocalyptic revelation, so too, Benjamin argues, does the historical materialist define the past through its relation to a fixed, static present moment (“Theses on the Philosophy of History” 262-3). Events become historical because they are framed as steps leading inevitably to the present; all moments are subsumed into the greater historical narrative such that the “calendar serves as a historical time-lapse camera” used to compare the present to past (“Theses” 261). Similarly, historical subjects are noteworthy only in the context of the narrative whole: we read “in the lifework, the era; and in the era, the entire course of history” and consequently, “historicism rightly culminates in universal history” (262). Subjects, lives, events: all are combined in a historical “mass of data to fill the homogenous, empty time”—the spaces between the marks on a clock’s face, and the emptiness of an unfilled calendar—in which they are set (262). While messianic time is always potentially apocalyptic, always subject to revelation (264), secular time’s empty homogeneity provides space into which human progress can grow.

Benedict Anderson characterizes this empty time as a temporal *tabula rasa* against which the nation could be drawn. He cites Benjamin for recognizing a paradigm shift from a mediaeval temporality of “simultaneity-along time” to a modern “‘homogeneous, empty time,’ in which simultaneity is... cross-time, marked not by prefiguring and fulfillment but by temporal coincidence ... measured by clock and calendar” (*Imagined Communities* 24). Anderson argues that this paradigm shift

facilitated the ascendance of nationalism. He contends that mass commercial publishing (“print capitalism”)—of the novel and the newspaper in particular—represent temporal coincidence to readers. Novels, for example, depict characters that, though they are strangers to each other, share a time; they are unified in the mind of the reader, who sees them as representing their societies (25-6). The reading practice of imagining whole societies can then be applied to imagine the nation as a coherent historical unit (26). In empty time, the nation’s progress can be compared to that of other nations, as if the tabula rasa of history were a ledger.

Mikhail Bakhtin makes a similar argument in *The Dialogic Imagination*, but identifying realism, rather than print capitalism, as the main precondition for historical time. Bakhtin uses the term “chronotope” to describe “the intrinsic connectedness of temporal and spatial relationships that are artistically expressed in literature” (84). The chronotope unites time and space so that time can be seen, and “the movements of time, plot and history” can animate space (84). Narrative conventions imply different chronotopes; for example, Greek romance’s “adventure time” eschews reference to its heroes’ biographical time (90). Bakhtin explains historical time as the telos of the narrative form: absent in the Greek romance, history emerges until, in nineteenth-century realism, we achieve a chronotope that can “serve for the assimilation of actual (including historical) reality [and] permit the essential aspects of this reality to be reflected and incorporated into the artistic space of the novel” (251-2). Without explicitly questioning the means by which “actual reality” can be accessed before it is represented, Bakhtin here gives a progress-narrative of history. While his main focus is literature, Bakhtin argues that

chronotopes are the basis of “the meaning that shapes narrative” (250). If that is so, figurations of time produce meanings, and figuring alternate temporalities might reshape those meanings.

History aims to describe the history of all nations: of humanity as a whole. Benjamin describes history as the accumulation of data coalescing into a narrative of inevitable human progress toward ever-greater perfection (which idea, though doctrinaire, Benjamin claims “does not adhere to reality”) (“Theses” 260). Empty, common time allows the human to emerge as a coherent subject that can achieve goals. Reinhart Koselleck dates the European creation of history “in and for itself” (as opposed to that of a specific group or subject) to around 1780, though he concedes that differentiating concepts do tend to “creep into” the concept of humanity as the unitary subject of history (*Futures Past* 160). We might read this creeping tendency not as an accident, but as a feature: universal historicism can be used as a tool for discrimination. If humanity has a single path, anyone on a different trajectory can be excluded from—and framed in opposition to—all of humanity.

The concept of a homogenized humanity also produces alienation amongst those it includes, according to Anthony Giddens. Giddens describes measured clock and calendar time as “matched by uniformity in the social organisation of time” (18). That is, like Anderson, he holds that people can be compared to (and brought in line with) one another in the empty context of standardized time. Giddens argues that this leads to “disembedding,” that is, “the ‘lifting out’ of social relations from local contexts of interaction and their restructuring across indefinite spans of time-space” (21). Disembedding is fundamental, in his view, to the emergence of modern social

systems including the use of money, professionalization, and the intensified division of labour. When we cease to imagine others primarily as people in face-to-face relation to ourselves, and can instead imagine theoretical humans (acting in a shared timespace), other abstractions become easier, including the commodification and exploitation of objects *and* people. For Giddens, clock and calendar time is fundamental to modern political and economic systems.

The predomination of rationalized, productive time of modernity was, according to Jürgen Habermas, accompanied by a sense of “anticipation of an undefined future and the cult of the new,” and “new value placed on the transitory, the elusive, and the ephemeral” (“Modernity” 5). Peter Fritzsche also focuses on the modern perception of constant novelty, which he sees as corresponding to a melancholic perception of the past as “increasingly different, mysterious, and inaccessible” (7). This melancholic desire for intimacy with the past was expressed in widespread interest in genealogy, as individual development was read in the context of historical progress, thus, Fritzsche argues, “a historical worldview corresponded to the extension of subjectivity in the modern period” (Fritzsche 9). Perceiving history as a summative record of people, each a new development on the previous generation, fit well with seeing the self as a singular and independent subject.

The unique and self-contained individual subject, as a figure, functions in relation to the idea of historical time. Modern cultural production focused extensively on time and history, making use of the idea of unified and unifying history, and the fleeting presence of the new. Frederic Jameson suggests that

thinking about time went out of fashion in the postmodern era based on the “assumption that it had been largely covered by Proust, Mann, Virginia Woolf, and T. S. Eliot” (“The End of Temporality 696). In popular discourse the term “modern” refers not to a past period or the modernist movement, but to the acme of progress—the term evokes, sometime only implicitly, historical antecedents from which the modern can be distinguished. The present is still modern not only in the broad sense that uses the term to differentiate the present from antiquity, the middle ages, etc., but also in the sense that modern versions of concepts like individualism, capitalism, and progress continue to flourish.

An unfortunate corollary to the idea of modern progress is that anyone or anything represented as un-progressive or un-modern can also be characterized as irrelevant or threateningly anachronistic: the progress narrative easily flips into an immune narrative in which being out of step can put human development at risk. Judith Butler discusses this tendency in *Frames of War*, in which she tracks how the discourse of modernity, and its associated notion of progress, is used to define “relevant geopolitical space” and bludgeon the views and practices that occur outside of it (103). Butler notes that “liberal freedoms are now being understood to rely upon a hegemonic culture, one that is called “modernity” and that relies on a certain progressive account of increasing freedoms” (109). Butler describes how the conflation of culture, modernity, and freedom is used to justify violence against other cultures and religions; as, for example, when western gender norms are framed as modern freedoms, positioning cultures with different norms as archaic

impediments to human progress. Attempts to impose western norms are then reframed as bringing about inevitable progress, i.e. freedom.

The belief that events have transpired just as they were meant to, for the best possible good, often coincides with the ability to promulgate that belief (as the truism says, history is written by the victors). Historian John Bodnar discusses how official cultural expressions intend to influence how the past is remembered; social leaders such as politicians construct history in such a way as to promote “social unity, the continuing of existing institutions, and loyalty to the status quo” (13). That is, powerful people explain history in such a way as to maintain their power. As Butler makes clear, modern historical time can be used to extract compliance from others (whose experiences are more likely to challenge the notion that everything has worked out for the best). In this sense, notions of clock and calendar time, history, and progress can be seen as ideological dispositifs available to serve the state and the status quo (Althusser, *Lenin and Philosophy*). Such uses of modernity discourse underscore how still-circulating notions of rational modern time and progress can be pernicious.

Problematics of Periodizing

It is difficult to clearly distinguish modern and contemporary temporality, particularly given that both of these terms signify differently according to context. The modern is similarly hard to separate from a preceding Victorian temporality and a succeeding postmodern temporality. Ideologies associated with certain ways

of looking at time and history do not neatly begin and end according to our current periodizing conventions.

The impulse to periodize in a neat and linear (i.e. historical) fashion is itself an artifact: after the eighteenth century invention of the collective concept of history, the general disposition toward time was changed (Koselleck, *Futures Past* 236, 4). With this change, “time is no longer simply the medium in which all histories take place; it gains a historical quality. Consequently, history no longer occurs *in* but *through* time. Time becomes a dynamic and historical force in its own right” (236). This “temporalisation of history” [*Verzeitlichung*] means that we amend our perception of events (our truths) over time, based on their relation to history as an accumulated whole (Koselleck, “Concepts of Historical Time” 10-11, 120-121, 250). While antiquity and Christianity conceive of a future similar to the present, the “uniqueness “ of each historical moment is a modern axiom (121). As each new age is distinguished from the previous one, time and linear progress come to be identified with one another, making it difficult to recognize “all those structures that have survived and which, in temporal terms, are based on repetition” (120, 123). Modern time, then, assimilates experience with a predisposition to novelty and a disinclination to acknowledge continuity, including that continuity in temporal ideology that can be found from the nineteenth century to the present.⁵²

⁵² Koselleck’s description is similar to the one given by Louis Althusser in his explanation of the difference between historical time as conceived of by Hegel and by Marx. Hegelian time is homogenous and contemporaneous: “the structure of historical existence is such that all the elements of the whole co-exist in one and the same time, one and the same present, and are therefore contemporaneous with one another in one and the same present” (“The Errors of Classical Economics” 94). In

Capitalist temporality is not to be equated with modernism alone. The Victorian period which preceded the modern was marked by industrialization, and a body of recent scholarship questions the traditional view that distinguishes staid, patriotic, morally absolutist Victorians and their constricting traditional social values (e.g. strict family structure, realism, conservatism) from the radical moderns, who rebelled against these values and were fixated on newness, crisis, rupture and revolution. Kristen Mahoney convincingly argues that that the aesthetic and temporal border between Victorian and modernist have become blurred and uncertain, and cites a number of “book-length studies published in the last decade that reveal the persistence of Victorian ideals in the twentieth century and the roots of modernist thinking in the nineteenth century” (716). These include (but are far from limited to) Anne Jamison’s argument that the label “Victorian” segregates British literature despite the material and conceptual contact Britain had in the nineteenth century, Nicholas Daly’s survey of the periods’ thematic consistencies,

this temporal homogeneity, historicism culminates in universal history as if all that has come before is projected onto the same film screen, which is the present.

Marxist historical time, by comparison, cannot be understood in a way that can separate diachrony (a continuous succession of time periods) from synchrony (contemporaneity as described above, or the comprehensible perception of the social whole at any single moment) (96). For Althusser, the concept of historical time should supplant Hegelian “ideological” time, or a divisible, continuous time to which all times can be related. He warns against replacing ideological time with a view of history as composed of “different ‘relatively’ autonomous histories, different historical temporalities, living the same historical time, some in a short-term mode, others in a long-term mode,” that is, of preserving a notion of ideological time against which subordinate temporalities are “dislocated” (104-105).

If, then, insect figures or neo-Victorian aesthetics were to do no more than suggest disregarded *parts* of clock and calendar historical time, their disruption of its underlying ideology would be limited. As subsequent chapters show, though, such texts and figurations can reframe the way time is understood, rather than just indexing backwardness or forwardness within conventional temporality.

and Jessica Feldman's proposal for the study of "Victorian Modernism" as a continuous period, and (Jamison 3; Daly 24; Feldman 3). Mahoney acknowledges, though, that the indistinction observed by scholars is not institutionally reflected: challenging these boundaries is particularly difficult while "traditional boundaries of periodization continue to dictate curricula, hiring, and publishing in very real ways" (721). This dissertation is caught between, on the one hand, disciplinary dictates relating its genre, that demand clearly delineated periods of study, and, on the other hand, the recursive complications that arise when trying to limn the history of historical concepts as well as challenges to the validity of those concepts.

As my interest for the purposes of my present research is more in the existence of clock and calendar time than in its specific genesis, the question of whether it should or should not be understood as explicitly modern as opposed to Victorian is less important than the possibility that neo-Victorian artists may (consciously or culturally) associate clock and calendar time with modernity and/or the Victorian era. If the former, returning to the Victorian may be an imaginative return to a time that preceded the advent of standardized, abstracting, extractive modern temporalities; if the latter, the return may be to the scene of a trauma, as Marie-Luise Kohlke suggests. Either interpretation may help to explain why so much temporal play seems to turn to that period (as opposed to, say, the Georgian period). In any case, the degree to which the two periodizing concepts overlap or oppose one another is contested even amongst scholars; and is no doubt even less clear in the public imagination. The industrial developments of the Victorian period, taken alongside the body of work countering the firm Victorian/modern disciplinary

divide, suggest that what we tend to refer to as “modern” temporality cannot be dissociated from the Victorian period. As the following section shows, questions of whether recent cultural work can be understood as “modern,” “contemporary,” or “postmodern” are similarly vexed.

Postmodern Time

Modern temporal ideology is still apparent in contemporary thought, but ideas about time, progress, and history have not remained static since the 1800s without opposition. In the 1980s and 1990s, postmodern thought included significant questions about of modern (meta)narratives about on these topics. While postmodernism as a moment or ethos has been associated with the spatial rather than the temporal dimension (Soja; LeFebvre; Foucault, “Questions on Geography” and “Of Other Spaces”; Jameson, *Postmodernism*), a good deal of postmodern theory is directed at the diminishment or disappearance of history, in contrast to the modern investment in ideas of sequential time marked by novelty, originality, and disruption. While this is not the first instance of the critique of historiography, it represents a notable expansion of such dialogue.⁵³

⁵³ W.E.B. DuBois’ 1935 *Black Reconstruction in America* is an excellent example of a modern antecedent to postmodern criticism of historiographical conventions. In the final chapter, “The Propaganda of History,” DuBois critiques the prevailing conception of scientific historiography modeled too closely on the natural sciences, arguing that in their aspiration to impartiality and moral apathy, they treat human events as inevitable, the simple “working out of cosmic social and economic law” (714). In their “mechanistic interpretation” of the past, they elide the human element, and consequently, truth and meaning. DuBois insists upon the recognition that writing history is a moral project, expressing “astonish[ment] in the study of history at the recurrence of the idea that evil must be forgotten, distorted, skimmed

One of the most frequently cited (and, as Imre Szeman and Eric Cazdyn point out, one of the “most criticized”) claims about the changing perception of history is Francis Fukuyama’s assertion that the end of the Cold War and the perceived triumph of liberal capitalism over European communism and the Soviet Union also entailed “the end of history.” Szeman and Cazdyn argue that this was “not really about time or history,” despite “evo[king] a timeless end-of-times,” but “rather, a claim about ideology and change” in politics and economics” (24). It is precisely as an ideological claim, though, that Fukuyama’s argument is about history: the phrase was not an indication that events would cease to occur (though Fukuyama did see Western liberal democracy as the final form of sociocultural evolution), but that the frame through which events were assimilated was substantively different. In his

over” (722). Can we understand the history of slavery in the United States, DuBois asks, while neglecting to ask, “what did it mean to the owner and the owned?” (715).

Dubois criticizes in particular the bad faith of purportedly impartial historiography. He exposes the way that supposedly neutral historians repeat received attitudes and beliefs, and therefore function as propaganda, or “lies agreed upon” (714). To give an example, DuBois analyzes ostensibly objective studies of Reconstruction, and finds that they evince post-bellum American shame in their failure to condemn slavery and in their mis-characterization of all black Americans as ignorant... lazy, dishonest, and extravagant, [and] responsible for bad government during Reconstruction” (711-12)

Dubois suggests that the ruse of moral detachment, far from creating evenhanded narratives, leads to greater bias. He holds that historians can “use human experience for the guidance of mankind” only if they can “distinguish between desire and belief” and “make clear the facts with utter disregard to his own wish and desire and belief. ... The historian has no right, posing as a scientist, to conceal or distort facts” (722). While DuBois clearly holds to the modern notion of history as progress, and the earlier Enlightenment belief that the intent of writing history is “to establish the Truth, on which Right in the future may be built,” he also presents a clear argument for the importance of attending to the role of mediation and mediators in the construction of historiography (Dubois 725). In this, he clearly anticipates postmodern critiques of historiography as narrative leveled by Hutcheon and others.

pessimistic argument that the “deepest thinkers have concluded that there is no such thing as History—that is, a meaningful order to the broad sweep of human events,” Fukuyama expresses the idea that the temporalization of history described by Kosellek has ceased; he suggests that history requires human confidence to function, which it no longer has or does (3).

Fukuyama’s claim has been an easy target for proponents of modern history, particularly since the September 11 attacks by the Islamist terrorist organization al-Qaeda against the United States in 2001 (after which communism was largely replaced by Islam as the object of Western fear and antagonism). Intensified awareness of global warming and ecological degradation of the planet, and increased wealth disparity and class antagonism also colour the derision now directed at the notion of the end of history. At the time Fukuyama was writing, the idea that class antagonisms could intensify to the point of revolution seemed unlikely, whereas shortly thereafter that ceased to be the case (W.Brown, *Politics Out of History* 9).

Jacques Derrida levels a noteworthy critique of the naïveté of Fukuyama’s position in *Spectres of Marx: The State of the Debt, the Work of Mourning, and the New International*, but rather than defend the concept of progress, Derrida derides Fukuyama’s jubilation at the prospect of progress having reached its apotheosis. In his rebuke, Derrida is uncharacteristically polemical, reminding all of his readers, never have violence, inequality, exclusion, famine, and thus economic oppression affected as many human beings in the history of earth and of humanity. ... instead of celebrating the ‘end of ideologies’ and the end of the

great emancipatory discourses, let us never neglect this obvious macroscopic fact, made up of innumerable single sites of suffering: no degree of progress allows one to ignore that never before, in absolute figures, never have so many men, women, and children been subjugated, starved, or exterminated on the earth. (85)

Derrida criticizes Fukuyama's capacity to ignore evidence when it shows that life in the twentieth century is far from emancipated, and rely on other evidence (e.g. the fall of the Berlin Wall) when it suits his argument. Derrida's deconstruction of historical time is important here both as intellectual background for the insect-based historiographical critiques analyzed in the following chapters, and also as an interpretive key to those works: it describes their work, and connects it to ethical practice.

In response to the widespread suffering in the present, which undermines claims that society is nearing its perfected form, Derrida argues for the importance of taking on Marx's work of critique and emancipatory spirit, or his "spectre." Just as Derrida would himself be the inheritor of Marx, we are all the inheritors of the dead, and the yet unborn inherit the world from us: we bear responsibility to both these spectral populations (xviii-xix, xxix, 25-27, 70-75). This responsibility, though, has to be carried out despite lacking perfect knowledge of time.

The notion of the spectre is important to understanding Derrida's explanation of temporality and history. The spectre (which Derrida develops with reference to the ghostly father in *Hamlet*) represents the simultaneous presence and non-presence of the past in the present, and of a future that is non-identical to how

it is currently perceived (3-4). The past and future, that is, are neither present nor absent, but spectral presences in the now, which is itself “impossible in its identity or its contemporaneity with itself” (75). In this present, history no longer functions as a single, teleological progression but is confusing: “we lack the measure of the measure” (77). This situation, this disjunction between temporality, history, and ontology, Derrida names “hauntology (10). Rather than *being*, as in ontology, in ontology things spectrally *haunt*. Facing hauntology, scholarship and critique must go on aware that facts, history, etc. are unavailable as real origins (they are not ontologically accessible).

Derrida argues that in hauntology, our orientation to the future should be similarly unassuming. Ethics, hospitality, and democracy can only be themselves if they are available to all, without limitations. We cannot help but impose limitations, and pre-emptively exclude some others, if we do not account for the radical alterity, the unknowability, of the *arrivant*: the figure of the other who is always-yet-to-come, always unknown (28, 65-66, 168). Profound openness to the unknown future is messianic in structure, but is a “messianism without religion” (59). This orientation resonates with post-history as described by Agamben in *The Open*, reminding us that if we only imagine the *arrivant* as human, we have missed the point.

By contrast, Derrida criticizes Fukuyama’s thesis, and the wider capitalist triumphalism of which it is part, as sharing a Christian eschatological logic, in which redemption requires sacrifice, and the end of history is already assumed (60-61, 66). Fukuyama’s view of history intersects with Marx’s, notes Derrida, in its

relationship to time: both see time as homogenous and neither allow for the possibility of a radically different, unimaginable future (66, 70). Despite the incommensurable logics that are indexed by Marx, the distance opened up by spectrality allows Derrida to hold onto what is valuable in Marxism, which is the possibility of a radically different future that is always yet-to-come (65, 95).

Derrida's version of time is marked by indeterminate and overlapping temporalities, toward which we have to remain unassuming. Recognizing that our access to other times is limited and contingent—while also acknowledging that we are ethically obligated toward them—requires an open, messianic orientation toward history. Insofar as insects evoke both the deep evolutionary history of the planet, and survival beyond that of our species, they haunt us; in their radical otherness, if we open ourselves to it, they undermine arrogant overconfidence in our knowledge of the world.

Many postmodern theories and artistic texts similarly undermine their audiences' faith in the historical view of time. Jean-François Lyotard's famous definition of postmodernism as "incredulity toward metanarratives," which points to the failure of historical narratives to stabilize society around transcendent truths, is comparable to the perspective Derrida recommends in *Spectres (The Postmodern Condition xxiv)*. Lyotard is amongst the thinkers who claim that, just as industrial capitalism finds its counterpart in historical time, so too does late capitalism correspond to specific temporalities.

Lyotard argues that while “the modern imaginary of historicity” is implicitly eschatological—and therefore stabilized by faith in historical progress toward some *telos*, postmodern time has no such structuring or legitimating authority (*The Inhuman* 22, 96-97; *Postmodern* 5). Commodified knowledge (which is shaped to maximize transmissibility rather than quality) has exchange-value but “loses its ‘use value’”: it gains value in transactions, which, like the flow of capital, is meant to be unceasing and endless. The temporality that matters, in this model, is not the universal, singular progress through history, but the countless intervals in which exchange takes place. Since the September 11 attacks, some confidence in historical narrative has been restored (Behdad, Koshy). Still, its transactional value continues to be primary—the “return” to history offered in Islamophobic and Orientalist narratives of the events has been used to justify travel bans and other securitizing acts that have also consolidated and extended the political power of some while encroaching on others’ freedoms.

Terry Eagleton’s analysis reads like a mirror reflection of Lyotard’s: Eagleton also argues that the authority of totalizing narratives has disappeared, but describes the situation as an awakening “from the nightmare of modernity, with its manipulative reason and fetish of the totality” into a “laid-back pluralism ... which has renounced the nostalgic urge to totalize and legitimate itself” (qtd. in Harvey *Postmodernity* 9). Eagleton emphasizes the hierarchical, oppressive nature of the status quo that is stabilized by history; in this frame, the “return” of history can be connected to the twenty-first century rise in demagoguery.

Frederic Jameson's definition of postmodernism, like Lyotard's, has been so quoted as to seem a cliché, but it is worth considering the crisis of historicity he describes: he claims that it is "an attempt to think the present historically in an age that has forgotten how to think historically in the first place" (ix).⁵⁴ Like Lyotard, Jameson holds that postindustrial commodification of knowledge undermines the logical sequence of time, thereby preventing us from narrating and identifying with historical identity. The omnipresence in popular culture of decontextualized shreds of history leads to the "spatialization of time" and an "existential bewilderment" at "the loss of our ability to position ourselves within this space and cognitively map it" (Interview with Anders Stephanson 47-48). The inability to locate ourselves in relation to history is, for Jameson, the key breakdown in the relationship between the individual and the social, and thus as *the* site for political intervention (38). He argues that political struggle requires new art that can counter "our spatial as well as our social confusion" (54). If one accepts that time and space are interconnected, we can also see this as an argument for new *temporal* maps, or narratives and images that allow us to re-think time. Postmodern and neo-Victorian temporality-play may be read in this light as maps that suggest the synthetic—and therefore mutable—nature of all cognitive maps.

⁵⁴ Though late capitalism as the unrepresentable barrier to historical thought would logically preclude historical analysis of that very situation, Jameson argues that capitalism's effect on history is accessible to historical thought because of the uneven development of capital. Just as early theorists of capitalism including Adam Smith could see both nascent forms of that system alongside earlier modes of production, 1980s postmodernism is explained as a "transitional period" in which economic institutions, organizational concepts, and forms of labour were "restructured" (*Postmodernism* 48). That is, capitalist postmodernity's asymmetrical distribution allows it to be perceived as an historical phenomenon.

David Harvey's analysis largely concurs with Jameson's: he argues that time and space have been "compressed" in the rapid exchanges that mark economies of flexible accumulation, (*The Condition of Postmodernism* vii and *passus*). Harvey argues that people are disoriented by expanding and accelerating exchange, as well as communication and travel technologies that minimize our perception of time and space, disturbing "political-economic practices, the balance of class power, [and] cultural and social life" (284). One such effect is the consolidation of power: decisions are made centripetally, centralized in small, co-ordinated sites, while the consequences of those decisions can be spread centrifugally "over an ever wider and variegated space" (147). Unlike Jameson, Harvey denies the political potential of postmodern culture, rejecting its "fragmentations and the cacophony of voices through which the dilemmas of the modern world are understood" (116).⁵⁵ However, Harvey's claim that people have been rendered politically susceptible by the near effacement of time and space might suggest that art that foregrounds these (even in the absence of a universal perspective) could be politically useful if it helps sharpen temporal acuity.

Jean Baudrillard's work is exemplary of the kind of equivocating, ludic, at times bombastic postmodern rhetoric Harvey criticizes, yet his perspective on postmodern temporality (as undermined by the affective economy) as is in many

⁵⁵ Without dismissing his claim altogether, I would point out that the politics of including many voices is repudiated here by a successful white man who, at the time of writing, was "isolated" in his work in an "elitist" academic institution ("The Most Dangerous Book"). Harvey's more recent work acknowledges that the struggle against capitalism should neither supersede nor be subordinated to other anti-oppression struggles such as those against racism, misogyny, and heterosexism. *The Condition of Postmodernism's* reliance on a universalizing Marxist may obscure the urgency and validity of efforts to diversify the available critical perspectives.

ways consonant with—or perhaps an elaboration upon—that of the preceding thinkers. Baudrillard describes history as “our lost referential, that is to say our myth”: fetishized in cinema, the *appearance* of history serves as if a stand-in for the Freudian lost object of genuine meaning (*Simulacra and Simulation* 43-44, 164). Ceaseless replication has displaced any concept of progress, according to Baudrillard, and so time becomes “homogeneous” (76). Rather than history as a unitary process, myriad processes proliferate pointlessly; with no *telos*, there can no longer be history or even politics (“The Millennium” 159). Baudrillard sees the social, the political, and the historical as ceasing to function as separate spheres, and, in expanding to include everything, coming to mean nothing (160). Like Harvey, Baudrillard observes a postmodernism that is depoliticized and detached from history, but does so without urgency or despair.

Hayden White’s invitation to reconsider modern history is rooted in his analyses of historiography. While the aforementioned theorists argue that objectivity and certainty decline because of a *loss* of history, White undermines the belief that objective and certain knowledge inhere in history: he argues that history is narrative, and thus itself ideological and historically contingent.

According to White, unjustified faith in history’s neutrality and completeness is supported by historiographers’ misguided beliefs. He observes that they distinguish histories from fiction by their content, which naturalizes the *form* of historical accounts as “found rather than constructed” (“The Question of Narrative” 2). They also erroneously assume that facts and explanations can be clearly demarcated, and that only the latter are subjective or creative (3). Finally, historians

have only been able to draw on representations (which winnow the data available), and of these, only certain types and forms of representations, which pertain only to selected kinds of people, have been considered suitable for inclusion in the historical record (4). Altogether, the assumption that history is *content* elides its synthetic, imaginative, and restrictive *formal* properties.

Against historians' dominant view of their field as innately objective, White insists that "historiography is ideological precisely insofar as it takes the characteristic form of its discourse, the narrative, as a content, [and] as an essence shared by both discourses and sets of events alike'. (6). In failing to observe that history is narrative, historians miss the fact that only that which is—and *can be*—narrated becomes history. White shows that this misrecognition is pernicious because the more fully narrated part of humanity is understood to be "more human, *because it is more historical*, than the other," non-historical part of the species (31). If we note that the clock and the calendar lend themselves to the orderly documentation of events in sequence, it is likely that the time-disciplined subjects of modern temporality are most liable to stand for the universal human whole. If this is the case, representing those who experience temporality differently can be seen as a valuable attempt to redress this gap in the record to whatever extent that is possible.⁵⁶ It behoves us to remember, though, that history is irredeemably aporetic.

⁵⁶ Julia Kristeva's "Women's Time" argues that modernity and history are male temporalities, and that what gets minimized or left out of their narratives is the feminine and maternal. She describes a traditional association between women and space, and claims that, "as for time, female subjectivity would seem to provide a specific measure that essentially retains *repetition* and *eternity* from among the multiple modalities of time known through the history of civilizations" (16). Kristeva notes that the feminist response to this elision has also been divided

While historiography aims to represent the totality of the species' past, as a specific form and set of practices, it necessarily misses its aim. Figurations of unfamiliar worlds and their unfamiliar temporalities can synecdochally figure the multiplicities that are left out of conventional narrative.

The narrative aspect of history is also central to Linda Hutcheon's argument for the political efficacy of postmodern art—which, as she describes it, could include the texts I analyze. Hutcheon counters the prevailing narrative that describes postmodernism as too self-referential, ironic, unoriginal and inaccessible to be political, and recasts its profusion of historical perspectives as a critical strategy (*Politics* 3). Hutcheon argues that the presence of the past in postmodernist texts is "not nostalgic ... always critical" (89). She identifies these texts' citational practices as drawing attention to the tension that occurs when artists have an impulse toward narrative mastery, yet distrust that impulse (61). Like White, Hutcheon defines history as narrative, and, because the past only exists in different (sometimes indirect or incompatible) representations, she claims, it is also undecideable: "historical meaning [is] unstable, contextual, relational, and provisional" (64). When postmodernism foregrounds narrative as the source of its meaning, it uncovers the contingency of all historical meaning. It opens history to critique by reminding us that people (who have their own contexts, tendencies, and agendas) create and reproduce it (64). I would add that diversity of representation—including species

between those who seek greater inclusion of women in historiography (especially through literature, and those who refuse linear temporality and its limitations (19-20, 31).

representation—might further emphasize the subjective nature of history and the limitations that creates.

Hutcheon argues that the postmodern historical novel or “historiographic metafiction” is especially suited to intervene in historical time. This genre raises questions about the role representation plays in making history, showing that representation “cannot be escaped but ... can be both exploited and commented on critically through irony and parody” (14, 54). Parody, for Hutcheon, is particularly useful in that it shows how new representations are layered on previous ones, raising questions about originality, repetition, uniqueness, ownership, and context (89-90). Hutcheon conflates parody with “ironic quotation, pastiche, appropriation [and] intertextuality, and argues that these practices work “to both legitimize and subvert” that which is parodied (89, 101). By reminding us that representation is iterative, parody enlarges our temporal awareness: we are reminded that historiography involves a past event and a present—*and* the re-presentations in the interim. This undermines the universalism of clock and calendar time by reframing the transmission of knowledge as an extended game of telephone in which many “operators” introduce confusion and noise into the message. Hutcheon questions the linear, logical nature of modern temporality, bringing to attention the influence of sociopolitical, discursive, and personal contexts on the way history is told and received. To differing degrees, all of the texts that this dissertation analyzes (barring perhaps the reports about periodic cicadas) foreground and problematize representation as part of their dismantling of dominant ideas about time, and in that respect can be considered postmodern.

Historiographic metafiction as described by Hutcheon facilitates the kind of denaturalized relationship to history that Derrida advocates. By self-referentially performing its narration, in the present, of events that occurred in the past, this kind of art inserts uncertainty into the historical narrative, raising questions not only about the events that have been narrated, but also about what has been left out of the story (54-55). Hutcheon's view of postmodernism, then, is almost the opposite of Jameson, Harvey, or Baudrillard's: while they interpret the popular proliferation of historical referents as an *inability* to think historically, Hutcheon explains the same phenomenon as a thoroughgoing critique of historical thought.

Postmodernism's Perseverance

In the 2002 epilogue to *The Politics of Postmodernism*, Hutcheon recounts the many trajectories of postmodernism as if writing an obituary, and declares "it's over" (166). She joins bell hooks and others in criticizing postmodernism's analyses of difference for being too abstract, noting that on the whole, its discourse was overwhelmingly American, male, and white (172). Hutcheon suggests that postmodernism was rejected when postcolonial theory made its underdeveloped theories of ethics and agency apparent, and whatever remained of its aims and techniques dissolved into myriad critical and anti-oppression discourses (173-174). Many other theorists have been proclaiming the end of postmodernism since the end of the 1980s, and the September 11 attacks are frequently cited as the point at which postmodernism can be definitively said to have ended (Gladstone and

Worden; Hoberk). Josh Toth argues that we are “haunted” by the postmodern (as Derrida says we are haunted by Marx); while Hilary Chute takes an expansion in the “central concepts and hermeneutics” of critique to mean that the project of postmodernism was completed (354, 356).

Other critics take the position that postmodernism is a self-reflective phase of modernity, or deny the usefulness of the term postmodern while still describing the advent of a phase of modernity that can reflect on itself. Krishan Kumar identifies the former position (that “the ‘post’ of post-modernity refers not so much to a new period or society coming ‘after’ modernity as to the view of modernity possible after the completion of modernity”) with Zygmunt Bauman, Andreas Huyssen and others; and the latter position (that modern societies are now capable of and “forced” to “reflect... back on themselves”) with theorists such as Anthony Giddens and Ulrich Beck (160, 162). The two groups Kumar identifies share the belief that modernism became self-reflexive, and differ in whether or not the term postmodern should be included in the modern as a way of characterizing that self-reflexivity. Peter Osborne argues that postmodernism didn’t happen, and that what has ended is a period when the term postmodern seemed like a credible way to “mark the distance from a now-historical modernism” (*Anywhere or Not At All* 17). Unlike critics who would include the postmodern period within modernity, Osborne argues that we now understand modernism to be directly followed by the “contemporary” period (which is more commonly used to refer to whatever comes after the postmodern). Whether or not the contemporary, or the present, can be said to be modern is another matter of debate; dispute arises as modernity has been

described variously as “a category of historical periodisation, a quality of social experience, and an (incomplete) project” (Osborne, “Modernity is A Qualitative” 24).

I recuse myself from definitively taking a position on the means by and extent to which these terms should be distinguished. It is sufficient to note that historical time—with its orientation toward capitalist modes of production and ideas of universal human progress—arose, and has been associated with modernism; and an efflorescence of criticism also occurred, and has been associated with postmodernism.

The following chapters analyze texts that have been understood as postmodern and contemporary, or both: recent neo-Victorianism in particular bears both these descriptors. Neo-Victorianism, both “creative works that in some way engage with Victorian literature and culture,” and “scholarly works that seek to explore the shifting relationship with the Victorian period” has persisted beyond many of the dates given for the end of postmodernism, and, some would argue, begins in the 1930s or earlier (Cox). Nevertheless, it is widely understood to be “very much a postmodern project” (J. Banerjee). Dana Schiller stipulates that neo-Victorian works “adopt a postmodern approach to history” by questioning historical knowledge and the role of representation in creating it (558). The movement also evokes postmodernism in its use of pastiche (J. Banerjee); its concern with spectrality, the role of historical mediation, and the appearance of texts as simulations (M. Smith); and its explicit self-referentiality: it “must in some respect be self-consciously engaged with the act of (re)interpretation, (re)discovery and (re)vision concerning

the Victorians” (Heilmann and Llewellyn 4). Even in making all these signifiers of a (putatively) past moment appear in the present, the movement enacts postmodernism. According to Christian Gutleben, “neo-Victorianism broadens the scope of postmodernism” by being more globally-oriented, offering new forms of metafictional historiography, and challenging orthodoxies including the limits of the human. He argues that “although it suggests evolutions and variations in relation to late twentieth-century historiographic metafiction, the novel of the new millennium nevertheless cannot be said to forsake postmodernism” (224).

One of the newer expressions of neo-Victorianism, steampunk, which imagines a world with a Victorian-inspired aesthetic and advanced technological capacities—capacities which are realized only through Victorian technologies such as steam power—is postmodern in the ways described above, but also, according to Rebecca Onion, “stands outside of chronological periodisations” in the breadth of influences and ideologies it references (142). I would argue that this describes much of neo-Victorianism more generally. Another way in which neo-Victorianism becomes difficult to periodize is its implicit evocation of the historically ongoing debates about temporality and history: it simultaneously draws attention to discontinuities *and* continuities across time.

The twenty-first century texts I analyze, neo-Victorian and otherwise, are the intellectual successors of those published before the turn of the century, and arguably operate in a postmodern mode. That is, rather than demonstrating a rupture between the postmodern and contemporary, the older and newer texts I discuss share aesthetic and ideological features. They undermine clock and calendar

time, and its associated notions of universal history and human progress. Recent cultural works' postmodern aims and strategies for problematizing history imply the ongoing presence of modern historical time.

That is, they continue to stage a debate about the nature of time and history that is conveniently described as "modern" vs. "postmodern." These abbreviations should be read, however, with some critical distance. Finally, there are a few more recent discussions of time and history that I must also mention in order to fully explain the work and value of my objects of analysis.

Crises of Contemporary Time

Theories about changes in the nature and function of time in the twenty-first century abound; although the situations they describe vary, they are similarly at odds with many aspects of historical time. Implicitly or explicitly, they argue that the conceptual apparatus with which we assimilate time needs to be changed or replaced. Political discourse continues to rely on the notion of progress, as Wendy Brown points out (*Politics* 3).⁵⁷ Brown argues that progressive, teleological history, like other fundamental modern concepts, acts as a fetish in the Freudian sense, in that we continue to act *as if* we still believe in it, even as its credibility is in question (3-4).⁵⁸ The loss of convincing historic narratives, in Brown's view, has provoked "reactionary and melancholic responses," including "insecurity, anxiety, and

⁵⁷ Although Brown's *Politics Out of History* was published in 2001, I believe her judgement still applies.

⁵⁸ An example of this fetishism is the paradoxical coexistence of nostalgia for a lost, golden European past, and the belief that Europe leads the rest of the world toward greater freedom, equality, prosperity, rationality or peace" (W. Brown 6).

hopelessness,” a “sometimes paralyzing disorientation,” and “righteous moralism” leading to “anti-intellectualism”: affects that may be relieved as new epistemologies are developed (4-5; 14-15). Brown suggests that disruptive new ideas suggest a social and conceptual “porousness and uncharted potential that can lead to futures outside the lines of modernist presumptions” (5). The becomings-insect performed by my infested archive contribute to this work.

The emergence of “risk society” can be read as one of the melancholic reactions to the loss of progressive history posited by Brown.⁵⁹ Ulrich Beck argues that our attention is fixed to a greater degree on the future, but rather than provoking excitement, the future we anxiously anticipate is one in which catastrophe is imminent (*Risk Society*). Catastrophes occur, but the increased “worldwide visibility and communicability” of threats is more important, as widespread fear of disaster-to-come can be instrumentalized for social control (*World at Risk* 183-184). The sense of global threat guides political action, and security (the promise to pre-empt threats) supplants freedom and democracy as the dominant social value (8-10). In the risk society, the insect logically becomes an even more alien, abject figure, because of its association with failures of security;

⁵⁹ Following Freud’s description of melancholy in “Mourning and Melancholia,” Beck’s model could be understood as a melancholic reaction to the traumatic, unacknowledged death of progressive futurity: society incorporates the lost idea of the progressive future (which it experiences as an abandoning, bad part-object, i.e. risk), which leads it to attack that object in itself. Thus arise the self-punishments of increased surveillance and curtailed freedom. Rather than mourning the idea of an ever-better future, and changing in response to that loss, society is compelled to repeat its trauma, constantly experiencing the loss, and attempting to master it via the instantiation of new securitizing measures.

performances of security's failings could either lead to its intensification or its reconsideration.

In the risk society threats can be evaded and opportunity seized, claims Zygmunt Bauman, according to one's degree of mobility. This means that power now appears as a relationship toward time that

consists in one's own capacity to escape, to disengage, to "be elsewhere," and the right to decide the speed with which all that is done - while simultaneously stripping the people on the dominated side of their ability to arrest or constrain their moves or slow them down. The contemporary battle of domination is waged between forces armed, respectively, with the weapons of acceleration and procrastination. (*Liquid Modernity* 120)

Increased interest in time and new temporalities appears here as a search for power. Social orientation toward consumption devalues stable skills in favour of speed, mobility, and the freedom to pursue opportunity when and where it arises (77). Bauman explicitly connects this power grab as arising from the loss of modern historical structuring narratives, which "interlock[e] individual choices in collective projects" (6). As the narratives with which people identify have proliferated, he claims, so too has history been atomized, separating moments from each other and separating people from one another. Bauman adopts Michel Maffesoli's term "pointillist" ("broken up, or even pulverized, into a multitude of 'eternal instants'") and Nicole Aubert's term "punctuated" (marked by "ruptures and discontinuities") to describe the contemporary experience of time, arguing that

no longer does any causal logic connect the multitude of instants immediately apparent (*Consuming Life* 32).⁶⁰ Instead, “it is the task of each ‘practitioner of life’ to arrange the points in meaningful configurations” retrospectively (35). In light of this analysis, artistic explorations of time show up as efforts to understand how we can find meaning when it is no longer imposed upon us by historical time.

If security is the chief value, as Beck claims, and mobility is the most secure ability, according to Bauman, speed logically becomes a deeply desirable characteristic. This corresponds to a widely held perception that society has sped up.⁶¹ Robert Hassan, for example, argues that the “temporal empire” of clock and calendar time is being “displaced” by a second empire based on developments in information and communication technology (ICT), particularly the advent of “computer-based ‘real time,’” and the concomitant rise of the neoliberal economy (*Empires of Speed* 3). Accelerating ICT is extremely compatible with neoliberal capitalism, which focuses on efficient profit, and isn’t slowed by taking other values into consideration; but is incompatible with liberal democracy, which needs time in order for the proper function of its institutions (6-11). The political efficacy is then caught in destructive feedback loop: as people lose faith in, and disengage from, politics, political memory wanes (16, 227). Political leaders can then foreground or

⁶⁰ Baumann’s description of liquidity is part of a larger discussion of the “molecularization” of society that would be interesting and productive to discuss in relation to contemporary insect representations, but which exceeds the scope of this project (Black; Braidotti; Braun; Deleuze and Guattari; Halloran; Massumi; McCormack; Rosenberg; Sloterdijk; Sutherland; Thacker; Thrift).

⁶¹ For a basic overview of line of thought linking modernity to social acceleration, see Hartmut Rosa and William E. Scheuerman’s *High Speed Society: Social Acceleration, Power, and Modernity*.

obscure past events in such a way as to manipulate the public—which in turn further weakens democracy (227). Hassan’s analysis relies on an Enlightenment-based view of history as a source of objective truth, knowledge of which protects the public good; ICT’s speed, in his view, erases historical continuity and renders society vulnerable to autocratic power. This model presents only two alternatives: historical time, or temporal amnesia leading to tyranny. It seems clear that we need other ways of thinking about time to find alternatives to this dichotomy.

Paul Virilio believes that society has gone beyond valorizing speed to idealize instantaneity. He argues for a contraction—aiming toward elimination—of the time and space between event and representation, such that speed ceases to measure physical movement (chronological time), and instead refers to the transmission of data (chronoscopic time). In digital culture, sequential, ordered temporality breaks down into discontinuous present-instants.⁶² Thinking of the world in terms of instants is politically problematic for much the same reasons given by Hassan: it eliminates the time required for politics or any other human endeavour based in thought or action (*The Administration of Fear* 38, 86; *The Futurism of the Instant* 31). A similar feedback loop arises, though Virilio explains it with an ecological example, proposing that chronoscopic time hinders prudent environmental actions, while society is distracted from its time crisis by its focus on environmental problems (*The Great Accelerator* 73; *The Futurism of the Instant* 5). The perceived need for more

⁶² Ronald Purser explains that chronoscopic time is “still bound to and dominated by a clock-time world” but differs from chronological time as an analogue watch differs from a digital one. The hour and minute hands move across the face of the analogue watch, while the digital watch flash instantly, effacing the sequential transition through time (161).

time (or more value placed on time), disarticulated from the reification of explicitly historical time, opens possibilities for ways of thinking not based on a return to the past.

Virilio's perception of time as contracting to the instant seems at first to oppose the idea advanced by Jonathan Crary that contemporary capitalism aims to produce an all-encompassing, continuous time; however, the two positions are in many ways consonant with one another. Like Virilio, Crary describes a technologically-enabled, decontextualized, undifferentiated, idea of time that "no longer passes" or accumulates; also like Virilio, he sees this temporality as inhuman and antagonistic to the quality of life experienced by most people (Crary 8).

Crary argues that we are increasingly being brought into "24/7" time, which is defined by the "principle of continuous functioning" and the "inscription of human life into duration without breaks" (8). While institutions, markets, and networks have long operated around the clock, Crary identifies an emerging effort (brought forth by state and private institutions) that aims at reshaping humanity to conform to the nonstop time of capitalism, for example, in antagonism toward sleep. Attempts to reduce or technologically eliminate the need to sleep epitomize a broader idealization of constant exchange: in 24/7 time, we must always be producing, and pursuing—but never fulfilling—our needs (10).⁶³ This state of deprivation makes us vulnerable and compliant, for example to invasive surveilling and securitizing measures (5, 7). The universalizing, long-term progress narrative of historical time is undermined in favour of "individual goals of competitiveness,

⁶³ 24/7 logic is disastrous to ecological cycles in its demand for unsustainable levels of consumption and endless production of waste.

advancement, acquisitiveness, personal security, and comfort at the expense of others” (9; 41).⁶⁴ 24/7 time is thus inimical to empathy as well as collective action and resistance.

Consumption is the means as well as the end of 24/7 time. The threat of the “social and economic failure” that could result if one does not “stay... up-to-date in the things and relationships we surround ourselves with,” includes the imperative to participate in networks and services “that quickly become the dominant or exclusive ontological templates of one's social reality” (46; 43). Many of these material and immaterial products aim to eradicate the perception and acceptance of time: they aim to eliminate the need to wait on one another, devaluing “the individual patience and deference that are essential to any form of direct democracy: the patience to listen to others, to wait one's turn to speak” (124). We get angry when we have to wait, and aspire to the privilege indexed by the truism “the rich never have to wait” (124). Crary sees this aversion to having to be patient as indicative of 24/7 capitalism's larger rejection of “any social behaviors that have a rhythmic pattern of action and pause ... includ[ing] any social exchange involving sharing, reciprocity, or cooperation,” suggesting that our patterns of consumption and communication reject rhythms of “alternating ... assertiveness and acquiescence” (125). Our diminished capacity for empathy and cooperation, on

⁶⁴ Crary credits Karl Marx with recognizing “the intrinsic incompatibility of capitalism with stable or durable social forms” (37). He cites Marx as having implied the emergence of 24/7 temporality in 1858, when he wrote that

Capital by its nature drives beyond every spatial barrier. Thus the creation of the physical conditions of exchange—of the means of communication and transport—the annihilation of space by time—becomes an extraordinary necessity for it. (qtd. in Crary 64).

which collective history depends is incompatible with 24/7 capitalism, and therefore, in Crary's view, we have in a sense reached the end of history. In that respect, he concurs with the other writers discussed in this section. Though the phrase "end of history" is associated with a now-discounted postmodernism, these analyses (some of which are quite recent) reveal that the concept of history's end continues to animate temporal theory.

Crary's description, though astute and compelling, seems somewhat reticent in its discussion of ecological planetary limits. Crary references the "pervasive illusion" that technocapitalism will free individuals from being enmeshed in "the biocide underway everywhere on the planet," but this seems to underplay the many effects of a similarly ubiquitous sense of impending global-ecological doom (100). There is a tension between arguments for the popular loss of history, and universalizing narratives about human *planetary* life, especially narratives in which human life is threatened by its own actions. The notion that humanity, or capitalism specifically, has nearly exhausted the material limits of the earth revives the idea of humanity as a coherent species engaged in a common project. Time is even more central to these discussions than it is to modern history. In addition to being the context in which humanity acts, it is also the measure and stakes of our action. A great deal of planetary ecological discourse holds that time (or at least the time in which the earth can support life as we know it) is running out: the planet itself has become our doomsday clock. Further, history—human time—will only continue to exist if we stabilize the planetary systems that support us. If we fail to achieve

control over the earth (or control the magnitude of our impact in them) *in time*, there will be, for us, *no more time*.⁶⁵

More-Than-Human-Time

The planet increasingly serves as a historical measure, such that we might describe much of the discourse about it—especially discourse that imagines humanity

achieving control over earth's systems—as clock and calendar and planet time.⁶⁶

Ursula Heise observes a shift, in the 1990s, from “postmodernism” to

“globalization,” as the central organizing term for critique (which shift coincided

with the coalescing of the field of ecocriticism), and suggests that this shift revealed

the belated impact of a “globalist consciousness” on social and cultural theory (*Sense of Place and Sense of Planet* 4).⁶⁷ Heise describes the discussions of globalization and

environmentalism as part of a discursive “return to place” following post-

structuralism's reductive abstraction of nature, and laments their tendency to

idealize the local as the cure for modern alienation from nature (*Sense* 8, 28-29;

⁶⁵ This is not to say that understanding the Earth as a temporal map is a new concept. It is well known that the modern spatialization of time involved racist explanations of colonialism as bringing less-modern peoples out of the past; and as Stefan Helgesson reminds us, social Darwinist ideas (that some races were more evolved than others) used “geographical remoteness, as in the paradigmatic example of the river Congo in Joseph Conrad's *Heart of Darkness*, [as] a sign of temporal distance, and hence of the belatedness, barbarism or savagery of the ‘other’” (Helgesson 7). What differs in recent discourse is the positing of a unified human temporality that threatens the entirety of the nonhuman planet.

⁶⁶ “Clock and calendar and cosmos” is catchier, of course, but I would want to reserve that phrase to describe time as imagined by space colonization discourse.

⁶⁷ Heise explains that the intensification of the “globalist consciousness” was “triggered by the dissemination of the first images of Planet Earth in the 1960s; the 1962 publication of Rachel Carson's environmentalist treatise *Silent Spring* is also widely recognized as a watershed moment for this awareness.

“Martian Ecologies” 448). Heise observes that the human relationship with nature shortly thereafter became a mode of periodizing, via the trope of the “loss of nature” (451). Comparing the chronology Heise describes to the postmodern (and persisting) idea of the loss of history raises the question of their relation. The loss of nature seems to displace the loss of history, unifying humanity around a project collectively controlling—in the form of “saving”—nature. Heise’s advocacy for an “eco-cosmopolitan” or “planetary” imagination rather than a place-based one responds to this perception that the whole planet has become humanity’s problem (*Sense* 10; 210).

Though environmentalist narratives clearly can be accommodated by history, Barbara Adams indicts our limited temporality (focused narrowly on clocks, calendars, and industry), for its “central” role in environmental devastation. She argues that the Western focus on space is overdeveloped in comparison to our impoverished temporal understanding:

nature, the environment, and sustainability ... are ... fundamentally temporal realms, processes, and concepts. Their temporality... is multi-dimensional, a multiplex aspect of earthly existence. Without a deep knowledge of this temporal complexity... environmental action and policy is bound to run aground, unable to lift itself from the spatial dead-end of its own making.

(*Timescapes of Modernity* 8)

Adams, like Virilio and Crary, implicates temporal myopia in the rapacious resourcification and obliteration of the nonhuman world. She suggests we should attend to “timescapes”; that is, that we should adopt “a way of seeing and a

conceptual approach” focused on the temporal rhythms and variations and “contextual temporal practices” that surround and permeate us (10).

Adams argues that timescapes can be powerful instruments for sustainability-directed environmentalist action. Representations of unfamiliar ways of perceiving and relating to time reveal or produce timescapes—and insect-figurations, in particular, encourage attentiveness to the complexities of nonhuman time.

Both Heise’s planetary imagination and Adams’ timescapes are needed to grasp the phenomenon Rob Nixon describes as “slow violence.” Nixon’s concern is that commonplace conceptions of time and history prevent us from adequately representing, and therefore responding to, a widespread and serious form of violence.

Slow violence as conceived of by Nixon occurs “gradually and out of sight.” It is “attritional,” “accretive,” and “exponential”; that is, it wears us down as it adds up, *and* its instantiations multiply each other’s effects. It is neither bound to a body nor to an event, nor even to a moment in time, but produces effects on a “range of temporal scales”: while we can locate a forest fire or a battle in space-time, climate change and postwar fallout defy such efforts (2). Calamities of this kind can ensue over “centuries” (3). Slow violence is difficult to perceive given our reduced attention spans and attunement to spectacle (for which he faults digital media and responses to the September 11th attacks) (12-13). Nixon suggests that our discernment of time is contracting, as slow violence is worsening.

Nixon's description of slow violence echoes Timothy Morton's "hyperobjects," or "things that are massively distributed in time and space relative to humans," which

"stick" to beings that are not involved with them, ... are "non-local," [not reducible to their] local manifestations[s,] ... involve profoundly different temporalities that the human-scale ones we are used to ... result[ing] in their being invisible to humans for stretches of time. And they exhibit their effects interobjectively; that is, they can be detected in a space that consists of the interrelationships between aesthetic properties of objects" (1).

Like slow violence, hyperobjects are very long lasting, and defy our current spatio-temporal representational capacities. They are too multifarious, interconnected, and enormous even to be modeled well, let alone grasped in modern historical terms (47-48). Perhaps because slow violence is a more closely circumscribed concept than hyperobjects, though, Nixon's concept is somewhat more apprehensible than Morton's.

Nixon articulates slow violence as part of a call for representations—built upon both "scientific and imaginative testimony"—that can help us *apprehend* (in the senses of "perceive" and "arrest") and *feel apprehensive about* slow violence (14). He argues that such representations can be found in the work of writer-activists who speak as witnesses for poor communities, because those communities have a greater exposure to and understanding of slow violence. These writer-activists, he contends, represent multiple temporalities in friction, and suggest new

“imaginative forms that expose the temporal dissociations that permeate the age of neoliberal globalization” (15, 46).

Nixon acknowledges Wendell Berry’s warning that framing tasks as global and very long lasting makes them seem irresolvable, but he responds by arguing that it is not helpful to falsely bolster our sense of personal agency: the crises we face are too great to be “resolved by the aggregated actions of responsible individuals,” but must be addressed institutionally and transnationally (38). The dilemma of how extremely large-scale actions—actions of the collective human body—can be decided upon and enacted has, in recent years, come to be a central focus in discussions of the global economic and environmental change. How we understand the entire human species as historical subject, and what changes that requires to our ideas of time and history, has become an urgent matter of debate. These discussions face the challenge of grasping the transformations of late twentieth and early twenty first century time brought about by machines that operate in nanoseconds as well as how these changes impact our interpretation of humanity’s actions considered in the geological timeframe that encompasses billions of years.

Anthropocene Time

In recent years, a geological periodizing term has been taken up and circulated across academic and popular discourse: Paul Crutzen and Eugene F. Stoermer propose the Anthropocene as a term to describe the current epoch, which is

primarily defined by human impacts on the planet (17).⁶⁸ The stratigraphic layers composing the earth reveal changes in the planet's climate, ecology, chemistry, and geology so clearly as to indicate a break between the present and the preceding Holocene epoch (Steffen et al "Anthropocene" 843). Though the term has yet to receive official recognition, it is already "widely, but informally used in the global change research community" (Steffen et al "Anthropocene" 842).⁶⁹ The unprecedented circulation of a geological term throughout academic and popular discourse suggests that the term fills a widespread need for a name that could amalgamate emerging ideas about global time.

The Anthropocene's difference from modern time is apparent in its scope: it reaches back from the present moment to include within itself modernity and postmodernity, and, by distinguishing itself from other epochs, which are measured in millions of years, gestures to the rest of the historical, prehistoric, and pre-human time. By placing the human time on earth in a sequence, it implies its own finitude, and raises the question of what the post-human future that follows the Anthropocene will be.

Though the Anthropocene differs from historical time, its discussions remain entangled with modern temporality, as is made apparent in discussions over how to

⁶⁸ John Bellamy Foster credits the *first* use of the term Anthropocene to Soviet geochemist Vladimir I. Vernadsky's 1926 book *The Biosphere* (qtd. in Chakrabarty, "Anthropocene Time" 6). However, the term has only achieved widespread recognition in the twenty-first century.

⁶⁹ At present, the International Commission on Stratigraphy and the International Union of Geological Sciences have yet to officially approve the term, but in 2016 at the 35th International Geological Congress, the Working Group on the Anthropocene presented its findings: "The majority opinion within the AWG holds the Anthropocene to be stratigraphically real, and recommends formalization at epoch/series rank based on a mid-20th century boundary" Zalasiewicz et al 55).

locate the epoch's beginning. British geographers Simon L. Lewis and Mark A. Maslin, for example, note that 1610 and 1964 are both plausible points at which to mark a significant anthropogenic change; their discussion of the relative merits of these dates, Dipesh Chakrabarty points out, invokes "world-historical arguments" ("Anthropocene Time" 19). 1610 (Lewis and Maslin's preferred marker) saw significant atmospheric and biological change as European colonizers drastically depopulated the Americas. The scientists note that this starting date implicates "colonialism, global trade, and coal" in planetary change, and "highlights social concerns, particularly the *unequal power relationships* between different groups of people, economic growth, the impact of globalized trade, and our current reliance on fossilized fuels" (Lewis and Maslin "Defining the Anthropocene" 177, qtd. in Chakrabarty, "Anthropocene Time" 19). This date also takes the actions of nonhuman species into account, since "the meeting of Old and New World human populations" also entailed the "unprecedented homogenization of Earth's biota" (Lewis and Maslin 179 qtd. in Chakrabarty 19-20). The earlier date leaves room to consider the "invasive species" of plants, animals, insects, microbes, etc. that circulated in ships and saddlebags and stomachs, and thereby broadens the culpable Anthropos to include our (intentional and unintentional) companion species.

1964, however, was marked by uniquely high radioactivity from atomic bombs. "Choosing the bomb spike," rather than colonial genocide in the Americas, "tells a story of *an elite-driven technological development* that threatens planet-wide destruction" (Lewis and Maslin 177, qtd. in Chakrabarty, "Anthropocene Time" 19). This story says that technology is dangerous, but more importantly, it is near-

unfathomably powerful. In relation to this observation, we can read the Anthropocene Working Group's recommendation of a "mid-twentieth century boundary" as an acknowledgement of the strength of Western technology, which implicitly aligns Anthropocene time with human progress (Zalasiewicz et al 55).

Anthropocene temporality is still linear, and still based on a progression of beginnings and endings, and in that respect could be considered a new scale and scope for the old idea of history. This history's archive is not only written on paper and stored in digital files, but also soaked into ice cores and etched into the rocky surface of the Earth. What is external to human history is included in it (in much the same way as Agamben argues that bare life is included in politics), insofar as it becomes the measure and archive of human power. The Anthropocene understood as a form of history include in human progress the shape and life of the entire Earth. As Ursula Heise explains, "for optimists" the Anthropocene "opens up the possibility of reimagining the nature of the future as a nature reshaped by humans" (*Imagining Extinction* 203).⁷⁰ If we use historical time to understand the Anthropocene, human progress can appear as a force capable of taking the planet in hand, and looking next to the extraterrestrial universe. The Anthropocene does not perfectly fit with modern temporality and history, however, and it has therefore occasioned considerable reconsideration of history and historiography.

In contrast to optimistic images of the geo-engineered, fully controlled earth, Richard Klein imagines a post-Anthropocene of human extinction. Klein argues that

⁷⁰ The historical view of the Anthropocene is particularly compatible with transhumanist / exohumanist narratives of bioengineering in which human intellect permits the reshaping of the human body, including the brain, such that reciprocal improvements lead to an exponential growth in human intellect and agency.

the Anthropocene necessitates a new temporal imagination: a “future perfect tense” in which the future has already been completed, or a future past (83). Klein draws on the Derridean concept of the archive to describe such a tense, recalling that the archive is not just a body of records but also the capacity to access and read those records—systems of storage and retrieval, and the systems of production that make all these actions possible. The temporality Klein argues that we need to imagine is that which exists in the wake of “the total destruction of the archive,” in which meaning cannot inhere in whatever traces of the present remain, because of the loss of the systems that generate their significance (83). For Klein, imagining the Anthropocene means imagining “the end of social memory, hence the loss of social mourning. There will be no one left to record the absence of the historian, no archive left that might permit the act of recovery” (83). This complete destruction precludes romanticizing the human end, because romanticism requires a witness who could understand loss.

Klein argues that imagining the post-Anthropocene requires us to practice a kind of historical double vision—we have to imagine a future that is absolutely post-historical, but in order to do so, we “still need to imagine such a future historian in order to speak in the present about a catastrophic destruction of organized life about which it will not have been possible to speak historically” (84). This fiction of the impossible historian would be a useful fable, in the sense in which Derrida discusses the destruction of the archive as fabled—the post-historical period “could not be represented, socially remembered or mourned,” because these actions would belie the archive’s end (84). While other critiques of historiography have urged us to

remember that history is always a constructed narrative, Klein argues for the inclusion of *explicit* fiction in historical thinking—representations of post-human-extinction insects such as *The Hellstrom Chronicle* (which also satirizes bombastic historical narratives) are one type of this fiction. Imagining worlds outside of or alongside humans—such as the radically nonhuman worlds of insects—which similarly disregard the archive, may also be useful ways of stepping outside of the historian’s norms.⁷¹

The difficulty of imagining the terms in which the Anthropocene must be understood, and what that means for historiography, has been a central theme in recent work by Dipesh Chakrabarty. In “The Climate of History: Four Theses” Chakrabarty argues that the Anthropocene is at odds with both progressive historical narratives *and* critiques of colonialism and capitalism that question progress narratives. He argues that their common antagonism toward global capitalism suggests that climate change discourse and anti-capitalist/anticolonialist critique should be reconciled (197-200).

Historiography is ill equipped to address planetary change, in Chakrabarty’s view, because it distinguishes between human history—the sole province of human

⁷¹ Klein’s leap *beyond* the Anthropocene to its conclusion implies that the image of human extinction is an effective theoretical or political resource. That is likely the case, but it is also interesting that many theorists focus on the extreme case of human extinction, rather than thinking through the messier ethics and politics that will precede that eventuality. The Anthropocene offers the temptation of imagining the future in a serious way, while still avoiding the complications of slow violence, hyperobjects, and entangled temporalities.

agency—and natural history, in which humanity is influential only as a “biological agent,” if at all (205). The problem is partly that natural and human histories have merged, as humans “become *geological* agents only historically and collectively,” (i.e. through extreme growth in population and industry) (206, emphasis added). Historiographical conventions do not easily accommodate analyses that include nonhuman actors and impacts, and thus historical narrative is constrained in its capacity to represent what we increasingly know to be an ongoing, complex interconnections between actions, objects and multispecies lives.

Chakrabarty implies that the Anthropocene’s challenge to human exceptionalism makes it difficult to act upon as well as to conceptualize, because of the ways historical narrative has shaped our political structures. “The Climate of History” credits the Enlightenment and its rationality with bringing about what it calls “the most important motif of written accounts of human history,” that is, human freedom, which is most commonly sought through politics (208, 211). Chakrabarty argues that since humanity has attained (many forms of) freedom “at the same time and through processes closely linked to” gaining control over the Earth’s environment, the Anthropocene can “in some ways” be seen as “the price we pay for the pursuit of freedom” (208, 210). That is, the relative stability of natural systems is an inevitable casualty of Enlightenment rationality: humanity attained political freedom, and only incidentally, power over the planet. Sandeep Banerjee points out how Chakrabarty’s language here diminishes human culpability: he observes that humans are described not as purposive, but as having “tumbled,” “stumbled,” and “slid” into the Anthropocene, which minimizes culpability in favour

of contingency. Chakrabarty claims that in order to responsibly use our geological agency, “we need the Enlightenment (that is, reason) even more than in the past,” but laments the insufficiency of reason to direct the politics of the immense world population (211). In his analysis, the collective actions of rational individuals are irrational, and the irrationality of the human species as a whole means its self-destructive tendencies cannot be arrested.

There is an unresolved tension here between the idea that Enlightenment rationality gave humans freedom and power over the planet, and the idea that that same rationality cannot now direct that agency. In order to think that an Enlightened, unified humanity rationally and purposively attained power and freedom, we have to mistake the few for the whole (and ignore the fact that we stripped, polluted, and destabilized the earth, and allocated that freedom and power to only a fraction of us). Because he treats total human extinction as the stakes, and believes that all people contribute to climate change, etc. (although, as is discussed later, distribution of power and vulnerability is in fact deeply uneven), the present collective human actor—the one that Chakrabarty complains cannot be made to act co-operatively—*does* include everyone. In order to resolve his complaint in this essay, one of two things would have to happen.

First, we could think historically, taking the actions and experiences of the few for the whole. Chakrabarty defends his choice to universalize humans as a species by claiming “there are no lifeboats here for the rich and the privileged,” but if the right to produce and consume fossil fuels and other resources was restricted even more intensely and exclusively than it is now, and everyone else—no longer

perceived as humans, but exposed as bare life—were violently deprived of the material capacity to sustain and reproduce life, a 4 degree temperature increase might be prevented, and those few remaining “humans” could applaud their rationality (221).⁷²

Second, *everyone* could identify with, and act as, the universal human fantasized by history (this is the task as Chakrabarty frames it). The challenge of deciding upon and taking actions as this scale, already sublimely difficult, is exacerbated by the fact that the planet is shaped by nonhuman lives and processes (with which co-operation is difficult, at best) as well as human intentions. Further, this option (if only implicitly) asks those who have been deprived of the benefits of “human” progress—or who have suffered as a result of others’ pursuit of it—to give up antagonisms internal to the species. In claiming that reason gives humanity agency that it is not rational enough to use well, Chakrabarty convenes humanity as a unitary agent and beneficiary of global changes; the problems raised by these changes are intractable, he implies, because the poor insufficiently identify with the species as a whole.

⁷² Sandeep Banerjee’s observation that this statement would resonate differently for the rich and privileged than for “Syrian refugees negotiating the Mediterranean Sea” calls attention to the time and privilege elided by focusing on species survival. I would similarly question Chakrabarty’s claim that “the current crisis has brought into view ... conditions for the existence of life in the human form that have no intrinsic connection to the logics of capitalist, nationalist, or socialist identities [but which are instead] connected to the history of life on this planet” (“The Climate of History” 217); the point of recognizing the Anthropocene, it seems to me, is that *all* life-enabling conditions, from the microbiological to the meteorological, are now connected to human political and economic action.

Chakrabarty attempts to imagine a way to simultaneously recognize the universality of the species and the differences within that whole. He suggests that this would be a “negative universal history” (222).⁷³ While this concept is not framed as explicitly fictional in the way that Klein endorses, Chakrabarty concedes that since no one can experience the species being of humanity as a whole, “we can never *understand* this universal” (222). While “The Climate of History” makes the case for formulating a new kind of history, it does not, in any detail, offer examples or models to guide its creation. The essay is valuable in my discussion here because it illustrates the relationship between history and the human, and shows how these concepts strain to address the present as we understand it. The conceptual strain that can be read throughout the work suggests that *new* perspectives and concepts—ones that change or replace anthropocentric history—may be more viable.

Ian Baucom attempts to build upon Chakrabarty’s work in order to address what he sees as the insufficiency of negative universal history to address the Anthropocene. Baucom reads Chakrabarty’s essay as avoiding its own implied “tragic secret”: that “that modernity and postmodernity’s great projects of freedom (Enlightenment and counter-Enlightenment) *are* the catastrophe” that bring about the “end of history” and the extinction of the species (140). This is why, Baucom claims, Chakrabarty reorients attention away from the work of seeking a just and free future, and toward avoiding the threat of death. While acknowledging the

⁷³ Chakrabarty acknowledges in a footnote that the concept of a “negative universal history” comes from Antonio Y. Vasquez-Arroyo’s unpublished reading of Theodor Adorno and Walter Benjamin (222n61).

importance of recognizing the gravity of the threats that have become apparent in the Anthropocene, Baucom questions whether there might be a mode of history that is oriented not exclusively toward extinction, but perhaps also toward new conceptions of freedom: not the Enlightenment-based freedom of Western political theory, but freedom that takes into consideration a multiplicity of human and nonhuman beings, objects, temporalities, and so on.

Baucom suggests that Anthropocene thinking should draw on insights available in a debate about the nature of history between Jean-Paul Sartre and Claude Levi-Strauss. From the former, Baucom draws “the call for a search for critical method that adequate to addressing Marx’s observation that we make our own history, but not under circumstances of our own choosing” (123). That is, historiography needs to change its methods, not only its foci, if it is to account for nonhuman effects in history.

From Levi-Strauss, Baucom adopts the argument that histories written at different scales and orders only *seem* to be continuous and compatible. Histories measured in different kinds of dates are in fact incommensurable: the days and years of biography do not add up to the centuries and millennia of nations, for example, though they give the impression of doing so (128-129). Levi-Strauss argues that historians’ leaps across scales leave gaps in the historical record, and advises that they attend to the “infra-historical” (psychological and physiological) and “supra-historical” (biological, geological, and cosmological) domains” (Levi-Strauss, *The Savage Mind* 262 qtd. in Baucom 129). Baucom argues that these orders

of history are missing from Chakrabarty's universal negative history and are necessary for Anthropocene though.

Examples already exist for these historical modes, according to Baucom. He suggests Catherine Malabou's work integrating neurobiological research and critical theory could be infra-historical study, while supra-historical history is modeled by the "material turn": works by Donna Haraway, Jane Bennett, Bruno Latour, Tim Morton, and Quentin Meillassoux, have outlined a

series of companionate, vibrant, thing-political, enmeshed, and ancestral zones of a strangely-strange, biotic, non-human, geological, and cosmological 'actants' without whose consideration any future raising of the question of the human and its fields of circumstance (its 'situation') will prove inadequate. (131-132)

Baucom suggests that history that incorporates these kinds of nontraditional perspectives may offer ways through or out of the impasse between freedom and history that Chakrabarty sketches. I would add that insect figurations could also contribute to supra-historical awareness. Rather than simply understanding the Anthropocene in terms of teleological, historical time, Baucom insists, we need to recognize "multiple scales, orders, and classes of time (abstract, hermeneutic, ontic) and multiple corresponding orientations to the possibility of the (just) future fashioning of those times "(142). We cannot begin to formulate a politics that is appropriate to the Anthropocene, Baucom concludes, unless we consider histories and temporalities other than the modern anthropocentric ones that currently limit our perception and agency.

More recently, Chakrabarty has offered another comment on the relationship between the Anthropocene and our ideas about time and history that implicitly (and in some ways unsatisfactorily) responds to critiques of “The Climate of History.” He argues that moral-political discussions of the Anthropocene (as distinguished from scientific discussions) misrepresent the threats we face in the Anthropocene due to two common displacements they make.

First, by translating the natural or mechanical “force” that is reshaping the planet into human social “power,” they locate agency—and therefore blame *and* responsibility—for global systems’ changes in an economic class or a unified humanity, rather than in the less politically-comprehensible, “distributed agency ... of Earth processes, technology, humans and other species” (28). His suggestion that assigning culpability to politically legible bodies (*Anthropos* or the wealthy) sacrifices accuracy for intelligibility credits the contributions of nonhuman agencies—but we should also be careful to remain attentive to the ways and degrees to which political power *can* be materially translated to force.

Second, non-scientific discourse frames the Anthropocene in relation to historical time, rather than to the geological or planetary time to which, according to Chakrabarty, it properly belongs. He argues that geologists and Earth systems scientists practice planet-centred thinking, or thought based in geological time. Geological time has antecedents, he claims, in “a class of time” discussed by natural historians, theologians, and cosmologists, “that has always been ... opposed to the sense or scale of temporality of human history” (22). He notes that this time is not imagined as “empty time,” but has been understood in relation to human

comprehension: it is “a limit to the time of historicity, ... a conceptual-temporal place where ‘meaning-making’ of human history ... ceases to work” (23). Geological time is similarly vast beyond human comprehension (though it is not equivalent to “absolute mathematical time” because it requires material record; thus the ongoing search for an appropriate stratigraphic marker—a piece of physical evidence in the lithosphere—in which the Anthropocene’s advent can be observed). The translation of the Anthropocene into historical time brings it into familiar affective territory, Chakrabarty explains: political action is partly stimulated by “hope and despair,” which can be understood only in relation to human historical time, whereas, he claims, “we have no obvious emotions about” geological time (13, 17).⁷⁴ Affect’s capacity to motivate is also a factor in the generalized unwillingness to cede authority to “geobiological” conceptions of time. Chakrabarty argues that such thought is barred from humanist discourse out of a fear that its scale would enervate politics.

Rather than protecting an anthropocentric notion of politics that cannot accommodate planetary thinking, Chakrabarty argues, we should “reconfigure” politics and our understanding of justice (29). Given that “questions about ... the history of the planet ... have become as routine in the life of critical thought as questions about global capital,” we need to figure out how to affectively relate to geobiological time, how to extend care beyond the limitations of history (32, 30). This reconfigured politics also has to integrate scientific insight into the interconnectedness of planetary lives, things, and processes, which can no longer be

⁷⁴ Distress thinking about the extinction of the dinosaurs comes to mind as one emotion that pertains to extra-historical time.

considered “outside” of the purview of history, but which must be considered when formulating demands for justice (29-30). The way in which we think about time informs the practice of politics, which impacts the quality of life for many species on the planet. While Chakrabarty has come to acknowledge the import of thinking and caring about nonhumans and nonhuman time—an aim supported by considering the lifeworlds and timescapes of insects and other animals—this expansion of scope and scale must guard against excessively diffusing and abstracting responsibility amongst an under-specified multitude of actors.

Feminist historian and theorist of science Donna Haraway takes a position that is almost the opposite of Chakrabarty’s insofar as she recommends a practice of “staying with the trouble,” or immersing oneself deeply in the present, rather than orienting our attention to the reaches of deep time; which practice involves developing thoughtful periodizing concepts and figures. Haraway argues that the term Anthropocene, though entrenched and usefully non-controversial, inaccurately and unhelpfully locates culpability for major global change in “generic masculine universal” humanity (47). She finds Andreas Malm and Jason Moore’s term “Capitalocene” preferable in that it emphasizes the interconnectedness of “crises of capital accumulation and biospheric stability” and capitalism’s function as “a world-ecology of power, capital, and nature” (Moore 7,5). However, Haraway argues, both the Anthropocene and the Capitalocene foster problematic ways of thinking about time: on the one hand, the assumption that technological or divine solutions will intervene in climate change, mass extinction, etc., which situates relevant action in the future; and on the other hand, the defeatist supposition that our situation is

irremediable, and that the time for action has passed (3-4, 50, 56). Haraway calls for the formulation of less immobilizing temporal concepts, offering a neologism of her own: the “Chthulucene.”

Combining the Greek words for earth (*khthôn*) and new, or fresh (*kainos*), Chthulucene is meant to “name a kind of timeplace” that includes a multitude of temporalities and eschews the convention of “wiping out” pasts and futures to preserve a sequential, progressive narrative (2).⁷⁵ The name is also meant to conjure chthonic entities that are “much older” than the ancient Greek *Khthôn* might imply: myriad “abyssal and elemental forces” (173n4). Haraway intends the term to evoke the need for new ways of thinking about time, the agency of nonhuman forces, and the ongoing, always unfinished relationality of human and nonhuman entities

Like Chakrabarty and Baucom—and continuing a theme that she has explored throughout her significant body of work—Haraway argues for the importance of integrating nonhuman “critters” (by which term she “refers promiscuously to microbes, plants, animals, humans and nonhumans, and sometimes even to machines”) into our communities of political and personal communities of care (169n1). Haraway refers to this as “making kin”: a practice of recognizing to those whom we bear responsibility, and extending personhood to them, creating “lines of inventive connection” that enable “multispecies flourishing on earth” (103, 1-2). The names we give to each other, the names we use to understand our relationships, and the names we use to describe the times in which we find ourselves matter. Haraway’s lexicon of kin, critters, and Chthulucene offer a

⁷⁵ Haraway emphasizes that her term is “not named after sf writer H. P. Lovecraft’s misogynist racial nightmare monster Cthulhu (note spelling difference)” (101).

starting point for building cross-category affective and political relationships right when and where we are. This does not deny the importance of recognizing trends and patterns in the past and taking predictions into consideration when making choices; however, Haraway's work asks us to begin by reconsidering the many forms of intimacy in which we are presently enmeshed, and working outward from there. Countering the mass cultural disavowal of our intimacies with insect-critters, even to the point of considering them collaborators in the project of rethinking historical time, can be a practice of staying in the present and recognizing kinship, even if that kinship is messy and challenging. This may be a more feasible perspective than trying to conceive of immeasurable time and difference, and build affective relationships with the whole, particularly if the latter approach does, as Haraway suggests, risk a solipsistic retreat from engaging with an overwhelming world.

Another practice that may aid in the recognition of nonhumans as participants in the Anthropocene's global chains of causality might be the development of imaginaries that take the human out of the picture altogether, according to Elizabeth Povinelli. Povinelli describes how history—fantasized as the “autological” human subject's pursuit of freedom and justice—has been a “weapon of the enlightened liberal state,” particularly in settler colonialism, inasmuch as colonialism's alibi is that it makes history by liberating the individual, whose creative and exploratory capacities have been suppressed by his society's collectivizing traditions (302). In order to stake its claim on history, the autological subject must “make other forms and arrangements of existence radically different

from itself and historically retrograde,” consigning forms of life that preceded colonialism to “the frozen landscapes of the past perfect” (302). Povinelli contrasts the human’s effectiveness as weapon (which we could describe as its territorializing function in Deleuze and Guattari’s terms) to its uselessness for describing emergent ontologies in which “every region of existence is a set of accumulating and dissipating entanglements,” which leads her to advocate abandoning modes of resistance that preserve even a “spectral” sense of human autology, including posthumanism and autonomism (300; 296).

In place of no-longer-tenable humanisms, Povinelli recommends drawing on critical race and indigenous theories which have long sought to disrupt the hegemony of liberal Western frameworks. Like Nixon, Povinelli suggests that work emerging from “the many indigenous worlds under assault by the anthropogenic effects of mining and climate” may be exceptionally useful in formulating post-autological resistance, because it can bring into focus “a more literal form of toxic sovereignty”:

anthropogenic toxins do not obey the settler colonial spatial technology of a barbed wire fence or the concept of a border. They seep through and corrode. ... In ... spaces of utter settler despoilment a new form of sovereignty emerges, a new form of pure autonomy from the capture of capital and state—a toxic autonomy. ...Viruses, gassings, toxins—these are the names we give to manners of appearing and spreading; tactics of diverting the energies of arrangements of existence in order to extend themselves; strategies of copying, duplicating, and lying dormant even as they continually adjust to,

experiment with, and test their circumstances; maneuvers to confuse and level every difference that emerges between regions while carefully taking advantage of the minutest aspects of their differentiation. (305, 307-308)

This molecular imagery of flows and becomings may suit present situations better than the molarities of autologous humans and historical progress (to again use the language of Deleuze and Guattari). While Povinelli associates this mode of thought with indigenous and non-Western imaginaries, it bears mentioning that her description could apply to insects. Insect life has also been conceived of in terms of border-transgression, reproduction and mutation, and molecular movement, and can thus likewise be useful for interrupting the interdependence of human-centred and historical thought.

Like Povinelli, Claire Colebrook sees the bounded, self-consistent human as an artefact unsuited to imagining liveable futures; she too argues that we may have to turn to what has been thought of as negative—or excluded from thought altogether—in order to conceive of life in the Anthropocene. In her online book *The Death of the Posthuman. Essays on Extinction, Volume One*, Colebrook reads psychoanalytical thought as moving away from confidence in a coherent human subject, citing Elizabeth Grosz and others' observation that the *image* of the bounded body acts as a "lure or alibi that covers over temporal dispersion," but also leads us to imagine a self that, because it is defined by a border, is "vulnerable to infraction and traumatic intrusion." However, she also argues that a common critique of the bounded self—the systems-theory-based argument that "the world is a dynamic network of interacting, affectively-attuned, responsive and self-

maintaining bodies”— goes wrong when it assumes an equation between life and autopoiesis. Colebrook suggests that considering viral and “malevolent” entities that have been excluded from definitions of life (as bounded and self-maintaining) can illustrate some of our limiting conceptual oversights.

The virus is disqualified from the category of the living because it is unbounded, and exists only in its “parasitic capacity” to reconfigure other living entities. Imagining the border-less virus as life is useful for imagining life’s “future or temporality,” because “it could not suffer trauma, could not be subject to an excess of influx that would destroy its living balance precisely because a virus is nothing other than a process of invasion, influx and (to a great extent) non-relation.” The notion of life as viral process asks us to consider what we imagine or hope would persist in the deep post-human future, and the ways in which that future might cease to resemble the present yet not be considered a death.

Malevolent life calls into question many proposed “solutions” to the seeming incompatibility of humanity and global biospheric stability. Colebrook observes that “it is often implied that once we recognize our truly relational and embodied condition we will indeed have a future.” Mindfulness, as *embodied* awareness, has been propounded “from philosophy to business management” as the key to acting “with respect and care (rather than destructive dominance) to what is not the self.” Malevolent life, however, would not protect the balance between self and other. It could be “blindly active and mutational” rather than homeostatic, which opens the possibility of thinking of life as becomings (in Deleuze and Guattari’s words), or as

“a series of potentialities that could branch out into territories beyond its own self-maintenance” (in Colebrook’s).

Colebrook argues for a “molecular or viral politics” unencumbered by imagined “benevolence or trauma-resisting membranes.” In order to formulate such a politics, she argues that we must resist our aversion to mindlessness, and consider how processes like viruses could create a political space without relying on images of similar bodies or the self contained political body. The politics Colebrook imagines integrate viral conceptions of futurity: thinking of “life potentials” that operate through “mutant encounters” relieves politics of the equation of survival and self-consistency. The future Colebrook imagines will have to do without the human as such, and move instead toward a Deleuzian notion of “inorganic potentialities that exist now only in confused and all too human composites.” Like Povinelli, Colebrook presents an image that resonates with many figurations of insect life and temporality. Located neither in the bounded individual nor the coherent polis; characterized by adaptation, mutation, and metamorphosis; and devoid of conscious intention or the desire to preserve a consistent self-ness, insect life as we often imagine it is a ready-made image of the molecular or viral futurities that Povinelli suggests the Anthropocene requires.

Though it is beyond my scope to fully develop the implications of the Anthropocene for our understandings of time, this partial investigation suggests two possibilities for how the Anthropocene impacts historical time. The first is that history could *expand* to encompass the geological scale. It universalizes humanity as a species, and

preserves a linear, sequential perception of time that remains teleological as it pits progress against extinction. This view relies on the threat of the posthuman *post-Anthropocene*, a time marked by “the *post-* of the space-clearing gesture,” as Kwame Anthony Appiah argues the “postcolonial” and “postmodern” are marked, that is, by an *after* that implies the term to the right of the hyphen has passed, ended (348). This view struggles to integrate nonhuman entities, and seems to offer limited resources for developing praxes. The second way of imagining the Anthropocene requires us to fundamentally revise the terms by which we understand the world and our place in it. This line of thinking accepts notions of the human, history, time, the nonhuman, nature, politics and so forth are co-constituted, and so challenges to each requires us to reconsider the others. It contests the sufficiency of history and historiography as they have been practiced, and, in many instances, calls for the inclusion of the nonhuman—including its disregarded and disliked instantiations—into our constructions of theory, politics, and care.

Anthropocene theories demonstrate that the debates over time and history often identified with postmodernism continue in the present. They have been reinvigorated with a sense of urgency (or overwhelmedness) by being brought into relation with global crises, such as the consequences of global warming, the “development” of rare biomes into more easily resource-ified spaces of human use, the decimation of planetary species diversity, and the hastening destabilization of interrelated planetary systems on which human existence depends. Thinking about time in this context may be imagined to be a diversion from the pressing questions that now confront us, yet this work continues to be necessary, particularly when we

consider how the normativity of dominant temporalities supports the status quo and the capacity of other temporalities to open spaces or modes of resistance.

The Politics of Temporal Disruption

Temporality is normative. The pressures that bind social groups include an obligation to adopt uniform ways of thinking about time; and temporal conformity limits originality in time-related thought. Consequently, many scholars have located alternative temporalities as timespaces from which to enact resistance. The temporal regimes they describe point to the continued dominance of modern time (clock and calendar time and historical time) in daily public life.

Sociologist Eviatar Zerubavel, who has written extensively on time, discusses the many ways in which a “sociotemporal order ... regulates the lives of social entities such as families, professional groups, religious communities, complex organizations, or even entire nations” (*Hidden Rhythms* xii). Zerubavel explores how schedules, calendars and other temporal technologies have acted to solidify group identification, while also organizing the different domains of social life within groups; for example, segregating the private and public spheres, and separating the social roles that an individual occupies. Zerubavel exposes the arbitrariness of the “hidden rhythms” that dictate group life, which habituation naturalizes and conceals.

History grounds group belonging, and we are socialized into memory, according to Zerubavel. He observes that “acquiring a group’s memories and thereby identifying with its collective past” is a fundamental element of assimilating into a community (*Time Maps* 3). Temporal socialization involves “learning to

remember in a socially appropriate manner,” including following the norms regulating what should be forgotten, and “mnemonic synchronization,” or learning to perform acts of commemoration at the expected times (5; 4). While conflicts between ways of *thinking* about time and history have received a great deal of scholarly attention, Zerubavel draws our notice to the dominance of certain ways of *doing* time and history, and illuminates temporalities as actively *learned* rather than innate senses.

The politics and effects of normative time also concern Elizabeth Freeman, who uses the word “chrononormativity” to describe the “use of time to organize individual human bodies toward maximum productivity.” Freeman’s analysis points to the ongoing dominance of modern clock and calendar time in everyday life: her observations that “time binds a socius” by drawing together people’s energies echoes descriptions of the effects of industrialization’s imposition of standardized time: “naked flesh is bound into socially meaningful embodiment” and “people are bound to one another, engrouped, ... through particular orchestrations of time.” This binding is not exclusively conceptual; like Zerubavel, Freeman focuses the “schedules, calendars, time zones, ... wristwatches” and the other technologies that shape temporal norms. Such apparatuses, Freeman argues, naturalize external productive logics so that they “come to seem like somatic facts” (8). Time, that is, is experienced as an embodied truth, concealing its imposition upon us.

The success of modern temporality is also apparent in Freeman’s reading of chrononormativity in Pierre Bourdieu’s concept of habitus, the culturally developed dispositions, skills, habits and so forth that embed one in a specific social group.

Freeman observes that Bourdieu's discussions of habits reveal that "cultural competence and thus belonging itself are matters of timing... mastering the cultural norms of withholding, delay, surprise, pause, and knowing when to stop... mastery over certain forms of time" (4). Though Crary argues that we are increasingly outsourcing this mastery to technology, what is important here is that temporalities are *learned* norms, rather than natural or innate realities. Freeman's argument, and her reading of Bourdieu, emphasize the affective and habitual dimensions of time: we do not only understand and practice time socially; norms also govern our unthinking *feeling* of time.

The fact that temporal norms draw us into certain proximities and not others, and facilitate certain acts of communication while impeding others, means that communities can reject the temporally dissonant people, but also that people can perform temporal disobedience to reject communities. Because participating in normative temporalities shows that we are part of a group, Lisa-Jo van Den Scott argues,

temporal resistance ... makes a particularly effective arena for resistance.

From a child's dragging her or his heels while getting ready for school ... to

France's adoption of the French Republican Calendar ... doing time

differently is one of the most effective ways in which to say "I'm not a part of your group!" (138).

Van den Scott also acknowledges, however, that reception matters to resistance. She cites J. Daid Lewis and Andrew Weigert's caution that people or groups who do not conform to the usual practices of time risk the perception of "social incompetence"

(Lewis and Weigert qtd. in van den Scott 139). Compliance to social norms can be enforced through temporal isolation and segregation, as when a child is given a “time out,” or when individuals’ jobs impede their participation in social life (139). Gladys Engel-Frisch thus notes that some people or groups, for example those who work the supposedly normal hours from nine to five, have “temporal dominance” (qtd. in van den Scott 140). Van den Scott summarizes various ways in which power and temporality have been found to relate, arguing that shared temporalities reinforce social solidarities, and whether practiced individually or collectively, temporal defiance can compellingly challenge social norms.

The normative aspect of temporality exceeds the individual or local: it can be registered globally. Anthropologist Johannes Fabian criticizes anthropology for its assumption of temporal borders between the West and its Others; however, the normative habits he describes can be seen well beyond that field. Fabian observes that Occidental anthropologists have relied on a politicized, normative temporality that “at once constitutes and demotes its objects through their temporal relegation” to an inferior, retrograde aspect of the historical narrative (Bunzl viii).⁷⁶ Fabian uses the term “allochronism” to describe the tendency to deny the Other a temporally coeval status (Fabian 32). Allochronism, he proposes, “circumvent[s]” and “preempt[s]” the coevalness of the other (38). Presenting a chronology of normative temporalities from the Renaissance secularization of Judeo-Christian time through to the time of publication, Fabian demonstrates how the “ethnographic present” has

⁷⁶ Fabian’s *Time and the Other: How Anthropology Makes its Object* was published in 1983, which situates it squarely amidst the postmodern(ist) debates about temporality and historiography.

been used as a “rhetorical vehicle that reifies the Other as the inherently deindividuated object of the anthropologist’s observation,” and thus as a “vehicle of Western domination, reproducing and legitimating global inequalities” (Bunzl x, xi). The normative force of allochronism, in Fabian’s view, is a significant and persistent historical force.

While Fabian criticizes anthropologists for imagining that other people inhabit a different time than their own, the concept of allochronism can be made to accommodate the awareness that different beings experience time differently: the problem Fabian identifies is that anthropologists have understood the people they have studied as delayed versions of themselves. Criticizing this tendency does not need to preclude the observation that that different groups and contexts have different ways of thinking about and experiencing time; allochronism as the denial of temporal difference can be opposed to scholarly practices that seek out and learn about other temporalities.

Philosopher and political theorist Achille Mbembe has developed temporal concepts that can be useful for moving outside the dichotomy of allochronism versus chrononormativity. Mbembe argues that Western paradigms relating to time, the subject, power, and so on are inadequate for understanding non-Western history and society (*On the Postcolony* 11, 14). He develops a distinction between the notions of *age* and *durée* as he works to modify the concepts of postcolonialism and the postcolonial subject from an African perspective, theorizing an African “postcolony.” The postcolony, he explains, is “a given historical trajectory—that of societies recently emerging from the experience of colonization and the violence

which the colonial relationship involves" (102). The postcolony can be considered an age, which, like every age, "encloses multiple *durées*" or temporalities "made up of discontinuities, reversals, inertias, and swings that overlay ... interpenetrate ... and envelope one another" (14). The age, as a commonly experienced timescape (to use Adams' term), can thus accommodate many different and contradicting temporalities.

The postcolony can only be thought outside of dominant Western temporal paradigms. Western time as Mbembe explains it is linear, sequential, and based on rupture, such that "each moment effaces, annuls, and replaces those that preceded it"; this supports a postcolonialism based on a "'before' and 'after' of colonization" (16; 15). Theory based in this temporality imagines a social "converg[ence] toward a single point, trend, or cycle," and is thus fixated on "Western modernity or the failures of non-European worlds to perfectly replicate it" (16; 15). Mbembe argues that this temporal framework misapprehends Africa, which is better imagined through what he calls "*the time of existence and experience*," in which times are "entangled" and interpenetrating: "presents, pasts, and futures ... each ... bearing, altering, and maintaining the previous ones" (16).⁷⁷ Rather than progressing directly toward a single future, this time sees "disturbances ... unforeseen events ... fluctuations and oscillations" and accommodates "a variety of trajectories neither convergent nor divergent but interlocked, paradoxical" (16). The many *durées*

⁷⁷ Mbembe's explanation of the relationship between times also somewhat resembles Derrida's hauntology: the present, in his view, is "when different forms of absence become mixed together: absence of those presences that ... one remembers (the past), and absence of those others that ... are anticipated (the future)" (16).

within an age explains how different people can hold incommensurable perceptions of an age, even as they agree upon the basic relationships and events that characterize it.

The temporality of the postcolony implies its own modes of being and therefore of resistance. Mbembe suggests that we can to a degree think of “subjectivity itself as a temporality,” given that each person experiences and understands their life based on age-specific configurations of “material practices, signs, figures, superstitions, images, and fictions” (15). Subjects that have to negotiate the postcolony’s multiple logics need to become able to “manage not just a single identity, but several,” so postcolonial subjectivity is “flexible” and “splinter[ed]” (104). This means that using Western paradigms for resistance are also unsuited to the postcolony; binary notions that assume “resistance or absolute domination,” for example, are inappropriate to the many temporalities and identities of the postcolony (104). Normative Western temporality compresses the range of possibilities for imagining postcoloniality, while alternative concepts such as the postcolony and its multiple *durées* expand the conceptual ground from which inegalitarian Western norms can be confronted. Mbembé’s elaboration of the temporality of the postcolony and its usefulness for thinking cultural difference suggests the possibility that theorizing temporalities of the “postcolony” might help imagine species difference (with this comparison I mean to suggest the value of thinking difference, not to amplify dehumanizing comparisons of humans and insects).

Postcolonial scholar Homi K. Bhabha's examination of national belonging also finds multiple temporalities at work in convening norms. Bhabha distinguishes between the linear, progressive "pedagogical" time that constructs people as "the historical 'objects'" of a nation, and the "performative" time that constructs "the prodigious, living principles of the people as contemporaneity" affectively experienced as belonging-together in the present moment (145). Bhabha, recognizing that power and inequality are constituted in unique instances of enunciation, suggests that there is a "creative heterogeneity" inherent in "the enunciatory 'present,'" because each reinscription of power relations is "crossed by the *différance* of writing" (185, 36). That is, performative temporality opens up uncertainty, spaces of play, and thus the possibility of other modes of relating. Bhabha refers to public performances, but in a deeply media-saturated world, embodied performance cannot easily be separated from art, literature, or cinema.

Many other terms and schema have been suggested as ways of recognizing and resisting the normative use of time. Art historians Keith Moxley and Dan Karlholm have proposed "homochrony" as a term for the framing of all events in relation to Western European and North American time, building on Moxley's earlier explication of "heterochrony" as "a way of articulating resistance to a subscription to a 'universal' form of time" ("Telling Art's Time" 3; *Visual Time* 5). Dana Luciano uses the term "chronobiopolitics" to refer to the "sexual arrangement of the time of life," or the "reproductive/generational orientation at the heart of" a "sexual politics of time in the nineteenth century" (9, 62). Luciano argues that a relatively slower, nonlinear affective time, aligned with nature and spirituality, has been "embraced as

a mode of compensation for, and to some extent, of resistance to, the perceived mechanization of society” under the linear, rational time associated with the nation (6). Stefan Helgesson calls for a “radical polytemporality” that would “exceed the evolutionist, colonial and culturalist paradigms” to “acknowledge all the different modes of time—domestic, national, personal, political, spiritual, geological, technological, agricultural, etc.—that continuously give shape and meaning to human life” (16). None of these theories suggest that finding the “right” time, or a coherent temporality, should be a goal; rather, the general aim is to proliferate the temporalities that are available for thought and experience.

Following on the earlier discussion of Anthropocene temporality, we can also ask if temporality is normative on a species or companion-species level. Humans and their intimate others still respond to a diurnal rhythm based on the solar day (as well as tidal, lunar, annual and other cycles having to do with nonhuman forces); other species and groups of species can be understood to occupy other temporal “niches” (Hut et al). While the concept of normativity—as socially imposed pressure to conform—might be best understood in relation to human-centred social theory and history, beings that find themselves out of their temporal niches (coming out of hibernation at an unusual time, for example) are also more likely to suffer consequences for their nonconformity. Resistance, in this sense, might overlap with mutation or adaptation: many animals have been shown to adapt to new and unfamiliar time cycles (Aschoff, Richelle and Lejune 6.). However, while the persistence of temporal dominance suggests that we have not entirely arrived in a 24/7 society, Crary’s claim that late capitalism strives to bring about such a

temporality reminds us of how easily temporal resistance, like other forms of insurrection, might be subsumed into existing modes of domination. Still, as Michael Herzfeld argues, history, commodified by global neoliberalism, “poses a massive obstruction to the choices available to the politically weak and compromises the forms of agency that its technologies have made available to these populations” (108). If history from its beginning has served to contain and control vital energies (as accounts of the emergence of modern clock and calendar time and historical time demonstrate), and has only become more sophisticated in its ability to do so (as is argued by postmodern and more recent theories exploring the relationship between capitalism and temporality) *and* if it impedes our collective ability to address the social and ecological crises that are widely perceived to be ongoing (as Anthropocene theories suggest), representations of divergent temporalities may contribute to building ways of thinking, acting, and being differently, and perhaps avert the catastrophes toward which history seems now to rush.

Chapter 2: Insects' Ambivalent Temporal Affects

Insects' perceived ability to experience and interact with time in strange ways is figured with ambivalence. It is abject in that it foregrounds insects' difference, opening us up to the inhuman aspects of being and time, yet at the same time, as an affect that we do not have, it suggests desirable powers and insights. This chapter shows how insects are used to denaturalize time in popular nature reportage, and postmodern literature, film and art. In so doing, it questions ideas about human knowledge and mastery of the nonhuman world.

Animal temporalities have been at times central to philosophy, particularly in Jakob von Uexküll's biophilosophy and its uptake—both as a means of reifying and dismantling human exception—as described in the introduction. More recent critical discussion of animals has not been particularly interested in animals' relationship to time, with some exceptions (Björck; DeSilvey and Bartolini; E. Johnson; Marchesini). A session of the 2017 Theoretical Archaeology Group conference in Cardiff on “Animal Timekeeping” sought to “explore the time-related aspects of human-animal interactions ... the role animals have in dictating the temporal rhythms of life[and] the different scales at which human-animal relations are permeated by issues of time” (Best, Madgwick, and Mulville). Michael Lipscomb argues that apprehending non-human nature is “a matter of temporal responsibility,” as it contributes to the crucially important political work of “cultivat[ing] alternative[s]” to the pervasive “capitalist-bureaucratic experience of time” (281-282, 284). Similarly, Erin Fitz-Henry, arguing that the politics and economics of late capitalism have impeded our recognition of the “ontological

multiplicities” of multispecies life, urges us to seek out and consider “the full range of temporalities with which we are surrounded” in order to attain “a more visceral awareness of those forms and rhythms of life currently doomed to ‘slow disaster’” (1; 15-16). Insect temporalities have been even less frequently considered. In addition to discussions of *Umwelt* outlined earlier, critics have examined figurations of insect temporalities in poetry; their analyses confirm insects’ capacity to decentre conventional time.

Insect figuration in the work of eighteenth century poet and physician James Grainger makes it easier to think the present moment, according to Monique Allewaert. Allewaert argues that the Scottish poet’s “insect poetics ... might inculcate an aesthetic and science that contributes to a critical environmentalism based on the partial, or the insect, yet is able to slide from the small-scale to the systematic” (325). This work is especially valuable, in her view, because Anthropocene time brings large-scale phenomena such as mass extinction and desertification into view, while techno-science and politics increasingly value and “harness the powers of smallness, including insects” (332). Allewaert claims that Grainger’s insect figurations develop a temporality and mode of personification that do not fit with Enlightenment or modern thought, but are pertinent “as we pass beyond modernity’s ways of thinking agency and struggle to develop new ways of conceptualizing animacy, agency power, organization, and system” (325). While Allewaert’s analysis foregrounds the positive potential of insect figuration to rethink grand abstractions, poetry has also used insects to provoke shifts in personal, embodied relationships to time.

Julia Obert argues that Irish poet Thomas Kinsella figures “insect time” to isolate and examine “process and change ... circularity and cyclicity, growth and decay,” remediating a human inability to clearly perceive transitions’ margins (360-361). Kinsella’s insect temporality is abbreviated in comparison to human time, but is also, Obert observes, reassuringly “circular rather than linear,” which allows readers to experience life as likewise cyclical, and motivates artistic creation (362-363). Obert argues that Kinsella’s insect poetry levies a critique of human relationality: he contrasts insects’ emergent, “intuitive” cooperativity—which is destructive only in times of great need—with humans’ self-interested, hierarchical, fragmented sociality, which is self-destructive most of the time, and only cooperates to oppose enemies (364-368). Kinsella uses insect organization and temporality as a model for “an anti-anthropocentric view of intimacy,” Obert claims, in hopes that people might thereby learn to “live more symbiotically” (360). Obert’s reading foregrounds the restrictive nature of human temporal norms (which, by reducing the available temporalities, limit the possibilities for understanding self and society), and shows how Kinsella figures insect temporalities in such a way as to denaturalize those norms.⁷⁸

The texts analyzed in this chapter do this same work of decentring conventions of time. Their insect figures present alternatives to our normal assimilation of the world in clock-and-calendar time and historical time. Nonhuman temporal affects offer the appealing prospect of escape from the tyranny of regular time, but they can also evince a disturbingly inhuman world.

⁷⁸ The football game, for example, implies a different kind of collectivity than does law school.

Periodic Cicadas' Mysterious Potentials

The strangeness of insect time gives grounds for temporal philosophizing in the popular media, as is seen in discussions of periodical cicadas' emergence from the ground. Periodical cicadas' developmental cycle is unusual: while common, green-eyed cicadas emerge from the ground to mate annually, broods of periodical cicadas (*magicicada*) spend years underground in their larval stage, emerging *en masse* only every thirteen or seventeen years, (the timing is consistent and specific to different broods; strangely, both periods are prime numbers). Typically, news reporting of the event is melodramatic. One article by Carl Zimmer in the online *New York Times* exemplifies the way the phenomenon is reported as fascinatingly inhuman: it announces, "creatures with eyes the color of blood and bodies the color of coal are crawling out of the earth" (Zimmer, "17 Years to Hatch an Invasion"). This description, which emphasizes the insects' chthonic, almost vampiric strangeness and likens them to a potent energy source formed over millions of years, sounds like it comes from a horror film. It figures cicadas as disquietingly powerful and alien, but goes on to make a claim for the human relevance of their strange life-times.

The *Times* article encourages readers to compare their sense of time to the insects, which foregrounds cicadas' difference but also the ways in which their temporalities are comparable to our own. For example, Zimmer describes the 2013-emerging brood as "Clinton-era larvae" (the insects hatched in 1996). The reference to historical, political time is in tension with commonplace perceptions of insects as natural and anarchical; it brings nonhumans into the collective of lives that can be measured in historical time, but cannot eliminate the dissonance the comparison

creates. The same article cogitates on the different developmental speeds and timelines of humans, mice, and the gastrotrich (“a water-dwelling invertebrate the size of a poppy seed”). This demonstration of the relativity of life-times effects more than readers’ entertainment: it implies that cicadas have a temporal power that could be exploited.

Cicada broods have switched between 13- and 17- year cycles of evolution several times since separating from a common ancestor, and Zimmer explains researchers’ hypothesis that when insects find themselves sharing ground with cicadas of the other periodicity, they can “switch” their development by the four years necessary to stay in synch with the mass. The cicada’s ability to prolong immaturity or hasten maturity by nearly a third of its lifespan demonstrates in dramatic fashion the differences in “how long a species lives and how much of that life it takes to reach adulthood.” Human longevity extension is never *explicitly* named in the discussion of this “drastic switch” and the bugs’ “remarkable” lifespans. However, the reading public is well accustomed to the human potentials implicit in zoological and genetic research. Suggestive language, such as that describing cicada research as a search for “another clue to one of the world’s great life cycles,” encourages readers to fantasize about the possible uses of entomological knowledge.

Both the motive and the mechanism behind the cicada’s life cycle may remain unexplained for some time yet, an enigma that points to the temporal limits of current scientific practice. Questions such as

How do they [the cicadas] count to 13 or 17? ... How do they get to be so exact? Is this just a by-product of their developmental biology? Is 13 or 17 years just a simple addition of the duration of five larval stages? Or should we consider this cycle to be an output of a 'clock' or 'calendar' of sorts?

pose an "extraordinary challenge" to experimental norms (Zivkovic). The amount of data and the duration of study that would be needed to answer these questions, argues chrono-biologist Bora Zivkovic, makes adequate study impracticable. Too many species, each with too many data points would have to be studied; those organisms would have to be kept in perfectly consistent conditions; and the points would have to be measured over "hundreds of years, perhaps thousands," he explains. Zivkovic sees this as a task neither funding agencies nor individual scientists would be willing to address—only an "unusual administrative framework" of many organized researchers will have that capability, and "the papers will get published," he jests, "somewhere around 2835 A.D." In this figuration of cicadas, the insects' strange affects reveal the limitations of the human knowledge-producing apparatus. Trained scientists, though, are not the only capable gatherers of data, and if some kinds of genetic and behavioural research remain out of reach, crowdsourcing technologies and big data are mutating human affects, bringing the lives and life-times of other species closer to what we can comprehend.

Information and communication technology (ICT) technology used to compare human and cicada "schedules" is helping people understand the species' interconnectedness. Websites have been developed that help visitors ensure that their weddings, graduations, and other outdoor plans do not conflict with the

cicada's plans; at the same time, these sites solicit the public for information that allows them to track the broods' locations and dates of emergence (see for example magicicada.org and cicadamania.com). These sites offer scientists mass data collection, while the public has their fears allayed and myths dispelled, and gains some sense of what experience they can expect; cicada populations, hopefully, are less antagonized when they awaken.

The need to conserve their populations is one of the reasons to track cicadas, and Biologist John Cooley notes, "they're a little bit more like passenger pigeons⁷⁹ than we might like to think." While the cicadas are "very sensitive to climate," the records do not yet show the effects of climate change on the insects, because the collection of data on these creatures has not been sufficient ("17 Year Cicadas Primed to Emerge"). However, when a group of cicadas in the Baltimore and Washington, DC area known as "Brood X" emerged in 2017, four years ahead of schedule, climate change was identified as a possible cause (Resnick). Reports of this aberrant phenomenon treated it as more evidence of insects' mastery-defying weirdness, calling it, for example, *not* "a sign of the impending apocalypse. (We think. We hope.) But ...just one more mystery of these amazing creatures, which have an uncanny ability to keep time" (Resnick). The notion that climate change could be altering cicadas' biological clocks suggests the strangeness of the present, and the power and extent of its global changes.

⁷⁹ Passenger pigeons were once the most numerous birds in North America and perhaps the world; they went extinct in the early 20th century due to mass hunting and habitat loss (Yeoman).

The insects' uncertain future offers a different way to perceive the magnitude of the ongoing mass extinction event: while many discussions of species endangerment and extinction focus on the numbers of species lost, or the rapidity with which their number is rising, threats to insect life emphasize the millions of years of evolutionary persistence and adaptation that are brought to a halt by extinction. This long view emphasizes biological resilience of life, and therefore also the power of a situation that halts such duration. Emphasizing the millennia in which nonhuman life has continued, though, also suggests that nonhuman worlds may offer yet-unimagined strategies for addressing ecological crisis. News reporting of insects' strange experience of time corresponds to a similar use of insect figures in literature, where bugs have been used to radically defamiliarize readers' notions of time. Postmodern literature is noted for having a complicated or absent relationship with history, but less attention has been paid to its representations of more-than-historical time.

Nonhuman and Inhuman Time in *The Woman in the Dunes* and *The Ark Sakura*

Insects' dramatically inhuman time can expand readers' attention outside the bounds of human history to prehistoric and posthuman epochs, and it can concentrate readers' attention on the brief moments that, passing, constitute the entirety of a life. Insects estrange readers from everyday time repeatedly

throughout the works of Kobe Abe⁸⁰, notably in *The Woman in the Dunes* and *The Ark Sakura*. These texts estrange readers from history by emphasizing the relativity of time. The style in which this effect is achieved differs between the texts, but the theme remains constant. In *The Woman in the Dunes* insects' imposed human names signal the bureaucratic taxonomizing impulses and absorption in everyday minutiae that tethers us to the everyday, while their physical presence embodies the vital, inhuman flow of time that eventually dissolves all such concerns. In *The Ark Sakura*, a surreal, obscene beetle illustrates the absurdity of imagining progress in an inherently unsustainable post-nuclear context.

The protagonist of *The Woman in the Dunes* is a teacher and dedicated amateur entomologist who passes through the monotonous non-time that accompanies hopeless tasks, as an allegory of tedium and futility. The man occupies his "free" time collecting and organizing insects. The insect here serves as an conduit of engagement with the world and history that makes time proceed: the entomologist's desire is to have "his name perpetuated in the memory of his fellow men by being associated with an insect," so that the animal will anchor him in the passing of historical time in the same way that his entomological hobby connects him to everyday time. Abe goes on to show this attachment to taxonomic and historic knowledge to be banal, prideful, and ultimately inconsequential.

⁸⁰ Abe's inclusion amongst my archive of Western texts makes sense given his acclaim amongst international audiences. His major works have all been translated into English and received considerable Western popular and critical attention, and Abe himself denied any sense of belonging to Japan as a homeland, rejecting associations with Japanese literature in favour of a more global affiliation (Goebel 32, Iles 1). His work is commonly likened to that of Franz Kafka and Samuel Beckett.

The man becomes “completely captivated” by a rare species of dune-dwelling beetle that may have atypical, sandy-coloured legs, and follows it to the seashore. The (third person objective) narrator interrupts the narrative to mention a theory in which beetles’ “strange pattern of flight” is intended to lure animals into the desert, where they “collapse from hunger and fatigue” and become the beetles’ prey. As a textual interjection, this comment interrupts the conventional, sequential-teleological plot with an insect figuration that does not conform to or fit with our expectations for the arrangement of meaning. As a foreshadowing device, the interjection conjures the inhuman face of nature, and reframes the man’s desire as an animal trait—one that implicates him in a brutal web of survival, where he can be outsmarted, exploited and killed by another animal.

The entomologist’s interest in the dune beetle leads him to an interest in sand, and thereby to (many pages of exposition on) erosion and geological time. Like the description of the beetle, this expository incursion is at odds with the usual progression of a novel. The man learns that “as long as the winds blew, ... sand would be born grain by grain from the earth, and like a living being it would creep everywhere. The sands ... invaded and destroyed the surface of the earth.” This nonhuman image of the earth’s material as a ceaselessly flowing, destructive process appeals to the man. He favours its “ceaseless movement” to the “dreary way human beings clung together year in year out,” which he sees as leading to competitive existence. He admires how animals that lived amongst the moving sand “were able to escape competition through their great ability to adjust—for example, the man's beetle family.” Throughout the book, figurations of insects’ bodies are

associated with non-historical, non-accumulating time, in contrast to human time and its futile aspirations to progress. The protagonist's admiration of the insects' adaptability extends to "hallucinations in which he himself began to move with the flow," but the latter part of the novel explores the awkward, painful difficulty of renouncing human time in favour of insectile flow.

In search of the beetle, the man goes to the seashore, where he becomes trapped in a village "resembling the cross-section of a beehive" at the bottom of a pit of sand. There he is held captive in the home of a young widow, and made to join her in the Sisyphean work of shovelling back the ever-encroaching sand that threatens to submerge the town. This futile work literalizes the mindless, ceaseless reproductive labour that the image of the beehive evokes (Rogers, "Busy as a Bee"). The man's initial interest in classifying the insects he finds in the village reveals the persistence of his connection to the quotidian world. On his arrival, he pays a great deal of attention to the proper names of the life forms he finds, observing "Orthoptera—small-winged crickets and white-whiskered earwigs," "Rhynchota—red-striped soldier bugs," "sheath-winged insects...: white-backed billbugs and long-legged letter-droppers," and an "army of fleas." He looks forward to the "battle" to find the elusive unnamed species he seeks. His body and the inside of his clothing are armed with DDT against the possibility of being touched by the bugs; he wishes only for the thrill of identification, not for the intimacy of contact. The social convention of the proper name, which works against "moving with the flow," only appears in relation to the outside, bureaucratic everyday world: the man's proper name is only used in the "missing persons" paperwork with which the book begins

and ends. The man's initial taxonomizing desire bespeaks a belief in the stability of identities, and the possibility of posterity: the man, at this point, reifies the historical narrative that subsumes singular experience as it names and explains it all.

Becoming-insect, as a worker in the hive-like pit, is an alienating and often insufferable process for the man. He is disgusted by the effects of time and sand on the hovel in which he is housed, and repulsed by his hostess' attempts to achieve intimacy with him despite the recent deaths of her husband and child (finding it unseemly, that is, socially taboo, to move on so quickly). The constantly falling sands the pair are forced to clear away are repeatedly associated with the work of insects rotting the ceilings overhead, and perpetually accumulate, to the man's dismay. As time goes on, and he becomes increasingly entangled with the widow, his connection with the world and its names wanes.

After being removed from everyday life for some time, the man grows tired of battle—the battle against captivity, and society's battle against the unremitting erosion of literally everything. After refusing the work of sand clearing for some time, the man requests and is given a newspaper; while the villagers' seeming intent is to scare him into work with an article describing a fatal sand-avalanche, the banality of the headlines have a far greater effect on him. Headlines that clumsily combine significance and triviality such as "*Drastic Measures Against Traffic Jams*" and "*Ingredient in Onions Found Effective in Treatment of Radiation Injuries*," sit alongside announcements of political corruption and ineptitude; theft, murder, and other crimes; the woes of sports and economics; and struggles against oppression. All of these seem similarly unimportant to the man. The announcements have in

common not so much inanity as *suffering*; even the medical discovery would be needless without the dangers of atomic energy. The man sees in the headlines “a tower of illusion, all of it, made of illusory bricks and full of holes,” and reflects that only because of the “meaninglessness of existence” can everyday domestic, self-involved life go on.

Resigning himself to the flux of sand and insects, the man begins to engage positively with his relegation to the extra-historical, non-progressive world, eventually working *with* the sand, rather than against it, to draw water to his home. He slowly relinquishes the violence of contributing to history— trying to *be someone*, trying to inscribe his own name and that of “his” beetle in the archive, and in so doing, sacrificing lives for labels) and turns toward mindfulness, a meditative absorption in his immediate surroundings. He has become like the insect-animal as imagined by Heidegger, wholly captivated by the immediate stimuli of his surroundings.

By the end of the novel the man has *become* the unnamed village at the bottom of the hourglass, in the Deleuzian sense. The woman with whom he lives suffers an ectopic pregnancy (described over a few lines only, allowing for no reflection on posterity through parenthood), and the man is left near a rope ladder with which he could escape from the pit. The man’s nonhuman lack of desire and suffering is apparent in his complete disinterest in the end of the pregnancy and the possible death of his companion. He is as indifferent to change as the insects or sand. One could read the man’s decision to remain in servitude in the village as a manifestation of Stockholm syndrome, but the description of his decision to stay

reads more like *Waiting for Godot* or *Endgame*: like Beckett's works, Abe's book leaves a space of undecideability open in which exposure to the ceaseless passing away of existence can beget nihilism or transcendence.

The man's attachment to history is clearly severed by the end of *Woman in the Dunes*. Having built a water-trap he has not yet explained to anyone, the man decides "he would end by telling someone—if not today, then tomorrow. He might as well put off his escape until sometime after that." There is no expectation that the man's invention will serve any purpose other than sustaining his everyday need for water: his story trails off into vague indifference. The historical record's inability to meaningfully capture the living man with its bureaucratic taxonomizing and ordering impulses is highlighted by the coldness of the boilerplate with which his disappearance is entered officially into record: the progressive world was only ever interested in his proper name, Niki Jumpei. That name is, finally, separated from the experience of the man as he is lost to the molecular flow of insects, sand, and time.⁸¹ Abe's insect figures emphasize the non-progressive, experiential nature of nonhuman time without idealizing it, and in so doing, criticizes notions of identity and posterity predicated on historical time.

The estrangement of time in *The Woman in the Dunes* is no more antihistorical than it is in Abe's *The Ark Sakura*, but the latter text is far less equivocal in its tone. The

⁸¹ The protagonist's dissociation from a proper name, as a sign of his detachment from arbitrary, impermanent social conventions of taxonomy, is found also in Clarice Lispector's *The Passion According to G.H.*, in which the main character is known only by the initials on her suitcase. By the end of that text, she has rejected the human identity denoted by a name, after having had an intimate encounter with insect materiality.

book's weirding of time is embodied in a fictional insect, the *eupcaccia*, or clockbug. Like the sand-beetle in the dunes, the clockbug figures time without history—it is literally going nowhere. Its legs have atrophied from disuse, and through the day it uses its antennae to rotate counter-clockwise; heliotropic, it moves with the sun and can be used as a timepiece during the day. As it rotates, the clockbug consumes at one end what it excretes at the other, so that it is constantly in the middle of a hemisphere of its own feces (the nutrients of which are said to be replenished bacteriologically). The aggressive metaphoricity of the *eupcaccia*, literally a clock that produces and consumes nothing but waste, performs little regard for readers' subtle interpretive skills, which is consistent with the book's frustrated and bitter tone.

The clockbug embodies the conflict between civilization and sustainability. The protagonist of *The Ark Sakura* (called "Pig," though he names himself another animal, "Mole") admires and identifies with the perfectly efficient insect (to the extent that he sees its image on the flag of a country he imagines founding), but Pig stands firmly outside of the human world of progress: he is an unidentifiable animal without a proper name and an anti-nuclear anchorite, living in a survivalist shelter known as the Ark. Renouncing society in favour of the Ark, which is in a mountain, is Pig's attempt to protect himself against the nuclear disaster that he predicts is imminent. The absurd and scatological image of the *eupcaccia* makes sense in the light of the nuclear threat, which comparison likens it to the Doomsday clock

counting down to global disaster.⁸² Where the Doomsday clock can be turned back and, in its cautionary function, implies the possibility of saving humanity, the clockbug tells us that post-nuclear⁸³ time is ridiculous and disgusting.

The nuclear threat is connected in the book to ecological degradation, the magnitude of which is indexed with insects. Pig complains of “environmental pollution [which] is getting so bad that insects are disappearing all over the place” including wild-caught clockbugs. He sees in the insect some “charm,” hypothesizing that “its almost perfectly closed ecosystem was somehow soothing to troubled hearts.” Only Pig, who abjures social norms, can appreciate the doubly-bject nonhuman figure for its material coherence with its milieu. Its nearly closed ecosystem is socially abject; the universal taboo on cacophagy immediately, viscerally insists that what has been consumed once is not to be consumed again. This puts civility in conflict with planetary limits: in the long term, there will be nothing to consume that hasn’t been consumed already. The tension of post-nuclear temporality, in which humanity has attained the potential to destroy time itself, is also the anxiety marking an age of accelerated consumption and uncontrolled waste production.

Pig’s appreciation for aspects of the clockbug that would generally be considered disgusting (its fecal diet, and its insect-ness) puts him at ease, in contrast

⁸² The Doomsday clock, by which the Bulletin of Atomic Scientists measures the level of existential threats to humanity, has been moving closer to midnight since 2010. In 1984, when *The Ark Sakura* was being written, it was three minutes to midnight; as of 2019, it is two minutes to midnight: the clock has been moved forward in view of an ongoing global nuclear arms race and the increasingly dire consequences of climate change (The Bulletin of the Atomic Scientists). We have not reconciled with the clock—if anything, the tensions evinced by *The Ark Sakura* have intensified.

⁸³ By post-nuclear, I mean to refer to time following the *invention* of atomic energy.

to another character's destructive fixation on the perfection of its timekeeping. The text makes brief reference to a man, "either a Japanese watch salesman or a Swiss clock manufacturer" who becomes obsessed with the clockbug. After spending "day after day" watching the insect with a magnifying glass, this horophile "finally died raving mad, cheeks bulging with his own excrement." The best, most precise and expensive timepieces attempt in vain to mimic the nonhuman (the time of astronomical movement and the life forms that are sensitive to it); attempting to apprehend the naturally-functioning clockbug in a standardizing, industrialist capitalist grasp is a grotesque and futile mimicry. To miss the book's disgust with, and parody of, post-nuclear time here would be to overlook Abe's pun: if God is "the watchmaker," as he is sometimes named, here he is a mad watchmaker, who died because he was full of shit. That is, if God set up the world to perfectly follow a planned timeline that includes environmental crisis and the A-bomb, that makes belief obscene or impossible, and in that sense, God "dies." The book's satire is sharpened by the plot—relating how an atomic doomsayer is soothed by a figure of sustainable, natural time immediately before describing how that same figure was lethal to a shit-eating capitalist watchmaker connects the pun's hostility or anarchism to fears for the long-term prospects for planetary life. As in *The Woman in the Dunes*, in *The Ark Sakura*, Abe portrays antagonism between the controlling, standardizing time of organized human society and the natural insect time that it seeks to subsume.

The Eagleman Stag and the Accumulation of Time

Thinking about insects' experiences of time has suggested, for Uexküll and many others, that time is embodied and relative. Michael Please's short stop-motion film *The Eagleman Stag* uses this association to explore explores the concept of diminishing marginal utility of time: the idea that because we perceive time as cumulative, as we age each new moment we experience is proportionately smaller in relation to the time we have lived and remember.⁸⁴ That is, "the larger our past gets, the smaller our present feels" (Please, *Making the Eagleman Stag*). The film's tagline juxtaposes the mysteries of life and insects, and gestures to the way repetition impacts our perception of meaning: "If you repeat the word 'fly' for long enough, it sounds like you're saying 'life.' This is of no real help to Peter. His answers lie in the brain of a beetle." The film's protagonist, entomologist Peter Eagleman⁸⁵ seeks to answer no less a question than how to control the effects of passing time; while the answer, in the brain of the titular "Stag[horn beetle]" insinuates the possibility that studying nonhumans could give us new temporal affects, but it also threatens to expose us to sublimely inhuman time.

⁸⁴ Please does not use the phrase "diminishing marginal utility of time," but the phenomenon he describes corresponds to the concept of diminishing marginal utility of money (the idea that as wealth grows, increases in wealth become less meaningful) popularized by Alfred Marshall's *Principles of Economics*.

⁸⁵ Peter Eagleman's name likely alludes to writer and neuroscientist David Eagleman, who has extensively studied and written about time perception. It also conveniently juxtaposes animal and human, which is appropriate for a film that explores the protagonist's subjectivity and animality.

The stop-motion technique of *The Eagleman Stag* is uniquely suited to an estranging exploration of repetition and time. Its animation was composed entirely in-camera, so the film's brief duration represents thousands of hours of creative labour. The duration of the shots stretches some moments and compresses others, emphasizing the effect attention can have on the passing of time. The establishing "shot," for example, is not a single shot but a rapid series of proleptic scenes (in a style later repeated to represent the destruction of memory), which can make viewers feel helplessly exposed to the too-quick passing of time. The use of white foam to build everything shown onscreen eschews naturalism in favour of monochromatism's potential for striking contrast—for example between intense brightness in scenes representing immersion in experience, and the deep darkness at periods of melancholic reflection—but at other moments the consistence in substance is foregrounded, emphasizing the mental work of differentiation. When colour is described in moments of emotional intensity (a blue stripe on a slow worm; the brilliant red of a cut), the narration is estranged from the image, which undermines the fourth wall, and also has the greater effect of suggesting the way intensity and emotion are bleached out of memory by time: in memory and other representations, the intensity of emotion can be described but not experienced.

Film's control of the time in which it is perceived (which it shares with music and theatre) is also, like insects, well suited to exploring repetition, memory, and time. Please exploits the temporal properties of film, for example, by emphasizing the gap between narration and image, which opens space between experience, and the narrative that produces meaning from it: the film's cold opening includes images

of the formation of neurons in a fetal brain (presumably the protagonist's), while the first-person narration begins by describing the protagonist's fourth birthday; this narration concludes at Eagleman's meaningful "end," while onscreen we see the animal life of his body continue. What we *see* extends beyond the edges of what is *described*. The slightly different durations begin to separate our visual, sensuous perception of Eagleman's body and our linguistic, cognitive understanding of his subjectivity. We are offered two representations of who or what Eagleman *is*. Please thus establishes in form, from the outset, a problem that the film's content goes on to develop in detail.

The content of the film's narration also immediately draws attention to the slippery nature of time. Eagleman begins his autobiography by recalling a temper tantrum he has on his birthday when he is told that he is "not allowed another birthday party for a quarter of [his] life." The adult voice narrating speaks of this scene in the present tense, but a year is a quarter of one's life only from the perspective of a four-year-old child. Subverting the convention of speaking of our past selves in the past tense calls into question the solidity with which we assume ourselves to be continuous subjects: we both do and do not understand ourselves to be the "same person" as we were at an earlier time. Having an adult voice speak the experience of a child calls attention to the strange way that we use memory to unify different moments into a perceived single self, while also distinguishing our current perspective from those of remembered past selves. Please develops the film's exploration of this strange yet generally unremarked-upon intersection of time and

selfhood by focusing on the way that cumulative experience impacts our perception of nonhuman life.

A brief yet formative encounter with a radically different life form, a slow worm⁸⁶, inspires Eagleman's life path and the film's narrative trajectory. At seven, he is "absorbed for hours dissecting its intricate details. The tiny hooks beneath silver scales where once were feet" captivate him. The strangeness of this form of life, and its intimation of a unique evolutionary history, inspires in Eagleman a sense of wonder as much adult and scientific as it is childlike (implied by the diction: "...and see here, blue patternation along the left dorsal side" and the growing interest perceptible in narrator David Cann's voice).⁸⁷ Time passes quickly when we are absorbed in discovery, and everyday moments can grow large with repetition in memory. Please's depiction of the remembrance of an encounter with animal mystery—at once completely ordinary and utterly miraculous—expresses how certain moments, not identifiable in advance, contract time in their experience and dilate it in recollection. Cann's return to a flat tone as he concludes the vignette, contradicting his statement "it's so exciting," continues to impede the viewer's ability to fully identify with either the child we see or the adult we hear, and so again highlights differences in perspective: between immediate experience and represented past, child and adult, and character and viewer.

⁸⁶ Linguistically invertebrate, the slow worm is actually a limbless reptile that resembles a snake—but looking at the paper model with which the film figures the animal, viewers might reasonably miss the worm's distinction from other creepy-crawly critters.

⁸⁷ Cann's accent and intonation sounds like that of Sir David Attenborough, or the stereotypical nature documentary narrator, emphasizing the motif of representations of nonhuman life.

Juxtaposing the child's wonderment with the older student's boredom implies answers to the question of why some times seem meaningful while others seem meaningless. In contrast with the intensity of his animal encounter, Eagleman skips over the subsequent twelve years, describing them as "insignificant." The onscreen prominence of a biology textbook hints at the difference: these are generally years spent in school, assimilating imposed knowledge rather than learning out of curiosity. The textbook, the visible relativity of physical scale, and alcohol's perspective-shifting affects inspire an inebriated nineteen-year-old Eagleman to reflect further on the accumulation of time: drunkenly fascinated by how much larger his hands look when holding a half-pint glass (rather than a pint), Eagleman pontificates on how the "entire world is defined by context." In spilled beer, he draws a graph demonstrating time's increasing pace and diminishing value, relative to itself.⁸⁸ His companion demurs, arguing "how we spend the moments ... makes them weighty." Eagleman's wordless answer—handing over a book labelled "Taxonomy: Biodiversity - A Beginner's Guide," which has a large horned beetle on its frontispiece—provokes the viewer to ask after his meaning. The impoverishment of the beetle's definition in taxonomy (which Abe's *Woman in the Dunes* identifies as evacuating immediacy in favour of empty signifiers, in the futile effort to master time) will become increasingly apparent as the film figures strange and potent beetle affects; more directly evident is that when Eagleman became able to *choose* his field of study, he turned back toward his early site of wonder. In not so

⁸⁸ Please explains this idea with the economic analogy, "it's like when you have no money, getting a pound means a lot, but when you have a million pounds, that extra pound means very little" in the film's making-of video.

many words, weighty experience is again associated with natural, and in particular entomological, discovery.

Contrast between the outward-looking time of curiosity and the solipsistic time of memory is literalized as the difference between night and day, up and down. Night consistently holds Eagleman's anger with mounting time. He sounds peevish as he is shown fishing by lantern with his child, expressing bitter jealousy that the two hours they spend represents a greater proportion of his child's life than his own and is consequently more "potent" for the child. In a dream, Eagleman then sees ambiguous fingers tapping in time with grains of sand passing through an hourglass: merely thin or fully skeletal, irritated or impatient, they could figure Eagleman's fear of his life ossifying or anthropomorphize Death. This morbid anxiety is situated in the entomological office-cum-laboratory (where insects are examined under a microscope or pinned on display) into which Eagleman awakes. A combination of transition techniques—a simultaneous horizontal wipe and fade out to black, followed by a wipe and fade in to an inverted shot—gives the effect that the camera has passed through the globe, symbolically representing movement to the "flip side" of Eagleman's morbid fixation with time (and equally morbid research objects).

The opposite perspective on time and knowledge is manifest in an outdoor field research expedition to the southern Amazon.⁸⁹ At forty-five, "having vowed never to do anything twice again," (a naively impracticable aspiration to inhabit the dense time of discovery) Eagleman leads a taxonomy expedition where he collects

⁸⁹ Eagleman's flight repeats the trope in which a protagonist has to leave "civilization" to be rejuvenated by the natural vitality of the global south. This trope often relies on framing other spaces and cultures as anachronistic and delayed.

and names for himself a staghorn beetle, “a particularly elegant arthropod.”

Discovery makes time potent again: “with each new find, the sand swells to rock; the years are weighty again.” The metaphor implies that attention expands the minute.⁹⁰

In relation to the recently-depicted hourglass, it also implies that time and the attendant fear of death are arrested by this spellbound state. Eagleman attains “deathlessness” in the Heideggerian sense (achieving an animal captivation in the immediate moment that precludes awareness of mortality) as well as in the taxonomic sense (achieving the captivation of an animal specimen that will bear his name forward into history). The human Eagleman’s belief that this means “things are going really well” is undercut by an image of the beetle Eagleman’s capture in a tiny specimen jar, foreshadowing trouble and undermining security in this moment of taxonomic success.

Time goes swiftly when things are going well. Eagleman’s career successes are represented with a distant tracking shot of a tiny figure running toward a series of monuments, each of which parts into two and slides away to accommodate his progress. The shot culminates when the figure reaches a white (almost ivory) tower. A cut to a far more prosaic office building and the pathetic fallacy of a stormy night reveals what the lived experience of that “success” looks like from up close:

Eagleman weeps alone. In this his darkest hour, enraged after being denied funding for another expedition, he decapitates his university’s live insect specimens.

Perhaps this gesture is meant to mimic and embody the violence of the bureaucratic refusal of (that which brings him) life; alternately, we could read Eagleman, like

⁹⁰ Either meaning—sixty seconds, or that which is so small as to verge on insignificance—applies here.

Abe's man in the dunes, as rejecting the organizational logic of his life's work: the logic that traps researchers and insects alike in their respective tiny boxes. As a taxonomist-collector, Eagleman enjoyed the power of trapping life experience in language and names, and specimen jars; but he subsequently suffers under that same restriction, as the greater power of the funding body traps him in the office. Eagleman's insecticidal strike against bureaucracy reverberates forward and backward through the rest of the narrative, with repercussions for the conflict between, on the one hand, memory, names, narrative, and the institutional structuring of knowledge and, on the other, the free animal experience of life in all its singularity and wonder.

A mysterious insect ability—key to a supernatural human invention—redeems science even as it foregrounds that discipline's violence. After beheading the insects, Eagleman discovers that his namesake beetle is once again “fully headed.” Pinned to a dissection board and manually decapitated a second time, the insect once again regenerates its head and elegant horns, revealing itself to be “the first creature with the ability to regrow fresh nerve tissue.” Research into the worlds of tiny insects, initially admired for their aesthetically pleasing form, leads to a globally relevant new set of abilities. These are based on the insect's difference, but this difference is only relevant because of the similarity of human and insect brains.⁹¹ The insect's body offers the potential to cure paralysis, Alzheimer's disease,

⁹¹ Please reprises this theme in “Seven Legs,” a short animation promoting animation software which depicts a caterpillar metamorphosing through seven instars and acquiring new abilities at each stage. The seventh instar resembles the company's logo, visually metaphorizing technological development as a series of

and dementia (we see an incapacitated lab rat given an insect-derived injection and become skilled at running its maze) yet, immersed in bitter disillusionment and misanthropy, Eagleman keeps his discovery secret, and returns to his fixation on the half-life of time. Please insinuates that when curiosity is instrumentalized and institutionalized to produce profit—when knowledge-production becomes a job assigned only to the few, prompted not by spontaneous encounters with otherness but by the unceasing coercive pressure to produce to survive—the scientist is alienated from the spiritual wonderment that motivates discovery, and science suffers.⁹² The mystery of the other, figured in the insect, is framed as the impetus for creativity, in opposition to progress-as-territorialization.

The fantasy of controlling time by mastering insects' affects is realized in the film's climax. In his eightieth year, Eagleman he takes up (arthropod) arms against the erosion of wonder by knowledge by injecting two beetle-derived chemicals into his brain. The first brings total amnesia: it "break[s] the connection and reset[s] the clock." The second, insect-derived potion is meant to rebuild neural connections so that Eagleman can fill his "final fleeting years of life ... with the awe of infancy." Memory is thus mastered, and Eagleman can become childlike or animal-like, freed from the oppression of personal and progressive history. The classic trope of two balanced potions, poison and antidote, overlaps with the ambivalence of desirable-yet-horrifying insect affects. Please illustrates the powerful but alien transformation with a series of surreal images of Eagleman's formative moments being destroyed.

insectile metamorphoses. The hope that insects will reveal the secrets to all kinds of new technologies reoccurs frequently in contemporary texts.

⁹² A shot in which the worm is held up against the sun, as if an icon or other sacred item, supports my reading of this as a spiritual encounter.

When the chemicals hit his brain, extremely rapid jump cuts move back through the narrative in reverse chronological order. We see Eagleman undergo strange insect becomings (or perhaps un-becomings would be more apt) as he becomes imperceptible: in some scenes scale becomes strange and he is shown as being small and insignificant—in the situations of insects, rats and fishes—while in others he mutates form to resemble the beetle, and in still others larger-than-life insects ravage his formative experiences.⁹³ The film's signifiers are unmoored in time, space, and scale, and recombined in allusive but undecideable ways. The musical score of the film is similarly deconstructed into a dissonant assemblage of sounds, dominated by wavering and slightly off-key stringed instruments playing in a minor

⁹³ The shots that depict the destruction of Eagleman's identity proceed as follows: 1) Chemicals billow through neurons that resemble the beetle's horns. 2) The Eagleman Stag, at a scale perhaps ten times larger than Eagleman's own body, wreaks havoc on the monumental buildings that represent his career achievements, tossing them aside and surmounting the tower. 3) Eagleman collapses next to the lab rats' maze. 4) He is the size of a rat, sitting in a cage as a large hand descends. 5) A tiny Eagleman stabs a rat that is larger than he is, in the brain, with a syringe also larger than he is. 6) While he sits at his office desk, Eagleman grows horns from his head that resemble the beetle's. 7) A tiny Eagleman is trapped in the specimen jar in which he first collected the Eagleman Stag. 8) The collecting-expedition truck is beset by varied attacking insects the size of large mammals. 9) In his office, a skeletal hand rises taller than Eagleman and falls upon him violently. 10) In the room where he decapitated the insects, great trees rise up in front of the specimen cases and become the night-fishing forest; a close-up on Eagleman's son's face shows a boy-sized beetle in the background shadowing his movements. A great fishing hook catches Eagleman beneath the chin and drags him skyward, then the huge beetle rises from the lake and attacks his son. 11) Curling tendrils emerge from the taxonomy textbook. 12) Eagleman is held aloft by huge hands just as he held aloft the slow worm. 13) The child Eagleman, in the yard where he discovered the worm, is submerged by huge butterflies that carry him away into the sky. 14) The cupcake four-year-old Eagleman threw when distressed at the paucity of birthdays is re-launched into the scene, this time the size of a trashcan. 15) A matching shot to the image of fetal Eagleman that preceded the opening title screen, in which he is replaced by a beetle, floating in amniotic space, tethered at the abdomen by an umbilical cord.

key. The effect recalls an orchestra's sounds as they ready themselves for performance. The sequence of shots proceeds too quickly for the brain to fully comprehend what the camera is showing. It settles finally on a graphic match shot: a beetle (tethered with the same umbilical cord), supplants the fetus seen in the cold open (see Fig. 1)

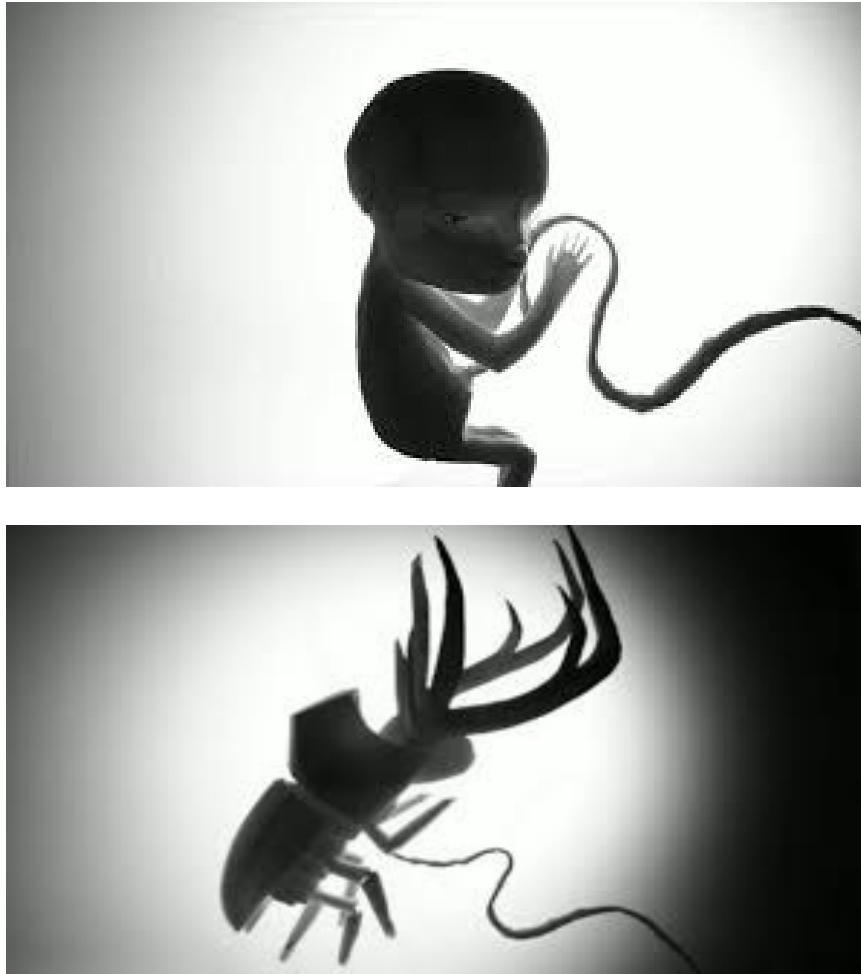


Fig. 1. *Eagleman Stag* (detail). Michael Please.

Please's insects have brought together death and new life: as all material life feeds, with varied directness, on organic bodies that die and return to earth, so have the insects consumed Eagleman's memory, decomposing his subjectivity into a

fertile humus for fresh experiences of wonder. He has achieved his goal of perceiving time anew.⁹⁴

Please doubles his representation of Eagleman's breakdown, formally matching the two chemicals, the two Eaglemans (beetle and human), and the two infancies of Peter Eagleman. The second description is more Zen than surrealist: walking with a blank-eyed face across an empty plane, our narrator describes the loss of differential knowledge (the loss of language): "Every word I have ever said is compressed into a single word." A loud *Om* of countless voices reverberates before our protagonist speaks for the last time. He says, "I see infinity in a plyboard desert and feel a brief, terrifying sensation: that I am an inanimate object." The allusion to the filmmaker's plyboard set suggests the loss of the symbolic order and the incursion of the real: for the body-who-was-Eagleman, the Real of Lacanian psychoanalytic theory; and for the viewer, the reality that they are looking at light on a screen produce recorded images of carved material "stuff." As Eagleman describes his depersonalization, a small mannikin, an abstract human figure, walks into a stiff wind while windblown debris begins to stick to him. The bits of foam that accumulate as he crumples to the ground cause him to take the shape of a perfect cube: he becomes complete, but this is the self-sufficient completion of pre-

⁹⁴ Callois would read Eagleman as having been tempted by space to mimicry unto death. Nigel Thrift notes that this fertile preconscious space is increasingly valued by contemporary capitalism—capital is now pre-emptive to the extent that it produces maximally-valuable preconscious spaces: see *Non-Representational Theory*.

individuated (pre-animated) matter.⁹⁵ Eagleman, stripped of consciousness, is figured as a substrate from which a life will be made, when Please's scalpel brings the cube form "to life." After a moment a multitude of other cubes, other blank forms of pure potential, rise up into the empty field of view so that the cube that was Eagleman—after one final abstract paroxysm of life in which the shape reaches into space like a plant shoot, beetle horn, or neuron—becomes but one more piece of matter. Without repetition and experience, Self and Other become indistinguishable. The camera pans down below the horizon, returning like a cicada or a corpse to the darkness of the earth.

The film takes a profoundly ambivalent tone about the loss of—or freedom from—the progress of time. The rebirth of new neurons in the presence of the chemical is figured as a secular, scientific miracle: their shape and placement resemble that of Michelangelo's God and Adam on the ceiling of the Sistine Chapel, and when the shapes touch, we see a spark of (second) life. The meaning of this miracle is undecideable, though, as we are bereft of a narrating subjectivity. Instead of first-person narration, the film shows a first-person view: after the neural rebirth, the screen fades out to black and then back in to a shot panning over a grassy field rippling in the breeze. Hands become visible at either side of the screen, making it apparent that the camera is showing us the view of someone crawling, like a baby, through that grass. The hand plucks up a worm, and the camera pans up to show the elderly Eagleman holding the creature. We know some time has passed because his

⁹⁵ The becoming-cube also foregrounds the materiality of the set; it is shown as the cube of memory foam from which Please makes every model and set shown onscreen.

hair, shorn for the injection, blows in the breeze. We cannot say whether Eagleman is experiencing the pleasure of “weighty” time, as he hoped; though a match shot to the childhood moment of discovery (the worm held up to the sun) suggests that this is the case. Our joy at his success is undercut by Peter’s unresponsiveness when a companion kindly and gently tries to engage him, as one might with a small child or a person experiencing dementia, (asking “That’s a good one, isn’t it Peter?”) and his implied incapacitation is amplified by the camera’s shift toward a house-like building with sixteen windows, suggesting a residential care facility of some sort. Eagleman’s triumph is made bittersweet: the scientist whose discoveries could have been so important to so many others is gone. In his stead remains an elderly body housing an infantile consciousness, cut off, like an animal, from human connection. Relinquishing human memory might therefore be understood as a deeply selfish act—without the care of others, the human animal might not have good prospects for surviving and flourishing.

In drawing questions of time and representation together with questions about psychology, physiology, and biology, Please’s film might be viewed as one of the supra- *and* infra-historical supplements that Claude Levi-Strauss and Ian Baucom argue we must develop, complicating the supposed consistency and objectivity of time. The speeding of time works mathematically—when you are two days old, a day is 50% of your experience; when you are 50 years old, a day is but .00005% of your life—but this mathematical perspective is inadequate for thinking about how we perceive different kinds of experiences as taking up more or less time. Thinking through this “depressing subject” Please says, he came to “realize...

it's all about how you spend your time, not where you sit on the graph" (*Making*). Time varies according to any number of factors, and even in contrast to animal figures, human time cannot be understood as consistent—in the species or in the self. Here as elsewhere, insect displacements of time lead to uncertainty in the definition of the human.

Using insects to expose the inconsistency of temporal perception has many precedents. In Guillermo del Toro's film *Cronos* an insect controls life even more fully than does Eagleman's beetle. The titular mechanism (a golden jeweled artifact of 16th century alchemy) houses an immortal insect that parasitically feeds on a host and in so doing shares its immunity from death.⁹⁶ The insect's ability is here, too, ambivalent, vampirically conferring with its scorpion-like stinger not just eternal life but also an overwhelming inhuman bloodlust. In literature, Clarice Lispector's character G.H., like Eagleman, experiences depersonalization and the loss of time through an intimate encounter with the fluid, radically alien life interior to the insect—in both instances, the alien body leads the protagonist to a purely-embodied "*jouissance* of the Other's body [which] remains a question ... a supplementary *jouissance* ... of the body which is ... beyond the phallus" (Lacan, *On Feminine Sexuality* 5,74). These figurations of becoming-insect as a separation from the symbolic order viscerally display the social construction of temporality.

Representations such as these suggest the ongoing use of insects and other animals to imagine different *Umwelten* including different kinds of time.

⁹⁶ The insect is a recurring figure in del Toro's work, featuring prominently in *Pan's Labyrinth*, *Mimic*, *Cronos* and *Crimson Peak*.

This idea, that time is a property of a creature's *umwelt*, has been taken up in imagining species' experiences of time so that tortoises, which can live into their second centuries, might have "faster" days than humans (and perceive their slow bodily locomotion as sprightly); Antarctic aquatic sponges, thought to be millennia old (or even rocks), might live in time frames that cannot even register the yearly flickering of the sun around the planet. Mayflies, whose "natural lifespans" are measured in hours, experience "a lifetime" in a day; the movements of their wings and bodies could feel leisurely in such a lifeworld. Representations of insects can offer examples of the otherwise abstruse philosophical notion that time is a property of the body, and as such is individual rather than shared.

Species Competition in Time and Technology in *The Hellstrom Chronicle*

The brief lifespan of mayflies—and the possibility that their lack of longevity may have a compensatory dilated experience of time—is but one of the insect figures used by the film *The Hellstrom Chronicle* to satirize human technological mastery and progressive history. The time in which insects live, as individuals and as species, is described as both alien and superior to human time in this genre-bending documentary, which purports to defend disgraced scientist Nils Hellstrom's controversial claim that insects are defeating man in a Darwinian struggle for survival.⁹⁷ The film includes a great deal of scientific knowledge and impressive close-up footage of insect behaviours, and in this regard constitutes a "real"

⁹⁷ The film almost invariably refers to "man" and the insect with the masculine pronoun, excepting only termite and bee queens and drones, and the black widow spider—instances in which the insect's femininity is described in monstrous terms.

documentary about the insect world—but it also includes campy sci-fi horror doomsday elements (including a melodramatic orchestral score, a near-hysterical host character, Hellstrom, and a bombastic prose style with which Hellstrom narrates man’s incipient demise) that parody post-nuclear hysteria and sociobiological fantasies about the end of the human species.⁹⁸

The overarching (if tongue-in-cheek) message of *The Hellstrom Chronicle* is that the insect⁹⁹ achieved versions of our every significant technology long before humanity existed, and that without a doubt, insect life will claim planetary dominion long after our extinction. Hellstrom warns that

If any living species is to inherit the earth, it will not be man. Long before the time that hydrogen bombs and pollution put an end to us, we will face competition for the earth itself, from a life form we arrogantly ignore. We will be overrun, deposed and succeeded, by an army that was here long before us and is ultimately better equipped to survive than we. Battalions of mindless

⁹⁸ Most reviews fail to grasp the film’s simultaneous scientific veracity and aesthetic campiness, either complaining of the distracting host (or praising his perspective). Even understanding that Hellstrom is a character, most viewers seem to take him at face value, missing the hyperbolically macabre, creepy nihilism that makes him an unsympathetic and unreliable narrator—and thus much of the humour of the film. Richard Winters’ review in *Scopophilia* is typical in this regard: “Where the film falls apart is when it tries to be this faux documentary ... it seriously hurts the credibility of the entire picture. ...they overplay the whole ‘mad scientist’ bit. They have his hair disheveled, his eyes glazed over and he talks about how his obsession with bugs has cost him many friends and jobs. ...Simply watch this film for its nature aspect and tune out the rest...”

⁹⁹ *The Hellstrom Chronicle* relies on the singular insect throughout its narrative, in contrast to its visual depiction of the vast differences amongst insects, and between insects and arachnids. The singular insect allows the film to present a single seething behemoth, against which is pitted an equally undifferentiated humanity.

soldiers entering the contest with capabilities beyond our imagination. Yes, I'm talking about insects.

The foundation for this superiority is evolutionary time. Hellstrom argues that insects have had a “head start” of hundreds of millions of years in which to develop their variety of bodily and social forms and (in lieu of an archive) their instincts. Much of the film is devoted to admiring the insect’s “experiments in shape and function,” its cooperative relationship with its environments, and its fecundity. These evolutionary experiments supersede the need for history; there is nothing for the insects to learn: “they are born *now*, because the lessons were learned *then*,” millions of years ago, Hellstrom argues.¹⁰⁰ The insect’s longer evolutionary history displaces human history as the dominant temporal measure.¹⁰¹

The insect’s short genealogical time—its swift succession of generations, amplified by its reproductive abundance—continues in the present to aid its evolutionary success. While showing the contractions of a termite queen’s vast abdomen, the film describes an industrial logic of reproduction, observing, “at the

¹⁰⁰ Popular insect documentaries often use a longer-than-human evolutionary perspective to emphasize the importance of their subjects. The BBC television program *Insect Dissection*, for example, also takes as a main conceit this extended timeline that begins long before the human and anticipates the deep future. Advertisements for the 2012 television lineup “Alien Nation,” (of which *Insect Dissection* was part) relied on hyperbolic claims much like Hellstrom’s, proposing that insects “might ultimately be the true lords of the universe” (“BBC Four Set to Magnify”).

¹⁰¹ BBC’s 1995 television series *Alien Empire: An Exploration of the Lives of Insects* (and Christopher O’Toole’s book of the same title, released in conjunction with the series) constitutes a kind of anti-parody of Hellstrom: in this instance the original text satirizes scientific bombast and the later text repeats its arguments in sincerity. *Alien Empire* describes the developments of insects over 400 million years, using the tropes of science-fiction (and the latest photographic technologies) to describe insects as alien life-forms that have colonized Earth.

rate of ten thousand per day, eggs exude with the regularity of assembly line production." Such comparisons between human production and insect reproduction suggest that our industrial speed is not so impressive: insects also have the capacity for productive velocity, but use it in service of life, not frivolous consumer gewgaws.

Insects' rapid reproduction requires an accordingly swift form of consumption, and many scenes in *Hellstrom* dwell on insect species' high-speed capacity to "devour" resources in the service of egg production. The film variously uses subtle and extreme time-lapse techniques to foreground insects' fertility and industry. One shot shows, in a minute's duration, an insect egg developing over six days; the accompanying voiceover informs viewers that "in the time it will take a single human embryo to develop, this insect could reproduce four hundred and one billion, three hundred and sixty million of his kind." The paired time lapse and voice over make the achievement of such a sublime population seem effortless. A later version of this thought-experiment takes a more apocalyptic turn: Hellstrom, having demolished an anthill, hypothesizes that if human civilization were similarly destroyed, leaving a single reproductive pair of our species, it might take two million years to "put it back together," but for the ants it would take "only two weeks." Of course, this comment on the industriousness and reproductive capacity of the ants may provoke a question of what "it" is that insects would build that is so replaceable, and whether human achievements are not of another magnitude of value. Hellstrom, though, mocks narratives of individual and social human progress throughout the duration of the film.

The lifetime of the individual insect occasions the film's most estranging and poetic reflections on human values, romanticizing the insect *umwelt* (without naming it as such). The metamorphosing butterfly is shown to contain within itself the capacity to begin anew (that ability so desired by Peter Eagleman). Its mystic art requires no vulgar medical interventions: the caterpillar's "remnant" is simply "cast off like a ... coat," before the "mummy is wrapped in beauty: a coffin adorned with jewels where he will slumber until ... his transformation becomes complete." The imagery of ancient Egyptian burial practices amplifies the film's comparison between the insect and human history; it suggests that the butterfly can effortlessly achieve the life-after-death that Pharaohs fruitlessly set whole societies toward producing. The life that emerges from butterfly's sarcophagus has "an entirely fresh existence," and the scenes that follow are amongst the most positive in the film, aestheticizing fresh existence as a "harmony" of interspecies erotics between bright flowers and delicate flight. Having separated the life-stage of gorging from that of reproducing, the flying insect's appetites are admired as single-minded and pure. By way of contrast, the film frequently criticizes the human desire for complex individual identity as the basis for human civilization's inherent unsustainability.

Against any celebration of human civilization's accomplishments, Hellstrom offers an existential nihilism developed with reference to the short life of the mayfly. The film's melodramatic reflection on mayfly-time holds that unlike man, who suffers the "torment" of wondering after the purpose of life, "the insect has the answer—because he never posed the question." Over footage of thousands of mayflies swarming over a pond, Hellstrom voices an extended meditation on life and

death (with such florid prose and maudlin intonation as to undermine all but the most determined readings of this as a “straight” documentary). He bloviates:

Just now these mayflies have taken their first breath of life...On this very same day, they will die. Fall lifeless to the earth just eighteen hours after they are born. ... The night that falls is their only night. The moon that shines, their only moon. They will neither eat, sleep, nor ponder as mere seconds tick away the entire sum of their earthly existence. ... in the very agonies of death, new life is pushed forth. Eggs of a new generation that will live only to mate. Only to die.

As Hellstrom drones on, the satirical scripting of his prose may be overlooked by viewers captivated by footage of eggs streaming from mayfly bodies, falling into the water like tiny streams of hourglass-sand. The excessively “poetic” reflection becomes more difficult to miss, however, as the screen cuts to a grotesque daylight scene of fly-corpse clumped on the water (presumably meant to represent the day *after* the mayflies’ single day); and our narrator mournfully asks:

What is the life of a few hour’s duration? Could each of their minutes have been like our years? Or, are each of our years more like their minutes? How did we spend our few hours? Tormented with questions of why we were born, or, like they, accepting the gift, and gently saying goodbye?

This question, of course, is rhetorical—its answer is implied as the shot pans up toward the horizon, where, on the shore of the mayflies’ pond, sit a billowing smokestack and a power transmission tower. The most important measure of time in the film has to do with the human timescape’s lack of a gentle goodbye, and the

death-defying (half-) life of our creations: the film's deepest concern is with the time of ecological crisis.

The Hellstrom Chronicle's technique of estranging its audience from their accustomed sense of time collaborates with the film's generic doubling in service of a superficially peripheral concern, a concern that is in fact the serious core behind the satire. The threat of which the film ostensibly warns—the rise of a technologically-superior insect dominion over the earth—is often dismissed by reviewers and commenters as unconvincing and irritating (one recommends, for example, that viewers “simply watch this film for its nature aspect and tune out the rest of the drive!”) (Winters). However, rarely if ever do commenters dispute the entomophobic “warning’s” narrative backdrop: they accept without comment the film’s representation of a poisoned landscape and looming nuclear threat and its suggestion that they that render the planet increasingly inhospitable to long-term mammalian flourishing. The insect-horror works as a kind of misdirection. The threat of *insects'* success allows the film to skip over a didactic rehearsal of *human* industrial and political threats to life, treating these anthropogenic dangers as hazards that we can simply assume. Even if viewers don't accept that insects will outlast humanity, the insect acts as the kind of fictional post-archive historian that Klein imagines: through the eyes of the insect witness, we can envision the end of our species and imagine it as devoid of all meaning. Amongst the volumes of purple prose the film heaps upon insects' abilities, its decrials of pollution scarcely bear mention.

The film is bookended by evocations of nuclear disaster, and punctuated with scenes of mass pesticide use.¹⁰² One of the earliest scenes is set at a radiation laboratory; we learn that though humans and “all living things” die in an “irradiated environment,” the insect, having already “survived the historical ages of ice and flood, of volcanic eruption and fire ... proved conclusively that he could endure where man would ultimately fail.” The insect’s endurance, we learn, has been proven by many tests beyond our radiation experiments, and the site of man’s ultimate failure is not Nevada, but the whole of the Earth. Other species simply “fade away,” as their mass extinction is framed as no more than a backdrop of declining resources for insects or humans. The image of the incipient failure of humanity is given in the film’s climactic footage of driver ants consuming everything they encounter; but that devastation is offered specifically as a consequence of *human* destructive tendencies. Hellstrom describes the *siafu*’s all-consuming march as a “visual summation of the force to be unleashed” and a “portent of the future”, due to the fact that “the industrial waste that poisons our air, the DDT that poisons our food source, the radiation that destroys our very flesh, are to the insect nothing more than a gentle perfume.” The insect’s ability to kill humans with its bite, with anaphylaxis, with the diseases it carries, and through crop devastation, in this view, are nothing compared to humanity’s own ability to destroy itself.

¹⁰² One shot of a dead songbird, appearing immediately after a discussion of heavy use of DDT and dieldrin to counter insects at a farm would recall the publication, nine years earlier, of Rachel Carson’s *Silent Spring* (the title of which referred to the absence of birdsong in the wake of these pesticides’ use). Other shots depicting pesticides being sprayed over vast landscapes by crop-dusting airplanes, in defense against locusts, is fairly explicit in identifying this as an (auto)immune strategy that, in attempting to protect against insects, instead weakens human populations—the insects themselves are, by contrast, quite able to adapt to chemical control.

The film's caricature of a Darwinist fantasy of an interspecies battle to the death for survival, which has inspired debate amongst audiences credulous to the film's stated intent, is more than a feint for an environmentalist agenda. Released only a few years before E.O. Wilson's *Sociobiology: The New Synthesis*, *The Hellstrom Chronicle* circulated at a time when biological and evolutionary explanations for social phenomena were increasingly popular. To the extent that the film deflates biological-determinist reasoning—or rather, overinflates it to expose its weaknesses—it attacks a simplistic view that human violence against other species is a “natural” (and therefore desirable and inevitable) outcome of an ongoing battle amongst the many kinds of life. In extension of this critique, it also undermines the pseudo-scientific basis for the dominion mandate, the notion that God has given control over nature to humanity, whose duty is to “subdue” the earth. Whether or not viewers believe that insects are the inheritors of the earth, they are shown to be worthy of respect, and it becomes difficult to remain overawed at human “progress” when faced with so many anthropogenic threats to life.

Rare is the post-apocalyptic scenario that includes no representation of insects. They are a figure of survival in many scenarios—not often human survival, but of nature's indifferent ability to live on in the absence of humankind. Concluding in a desert littered with the crumbled remains of buildings, *The Hellstrom Chronicles* partakes of its last of many insect clichés. Questioning whether the dinosaurs died of their own arrogance or whether they were only ever “a momentary amusement, an idle joke to pass the empty time of a hundred million years,” Hellstrom identifies our species with theirs, as similarly not “chosen.” He describes the insect as “waiting

patiently beside our death bed like he has at so many others.” Placed as it is between the reference to dinosaurs, and the concluding image of a beetle in silhouette that appears to be holding the sun (reminiscent of an ancient Egyptian scarab), his comment draws together the lifetimes of animals, cultures, and individual humans—collapsing them all into insignificance compared to the evolutionary time of the insects.

***Vader*: Representation and Illusory Coherence**



Fig. 2 *Darth Vader* and *Darth Vader No. 2*. Klaus Enrique.

A film can make time strange over minutes or hours, while some photographs achieve that same effect in moments. Klaus Enrique's portraits of *Darth Vader*

intervene in viewers' sense of their relationship with time and history by drawing the strangeness of insects together with optical illusion, famous high and popular art from the sixteenth and twentieth centuries, and a narrative set far in the past that is perceived as an image of the future (see fig. 1). Enrique's photographs depict two versions of a helmeted bust of Darth Vader, a character from the *Star Wars* series, but the masks are composed from insect bodies in the style of the sixteenth-century Italian painter Guiseppe Arcimboldo (see fig. 2). Arcimboldo is most well known for his portraits that seem unremarkable at a distance, but when seen from a closer vantage, reveal their subject to be an assemblage of characterizing smaller objects, such as vegetables.



Fig. 3. *Vertumnus*. Guiseppe Arcimboldo

These constituent images were chosen both for their likeness to the anatomical shape they were meant to stand in for, and for their symbolic relation to the subject

of the portrait (Maiorino). Arcimboldo's portraits accentuate the importance of perspective to representation and meaning: interpretations formed at one position or scale may need to be revised when that perspective changes—and sometimes contradictory understandings can be true despite their apparent incompatibility.

The *Vader* portraits point to how representations can draw together different time periods and worlds. Enrique's use of Arcimboldo's famous form references the Renaissance, while the portraits' subject points to the futuristic world of science fiction. *Star Wars*' temporality adds another level of complication, in that its technologies and interstellar travel encourage audiences to imagine the distant future, but which identifies itself, in its opening crawl, as taking place "A long time ago in a galaxy far, far away..."; while the design of Vader's helmet also combines elements of a Samurai helmet and a space suit's breathing mask. The imaginative faculties we use to imagine the worlds of the past are the same abilities that let us "see" fictional worlds (or distant places, or faces in piles of fruit); the different value we attach to different kinds of narratives, and the different uses we put them to, begin to be called into question when we consider them simultaneously. Juxtaposing differently valued lives can produce a similar effect.

The various insects combined in the busts of Darth Vader are appreciated and hated in differing degrees, much like the character himself is. While insects, as a category, tend to be disliked, the colourful butterflies used in the *Vaders* are amongst the most loved of bugs. Moths, by comparison, are less esteemed figures, even though non-entomologists may be unable to distinguish moths from butterflies in the portraits. Both versions of Darth Vader combine these delicate insects with

more abject and feared ones, such as centipedes, scorpions, and spiders. Combining Arcimboldo's use of symbolism and perspective with insect variety is appropriate to the emotionally and morally ambivalent subject. As a whole, both the category insect and the character Darth Vader are perceived negatively. Similarly hard-shelled, the bugs and the villain share an unsettling emotional illegibility. Seen up close, the insects are fragile and occasionally beautiful—not unrelievedly bad, in any case—and neither is the morally ambivalent character they create: in *The Empire Strikes Back*, Vader is revealed as the father of heroes Luke and Leia; in *Return of the Jedi*, he kills his Emperor to save Luke; and in the prequel films, he is depicted in his transition from a sympathetic to a corrupted character. Vader is a figure of culture and the arts, social role-playing, and political commitments that conflict with family attachments and other ethical concerns. He is also associated with the power of religion, the afterlife, and death. The dual portraits of Darth Vader—one much lighter than the other—further suggest that different perspectives, and different representations, can alter our perception of the same person or situation—which perspective can also change how we think about stories and histories.

The combination of real insect bodies and imaginary figure combines realism with fantasy, and the brevity of life with the longevity of representation. Enrique intends his work to convey inescapable mortality, reflecting in an online interview that in romance languages, the phrase meaning “still life” translates literally to “dead nature.” He notes that while his images are taken in a “hundredth of a second,” and the compositions they depict can be sustained for only “minutes or at most hours,” they refer to “a painting that is more than four hundred years old by a painter who

is obviously dead, but whose work is still very much alive.” The use of insect bodies as a medium, which were ever so briefly alive but are dead at the time of use, and which recall the entomological infestation of corpses, intensifies this *memento mori* effect, as does the decision to portray a character whose death is amongst his most famous scenes. In the “great sense of urgency,” conveyed by the images, the “frantic rush required to get the piece done,” which contrasts with the “deliberate, precise and delicate nature of the finished work,” Enrique sees a model for human lives. He hopes to inspire urgency in life by “hint[ing] at our own finite place in time.” What Enrique’s photograph does—what all *memento mori* do—is make viewers attentive to time: these images rest on the idea that that audiences are *already* estranged from a proper sense of time. Or, more accurately, they imply that there is more than one sense of time, and in order to fully live, viewers must at least occasionally be drawn out of our habituated sense into another, via art that reminds us of death. In everyday time, we forget our awareness of the incomprehensible, imminent separation of the world and ourselves; art that reinstates this awareness (like Eagleman’s neurochemical potion) can at least temporarily render each moment more precious.

Enrique’s insect-icons draw together different kinds of time in order to unsettle or inspire audiences, or both. Historical time is connected to language, art, norms, accomplishments, and consistent selfhood. In history, we are haunted, as Derrida’s *Spectres* put it, by people who precede us, and those who will succeed us. Cultural texts also have a historical time, both in that they create shared narratives, and in that they can enable us to imagine other times, places, and beings, even if

those figures have only existed in imagination. This is the context in which our lives become *collectively* meaning-ful: that which we think will not die with us. Enrique's citation of Arcimboldo, via form, and the *Star Wars* films, via subject, connect viewers to shared historical time. Another sense of human time understands each life as fundamentally singular. The totality of embodied experience is more than can be represented, and so eludes capture by language, art and history. What escapes is what is mortal: that which cannot be put into words (or song, or image) dies with us. Moreover, it is always passing away, as each moment replaces the next. This might be called the time of the animal, insofar as in the Western philosophical tradition the animal figures the ephemeral immediacy of sensuous life, life without the aforementioned historical sense of time. This is also the time of meditation and mindfulness (the Buddhist concept of *sati*, in Pali, or *smṛti*, in Sanskrit). Enrique's media, insect bodies and the photographic print, also connect viewers to animal time.

Memento mori may inspire an urgency to contribute to (or be humbled by) history, or an urgency to adopt mindful attention to the fleeting, unrepeatable *now*. Art works at the point of contact between these, articulating these two senses of human time. Viewers identified with their social roles or historical impacts may be recalled to their unique and mortal situation; people whose immediate concerns "crowd out" thoughts of their mortality are encouraged by the piece to consider the "bigger picture." Humans do not live exclusively in either kind of time—even Niki Jumpei and Peter Eagleman, who by the end of their texts figure the human inhabitation of nonhuman time, require others to keep them fed and safe. We each

need to communicate with others, and attend to our present conditions—but art seeks the impossible horizon of reconciliation between the social and the animal self. Insects can evoke minor irritations or fears, as well as animals' supposed undistracted immersion in experience—but they also signify planetary nonhuman life (i.e. "nature") and death. In drawing together several temporal frames, *memento mori* like the insect *Darth Vader* portraits stretch viewers' foreshortened appreciation of time to make them attentive to a greater range of temporal frames in which their lives can be understood, calling into question the relationship between personal perspective and collective history.

The texts discussed in this chapter collectively show a number of ways in which insect figures can destabilize the sense that time is matter-of-fact or objective. The malleable, contingent nature of temporal perception that insects reveal calls human identity, individually and collectively, into question: we understand what it means to be human through memory and narrative, but these are subjective and unstable. Identity, like other meanings, is constructed rather than given, one implication of which is that identity could be constructed otherwise. This possibility leaves us deeply conflicted. The difference and changeability inherent to being mean that we can expand our affects, acquiring new abilities to shape the world around us—but they also undermine security based on knowledge: that which changes can neither be known in advance nor fully controlled.

Uncertainty about how to interpret the difference and changeability of being plays out in representations of insects, which are closely associated with both these ideas. This chapter has shown how insect figures negotiate perceptions of difference and changeability in time, where they are especially appealing and threatening: the idea that by changing, we could affect time (and invert the normal relationship in which time effects changes in us) makes change and difference powerfully desirable qualities; but the idea that we cannot perfectly know or control change—in others or ourselves—reveals a horrifying vulnerability. Insects in the work of Abe, Please, Enrique, and the others discussed here figure these equivocal ideas. In these texts, insects are imagined to embody ambivalent affects related to time: their strange bodies and life worlds holds the promise of new powers over time, but our desire to attain and exploit these powers is tempered by the fear of being exposed to alienating, uncontrolled nonhuman otherness. These insects explore the paradox that we want to be different, but we don't want to be changed.

The texts discussed in this chapter have focused on the ways that inhuman temporality can be used to draw readers' attention *away from* human history, but as the next chapter demonstrates, insect figures also create strangeness *within* history, particularly as they operate in works that revise or reimagine history. Chapter 3 focuses on this effect in neo-Victorian art, but these texts operate in a larger cultural context in which insect figures' imagined temporal strangeness is often used to undermine historical certitude. For example, scarab beetles, which symbolized renewal in Ancient Egypt are frequently

shown as having supernatural abilities, sometimes related to control over time or mortality (Kritsky and Cherry 20).¹⁰³ Time-travel fiction frequently discusses the “butterfly effect,” Edward Lorenz’s phrase for the notion, in chaos theory, that a small change in the initial conditions of a nonlinear system can lead to a radically different outcome (the name comes from the example narrative, in which an event that has absolutely no immediately perceptible impact—a butterfly’s wing flapping—sets off a causal chain that alters the path of a tornado and consequently has a significant effect) This popular trope is very frequently discussed with references to butterflies and other insects, and sometimes represented in a literal way, so that interactions with butterflies or other small insects lead to bizarre or uncanny futures.¹⁰⁴ Marc Estrin’s 2002 novel *Insect Dreams: The Half-Life of Gregor Samsa* reimagines Franz Kafka’s *Metamorphosis*, using the *ungeziefer* Gregor Samsa to reimagine literary and public history. In *Insect Dreams*, Samsa does not die but is sold to a Viennese sideshow; he thereafter meets Ludwig Wittgenstein, Oswald Spengler, and Alfred Einstein; and goes to the U.S.A. where he

¹⁰³ Connected to Orientalist fantasies of the “mystic East,” magical scarabs have appeared in many Western art forms since at least the late nineteenth-century. For example, see Richard Marsh’s 1897 novel *The Beetle: A Mystery*; Bram Stoker’s 1903 novel *The Jewel of Seven Stars*; the 1912 film *The Vengeance of Egypt*; the 1919 film *The Beetle*. More recent examples include the 1980s film *The Curse of King Tut’s Tomb*; the 1996 episode of the Canadian television show *Night Hood* titled “The Secret of the Golden Scarab”; the 1999 film *The Mummy* and its 2001 sequel *The Mummy Returns*; the 2007 *Arkham Horror* game expansion pack “Cult of the Golden Scarab”; and even conspiracy theories linking ancient Egyptian symbolism to the band The Beatles and/or the Volkswagen Beetle car. Edgar Allan Poe’s 1843 short story “The Gold Bug” features a magical scarab, but it is set wholly in America.

¹⁰⁴ See, for example, Ray Bradbury’s 1952 short story “A Sound of Thunder,” and its eponymous 2005 film adaptation; Terry Gilliam’s 1985 film *Brazil*; Terry Pratchett’s 1994 book *Interesting Times*; the 2000 French film *Le Battement d’ailes du papillon*, released in English as *Happenstance*. Henry Cowper’s 1993 short story “The Mosquito’s Choice” introduces an interesting twist: it describes two historical timelines which radically diverge due to an insect’s decision.

meets Franklin D. Roosevelt, and witnesses Prohibition, the fight for women's rights, the Sacco and Vanzetti and Scopes trials, the Ku Klux Klan. Estrin's use of the naive, alien Gregor to question historical figures is particularly sharp as he encounters J. Robert Oppenheimer, Edward Teller, Enrico Fermi, and Richard Feynmann: the scope of the Manhattan project's immorality challenges his "imagined task of helping humanize humanity." The insect-as-outsider trope facilitates Estrin's condemnation of injustice, as Gregor's "extreme otherness" leaves him "intimately bound" to "the electrocuted Italians ... the abandoned Jews, the Japanese in camps, and those soon to be incinerated, indeed to the clockmaker and all those 'others' lynched and burned by hooded mobs." By encouraging readers to identify with Gregor (in all his concentrated insect association with unjust suffering), Estrin's text allows readers to vicariously (re)visit historical figures, to whom they can then feel morally superior. Much like a bug in a computer program denotes an error, a bug in an account of history frequently means that the past has been written unconventionally, and will produce unexpected results. The next chapter shows how insects in contemporary engagements with the Victorian era revise our assumptions about that period and its meaning, leading to significant effects on the way we think in and about the present and future.

Chapter 3: Insect Time and Historical Estrangement in Neo-Victorian and Steampunk Art

Historical representations derive authority from their perceived objectivity and stability, but these qualities have been called into question by postmodern theories and texts, and particularly by genres that self-reflexively perform historiography, such as neo-Victorianism. Insect figures are especially compatible with neo-Victorian aesthetics and commitments, due to their prominence in Victorian culture and their mediation of epistemological stresses. This chapter considers how insect figures contribute to neo-Victorian visual art's work of estranging audiences from normative ideas about time and history (ideas that are indebted in many ways to the nineteenth-century, as chapter 1 demonstrates). It also studies how entomological neo-Victorian artworks explore other, related legacies of nineteenth century industrialization. These texts question the ideals of historical progress, accumulation, and taxonomy by which human and nonhuman life are distinguished from one another *and* internally stratified. They attempt to think through the relation between historical consciousness and anthropogenic ecological devastation. They also interrogate the thoroughgoing logic of extractive commodification that has alienated people from nonhuman life, labour, and the processes and products of technology. In working through aspects of the past that seem to limit multispecies flourishing in the future, while also contesting the oversimplified interpretation of time as unitary, linear, progressive history, neo-Victorian insect figurations participate in the conceptual work demanded by the Anthropocene.

Neo-Victorian texts are, very broadly speaking, works that were not produced in the Victorian era, but which explicitly engage with that period, in form and/or content. Many critics limit the genre to works produced since the 1960s or so, though some reject chronological categorization in favour of various formal and thematic properties (Hadley 2). In its perceptible mimicry of elements of history, argues Dana Schiller, neo-Victorianism expresses “an essentially revisionist impulse to reconstruct the past by questioning the certitude of our historical knowledge” (540). Like other critics, Schiller therefore includes the neo-Victorian in postmodernism (Carroll; J. Banerjee). Schiller points to the genre’s framing of history—as an always already mediated narrative (rather than an unprocessed series of facts) that is interdependent with fiction—as a cue to “rethink the forms and contents of the past” (540).

Texts that challenge conventional, authoritative and stable accounts of history dishonour historiographic conventions, but as Hayden White has shown, those conventions are historically contingent. The opposition between history and fiction, for example, was not always assumed: prior to the eighteenth century, “the crucial opposition was between ‘truth’ and ‘error’ rather than between fact and fancy” (“The Fictions of Factual Representation” 123). Before disciplinary boundaries became so rigid, he notes, rhetorical and fictive techniques were considered necessary elements in the art of reconstructing the past (123). White calls attention to the ways the methods and ends of literary fiction and historical discourse “overlap, resemble, or correspond with each other,” and both forms “provide a verbal image of ‘reality’” (121-22). The entomologically-inflected

alternate histories discussed in the next section place greater emphasis on the distinction between true and erroneous values than that between truth and fiction. White also shows that while historical discourse eschews fiction, it draws a great deal of value from reliance on narrative form. The preference for annals (which recount events year by year) over chronicles (which organize historical events by topics and draw conclusions) as the dominant historical form “arises out of a desire to have real events display the coherence, integrity, fullness, and closure of an image of life that is and can only be imaginary,” a coherence that allows the author to “represent the moral under the aspect of the aesthetic” (“The Value of Narrativity in the Representation of Reality” 27). White’s analysis makes it clear that literary fiction and history alike communicate personal values through the worlds they represent, but while fiction emphasizes the work of *creating* coherence, history implies that it *finds* coherence in the world in order to make its values seem objective. The texts discussed in the next section contest such assertions of authority, using insects as tools to erode the smooth facade of incontestable histories.

Questioning historiography impacts our engagement with the past, opening our historical narratives to revision; but this also calls into question our knowledge of the present and our imagination of how we relate to the future. The interpretation of neo-Victorian culture as being “about new approaches to the Victorian period,” as Richard Llewellyn describes it, correctly observes the movement’s tendency to call into question our images of the past, but limiting this

deconstructive work to the Victorian era and its meanings underplays the extent of its impact on historical time more generally (169).

Samantha Carroll argues that there is a recent critical tendency to downplay the critical, postmodern contemporaneity of neo-Victorianism in favour of readings that see the genre as fetishizing the past. Carroll suggests that the Victorian novel, for example, is treated as “primary and original” in such a way as to deny the neo-Victorian novel of its “status as an independent ... literary artefact” that works in and with the present moment (179). Carroll associates this inclination with a broader rejection of postmodernism and a dismissal of its political efficacy or relevance: she notes that claims about its failure are often rooted in the idea that mainstream culture has both become habituated to “subversion, irony, parody, narrative scepticism, and metafictional self-consciousness” and has also empowered marginalized groups, which has obviated the need for postmodern devices and foci (190; 193-194). That is, there is a perception that the political aims of postmodern aesthetics have been achieved, and thus a disinclination to critically recognize the postmodern aspects of the neo-Victorian novel. Like Hilary Chute, Carroll reads the widespread use of postmodern devices as evidence of its degree of success. She also sees the vociferous right wing opposition to postmodernism as evidence of its ongoing political relevance, and insists that so long as marginalized groups are still denied political representation and even basic rights, neo-Victorianism’s postmodern “centralization of non-normative protagonists” is part of a still-necessary effort to “expan[d] cultural norms to accommodate a diversity of social subjects, with the potential to advocate for transformative changes to the political

equality of such subjects beyond the narrative" (190, 195). The dismissal of postmodernism that has led to the critical under-appreciation of its temporal and historiographical critiques has limited the recognition of certain cultural works' social and epistemological significance in the present.

Marie-Luise Kohlke argues that the contemporary importance of neo-Victorianism lies in its participation in cultural memory work. She claims that its configurations of the nineteenth century, as a timescape marked by yet-unworked-through historical traumas, contribute to collective "mourning, commemorative practices, and the construction of both public and private memory" relating to those traumas (7,9). These traumas relate to social problems involving illness, disease, and interpersonal violence, as well as conflicts against and between states; and ecological disasters including widespread species extinction (7-8). With Christian Gutleben, Kohlke has argued that neo Victorian fiction's role is that of an "after-witness" that "testifies to and stands in for inadequate, missing, or impossible acts of primary witness bearing to historical trauma" (7). While she holds that it would be "too ambitious, not to say naïve" to view neo-Victorianism as an "inherently radical political project," Kohlke claims that it expresses an ongoing concern with "social justice and may yet prove instrumental in interrogating, perhaps even changing, current attitudes and influencing historical consciousness in the future" (10). The neo-Victorian displacement of historical and historiographical assumptions can and does go on in representations that do not include insects or other animals, but nonhuman life appears very frequently in neo-Victoriana, contributing to its

intellectual, affective and political work as well as its evocation of that period's aesthetics.

Victorian Entomophilia

The insect's usefulness in making history strange or new is especially apparent in neo-Victorian literature and art, for reasons that have both to do with the relationship between bugs and the Victorians, as well as the relationship between the present and that age. Victorian animal studies is an expanding field; scholars have begun to consider animals in Victorian literature (Cosslett; Mayer; Surridge) art, (Donald) and culture (Amato; Denenholz and Danahay; Flegel; Kete; Lansbury; Ritvo, *The Animal Estate*; Ritvo, *The Platypus and the Mermaid*). This work has begun to extend to insects, which captivated the Victorian imagination. The appearance of insects in works referencing the Victorian period has partly to do with the nineteenth-century passion for entomology. Insect collecting was widely pursued, a particularly popular expression of a broad public interest in natural history.

Wealthy Victorians relied on the work of colonized people, as well as those in the British Isles and Europe, in order to adorn themselves with natural wealth in the form of insect bodies.¹⁰⁵ Victorian literature likewise teemed with insects; Sir Arthur

¹⁰⁵ Workers in the Punjab region and Delhi were known to the Victorians for textiles embroidered with beetle wings; Indian-produced fans and mats included those with peacock feathers made of beetle wings; and one French ball gown from 1865 is described as having been made of thirty-seven yards of tulle "strewn with beetles, butterflies, spangles, mother-of-pearl and so forth" (Rivers). In 2011, artists restored a dress that had been worn by Ellen Terry in 1888 when she played Lady Macbeth at London's Lyceum Theatre—the restoration involved repairing some of the 1,000 beetle wings that embellished the garment ("A Flyaway Success").

Conan Doyle, for example, wrote about mad entomologist villains more than once.¹⁰⁶ For a number of reasons and in a variety of ways, the people of Victorian Britain were frequently reminded of insects.

Franziska Kohlt has described nineteenth-century Britain as “obsessed with insects,” arguing that

the Victorians embraced insects for their beauty, their mystery, and their changeability – all aspects of utmost concern to this era of unprecedented change, cultural, technical, political as well as scientific. In constant search for their own identity, insects became uncanny ambassadors of Victorian culture, representative as well as unsettling, masquerading and revealing at once.

Kohlt connects this entomological fixation with a Victorian interest in self-improvement, which is reflected in the widespread presence of insects and their transformations in children’s literature and natural history books of the period. She also notes the frequent appearance of bugs—especially leeches and other parasites—in dark and supernatural Victorian fiction, connected to the “moral

The Hampshire Cultural Trust includes a “Beetle Wind Tea Cosy,” noting that “It may seem bizarre at first to adorn the tea table with what is essentially insect debris, but on reflection the image of a late Victorian family keeping their Indian tea hot under such a tea-cosy, with Victoria, the Queen Empress reigning over all, seems entirely appropriate.”

¹⁰⁶ In *The Hound of the Baskervilles*, the entomologist-as-specimen trope is explicit, as Sherlock Holmes anticipates that “before tomorrow night he will be fluttering in our net as helpless as one of his own butterflies. A pin, a cork, and a card, and we add him to the Baker Street collection!” (103).[1] Holmes’ interest in collecting clues is further likened to an entomological pursuit by his retirement occupation keeping bees (Doyle, “His Last Bow”). Another dangerous mentally-ill bug collector appears in Doyle’s “The Story of the Beetle Hunter,” *Strand Magazine* 15 (1898): 603-12.

confusion over the mimicry and shape-shifting properties of insects that had exacerbated [Charles] Darwin's and [Alfred] Wallace's studies"; Kohlt claims that the creepiness of insects, with their capacity to "transcend human limits" and enter and occupy "spaces where one cannot see it" allowed the figure to contribute to the interrogation of "anxieties surrounding gender, race and technological progress that preoccupied Victorian minds." Imperialism's expanded consciousness of other places showed insects to be globally pervasive, and they also served to figure the germs and other contagions with which Victorians were preoccupied (due to the invention of many new medical technologies); between these situations, insects came to "embody the fears posed by modern imperialism, advanced technological progress, and an unsettled hierarchy in nature" (Kohlt). Kohlt's analysis primarily considers the appearances of insect figures in Victorian texts, but insects were present in a range of aspects of Victorian life.

John F. Clark explains an extensive interest in entomology as connected to a variety of social changes in Victorian Britain. As urban growth made the natural world less immediate and more appealing, insect collecting was popularized as "part of a nostalgic bid to capture lost nature" by a population that no longer lived in the countryside (10). At the same time, this "revival and redefinition of natural history" involved a firsthand study of nature: whereas the Romantic generation focused on the sublimity of vast Nature, in the Victorian period scientists increasingly turned to observation and experiment, rather than Classical texts, to learn about the workings of the natural world (Clark 3-4). Natural history also served as a site for theological and political debates. Under the guise of objective science, "analyses of social insects

could identify particular forms of governance as natural,” be these religious, land-based, traditional, reform, or connected to the extension of empire (79 and *passus*). Rural attempts to control and plan the products of bees, for example, provided a neat analogy to the rise of urban planning as a way to maximize the output of poor industrial workers (see chapters 4 and 5 of Clark’s *Bugs and the Victorians*).

Insect collection was initially in the late eighteenth and early nineteenth centuries understood as a way to learn about the divine, appreciating God’s intricate handiwork on the tiny bodies (9). However, the rise in consumerist values also led to an increase in the “conspicuous consumption of nature” by nations and citizens alike: as the development of modern Britain relied on the Victorian desire to rationalize nature,

collections of domestic and exotic insect specimens embodied extractive capitalism—the accumulation of wealth—which fuelled urbanization and industrialization; and changed the relationship between the city and the countryside. (Clark 7-8, 12)

Insects helped construct the rural as productive resource to be developed in support of urban life, and urban spaces as the site where rural materials would be transformed and consumed. As images of busy workers, insect figures were used in rhetoric aimed at increasing industrial output, while at the same time, as signs of value, they served to bolster the values that would maintain consumption levels adequate to increased production. Clark’s analysis intimately connects the Victorian interest in insects to values and concerns that continue to haunt Anthropocene discourse, suggesting reasons for their ongoing prominence in neo-Victorian texts.

Charlotte Sleight's *Six Legs Better: A Cultural History of Myrmecology* offers a sociological history of myrmecology (the subfield of entomology that studies ants) from the late nineteenth to the mid-twentieth centuries; while her study exceeds the Victorian period, her book's contextualizing background section does offer insight into the unique association that appears between this historical period and the fascination with insects. Sleight notes that the 1665 publication of Robert Hooke's *Micrographia* continued to undermine waning convictions about insects' "simplicity and insignificance" (1). Of the many people with different professions and interests who had taken up studying insects by the end of the nineteenth century, Sleight observes two general categories: "economic entomologists and travelling entomologists" (2). While the former focused on pest control, the latter, whom Sleight also calls "travelling naturalists," discovered insects that "intrigued, amused, and educated the Victorians" (6). Further than entertainment, though, Sleight argues that these travelling entomologists served as "metaphor for the whole foreign experience" of colonialist European men: their survey of an exotic-seeming world connected the globe and suggested that "all were part of the great process of progress and civilization" (9-10). Insects were particularly ideal objects of study, as they had served as "staple[s] of Christian meditation and didacticism for centuries, thanks to the writer of *Proverbs* and Aesop. The nature of Victorian formic reflection was often to shore up the naturalists' sense of civilized superiority" (9). At the end of the nineteenth century, Sleight explains, ants and their insect brethren were seen as models of industry and cooperation, and reminders that human intelligence and construction were not unique in the world (17). Sleight's work indirectly suggests an

interpretation for the frequent appearance of insects in neo-Victoriana: as synecdoche for the acquisitive gaze of Empire. Insects were admired in an imperialist age, and ceased being appreciated in that way just as esteem for the concept of Empire also vanished. Artists in need of a symbol of dissonance in the meanings and values attached to history could do worse than the insect, variously admired and reviled in this same association.

Canon Schmitt's chapter "Victorian Beetlemania" in the edited collection *Victorian Animal Dreams* argues that reading descriptions of beetles and beetle hunting in Victorian literature can broaden our understanding of how knowledge production operated in the nineteenth century. Schmitt complicates the prevailing narrative in which, over the course of the eighteenth and nineteenth centuries, the study of the natural world transitions away from being an activity carried out by emotionally motivated amateurs, and becomes instead "part of the apparatus of rational and institutional knowledge production" (36). This disciplining of scientific epistemology is understood to be underpinned by the ascendant belief that "true knowledge requires the absence of emotion and the self," and the reliance on rationality and logic (a belief exemplified, as Schmitt shows, by Friedrich Nietzsche and Oscar Wilde's use of entomological imagery) (46). Schmitt complicates this historical account by analyzing the treatment of beetles in Charles Darwin's *Autobiography* (1887) and Alfred Russell Wallace's autobiographical *My Life* (1905).

Both Victorian natural historians, Darwin and Wallace dwell at length and in detail on the emotional experience of beetle hunting and its effect on their

achievements. Their descriptions of beetles and the “whole inhuman array ... for which beetles stand by way of synecdoche,” reveal an intensely personal and visceral mode of knowledge creation (38). These passages, Schmitt claims, reveal the significance of an “affective epistemology,” a personal, emotional way of knowing that transcends positivism and empirical taxonomy (37). While the chapter focuses on the two autobiographies, Schmitt also gives a number of examples of Victorian texts from amongst the many that (he argues) could similarly be analyzed for their representations of beetlemania and the presence of affective epistemology (37, 47-48). Reading for beetles here uncovers the significant role of affect in the production of Victorian knowledge, and thereby suggests the inadequacy of the dominant narratives by which we understand epistemological history.

In addition to revealing the importance of affect to the production of Victorian knowledge, Schmitt also proposes that these discussions of beetles offer insight into the impact of the theory of evolution. When discussing its consequences, scholars have tended to focus on the trauma of reframing interspecies resemblance as relatedness: the challenge, for example, of seeing primates not just as similar species to humans, but as kin. Evolutionary theory, though, insists that all Earth’s species—including the weird and unsettling ones—are family: “After Darwin and Wallace, knowing beetles is knowing one’s relatives—and no longer entirely distinguishable from knowing oneself” (39). Looking at the alien natural world, in the light of evolutionary theory, came to constitute a form of self-interest; the difficulty of formulating new models of human relation that could assimilate radically dissimilar life forms as kin was “potentially more traumatic and

indisputably more demanding” than we recognize when we limit our focus to the familiar (39). Beyond pointing out that our narratives of genealogy (in the global sense) have been unsettled by considering beetles, Schmitt implicitly suggests that even the historical *recollection* of this upset is occluded by our too-narrow focus on the species closest to humans. Schmidt’s identification of insects’ close connection to the Darwinian trauma to humanism, in combination with Kohlke’s reading of the neo-Victorian as an attempt to work through historical traumas, makes the presence of insects in neo-Victoriana appear inevitable.

“Victorian Beetlemania” offers an example of the intellectually productive potential of cultural entomology. By attending closely to beetles, Schmitt’s study returns affect to theories of Victorian knowledge production, and corrects an oversimplified story of evolutionary theory’s profound philosophical challenge. This work indicates that returning dismissed species to our scholarship can augment historiographical narratives that are limited by a reductively anthropocentric focus.

Neo-Victorian Insect Strategies

Given the insect passions of Victorian England, the presence of insects in neo-Victorian texts is unsurprising. However, their appearance should not be understood as the simple repetition of a common Victorian motif. Even given the Victorian appreciation of bugs, insects seem inordinately visible in contemporary texts that reimagine the period, heightening the strangeness of the past as well as its ambivalent animacy. Insects’ ambivalent associations with both life and death seem appropriate figures for a historical period brought “back to life” by representation.

The insect-afterlife of the Victorian is implied in the numerous parodies and pastiches of Sherlock Holmes stories that repeatedly zero in on the character's retirement occupation of beekeeping.¹⁰⁷ The Victorians are "close enough for us to be aware that we have descended from them and yet far enough away for there to be significant differences in life-styles" (Hadley 7). They maybe less alien when compared to the otherness of insects, but both figures blend the strange and the familiar, provoking a similar experience of the uncanny. A.S. Byatt's 1992 novella *Morpho Eugenia*, a postmodern pastiche of the Victorian literary style, exemplifies the neo-Victorian fixation on insects.¹⁰⁸ It "resolutely crams in mounds of mugged-up entomology," as one reviewer put it, as the insect-collecting protagonist observes

¹⁰⁷ The first book-length Holmes pastiche, Gerald Heard's *A Taste of Honey* (which was loosely adapted into the 1955 TV program "Sting of Death" featuring Boris Karloff, and the 1967 film *The Deadly Bees*), features a beekeeper-cum-sleuth named Mr. Mycroft (who is never explicitly identified as the incognito alias of the retired Holmes), and a swarm of killer bees programmed to kill by a mad apiarist. Laurie King's "Mary Russell" series (including *The Beekeeper's Apprentice*, *The God of the Hive*, and *The Language of Bees*) also make much of Holmes' retirement occupation. Neil Gaiman's short story "The Case of Death and Honey" combines the tropes of the Holmsian bee and the time-estranging insect, the latter of which is used by the retired Holmes to produce a honey that undoes aging and death. Other pastiches that take up the motif include Kim H. Krisco's "The Kongo Nkisi Spirit Train" in *Sherlock Holmes the Golden Years: Five New Post-retirement Adventures*, and Mitch Cullin's *A Slight Trick of the Mind* (and the film *Mr. Holmes* that is based on Cullin's book). Fan fiction has enthusiastically taken up the apiary motif as well (as of February 2015, a search for keywords "Holmes" and "bee" returns 152 entries on the fan fiction website Archive of Our Own) in stories such as "The Bee-Master's Pattern," "Bee-Curious," and several variations on "Will You Bee Mine?" and "221 Bee." Finally, William Kotzwinkle's *Trouble In Bugland: A Collection of Inspector Mantis Mysteries* departs from the strictly bee-related theme to reimagine Holmes as the titular Mantis, and Dr. Watson as "Dr. Hopper," in a series of entomological mysteries set in Victorian Bugland.

¹⁰⁸ The novella was published with *The Conjugal Angel* as *Angels and Insects*, which name was given also to the 1995 filmic adaptation of *Morpho Eugenia*.

parallels between the social structures of ants and those of his nineteenth century English contemporaries (Taylor, P.). Byatt's text foregrounds the futility of attempting to fully inhabit the past by emphasizing the differences between 1870 and 1992 (via anachronistic phrases and the "facetiousness" of her style) (Barrell) and excessive, laid-on "with a trowel," entomological similes (Lesser). Byatt's novella uses entomology as an important part of her strategy to display the Victorians as if they were insects in one of their own display cabinets: pinned down with all their distinguishing features apparent, but without the semblance of life. Insects in historiographic metafiction—Linda Hutcheon's term for "those well-known and popular novels which are both intensely self-reflexive and yet paradoxically also lay claim to historical events and personages"—manifest the unsettled feeling of our relationships to the past (*Poetics* 5). The historic departed and insects alike embody a form of life that seems at once familiar and, paradoxically, unknowable. Kohlke's suggestion that neo-Victoriana constitutes an attempt to think through contemporary trauma culture suggests the possibility of reading, in the historiographic metafictional insect, figurations of a number of unresolved injuries associated with the nineteenth century.

Insects and Traumatized Empire in *Penny Dreadful's* Openings

The association Kohlke draws between neo-Victoriana and trauma is exemplified in HBO's television series *Penny Dreadful*, which announces itself as a pastiche of Victorian supernatural and violent pulp fiction through a macabre opening sequence that combines images of insects with other disturbing symbols. The first image of

the opening credits, and nearly half of those that follow, show insects: orb weaver spiders wait in webs and catch large prey, a scorpion curls its tail, a tarantula lunges, and many insects crawl over a skull. The close, occasionally blurry framing, dark palette, unusual camera angles, and dramatic accompanying music style these insect-images as maximally sinister. They are interspersed with images evoking violations of control: Christian iconography relating to crucifixion, scenes of crude surgery and autopsy, and snakes and bats bring to mind profanations of bodily integrity and the clash of religion with scientific practices that redefined the body as manipulable meat. Pale, finely-dressed young women, delicate orchids, pearls, and shattering teacups summon the fragility of upper-class white femininity—but such femininity is also suggested as a possible violation of male autonomy: the thick black blood the feminine objects are revealed to contain could imply their sinister, poisonous aspects as much as their vulnerability. Male characters' performances of conflicting expression of power (social power signified by fine clothing and restrained facial expressions and body language; and physical power demonstrated by strong other men wearing less expensive garb) show masculinity to be riven by class. Playing cards recall the vicissitudes of fate, but also trickery, or the emergence of illusions and deceptions of the senses that can be employed to mislead and exploit. A medium close up image of the face of a black man with a deadpan expression, scarification-patterned cheeks, and British military attire suggests that the television program acknowledges, at least superficially, the colonial violence by which the British political and economic empire seized dominance, and the influence of the colonized peoples on British history. Alternating between these

images of trespass or trauma and exaggeratedly threatening representation of insects implies that Victorian scientific, social, and economic changes can be included in the category “unnerving.”

An alternate opening credit sequence, titled “Emergence,” exaggerates even further the metaphorical use of the insect to embody traumatic damage to a specific idealized version of British history. In this sequence, white marble Neoclassical sculptures—female nudes—are filmed in increasingly disorienting shots: under sporadic lighting implied by thunder-sounds to be lightning; at odd angles; and in extreme close ups and panning shots. As the viewer’s ability to read the sculptures’ associations with Classical history and femininity wanes, leaving only an impression of whiteness and hardness, the sculptures are shown in increasingly intimate and damaging relationship to shiny black bodies—spiders, scorpions, and snakes—that engulf or break out of and shatter their fragile forms. The sculptures fall through empty space, a sequence that concludes with an image of a mountainous pile of ruined, infested nudes. The creative director of the scene intended to evoke Bernini, Carpeaux, and Michaelangelo’s allegorical art, and the last image directly references Gericault’s *Raft of the Medusa* (Hogg).¹⁰⁹ The values inherent in the fine art pieces—idealized embodiment rooted in an imagined genealogical association with Grecian and Roman empire, fragile and passive white femininity, and the accumulation of

¹⁰⁹ Gericault’s painting, an icon of Romanticism, evokes the dramatic horror of shipwrecked subjects driven to cannibalism but also pertains to political instability, as the event it depicts was a matter of significant political controversy across Europe (Eitner).

cultural and economic wealth—are symbolically broken by blackness, nature, disorientation, and loss of ground, in a visual metaphor for the fall of Empire. The sequence was replaced when the producers elected to advertise the series as drama rather than horror (Hogg). If one follows Kohlke in reading neo-Victoriana as focused on trauma, such “creepy” insect imagery is a way to quickly associate the historical with the traumatic.

Jennifer Angus’ Entomological Empire Fantasias

Amongst the traumatic legacies of the nineteenth century identified by Kohlke, including “disease, crime, and sexual exploitation ... violent civil unrest, international conflicts, and trade wars,” one factor stands out in her analysis, namely the anthropogenic “ecological disaster, the commodification and destruction of the natural world and its biodiversity, and the resulting alienation of humankind from its environment” (7-8). Although it is not possible to locate a single period as instantiating the unhappy relationship between humans and nonhumans (witness, for example, the stratigraphic debates over the placement of the “golden stake” demarcating the boundary between the Holocene and the Anthropocene), the Victorian era seems a useful imaginative ground for working through this trauma. Between the period’s rapid industrialization and its interest in natural history, Victorian tropes help us to explore the incommensurability between, on the one hand, our need to change the natural world, to use it as an instrument of desire, and, on the other hand, our desire for a stable, knowable nature unaffected by human use. Placing elements of this quandary at a historical distance safely defends us from

the dangerous culpability they radiate; moreover, a facile understanding of historical trauma lets artists and audiences imagine that the very representation of historical material will divert our present course—as if “those who cannot remember the past are condemned to repeat it,” (Santayana), but those who *do* remember are exempt from such repetition. Kate Michell’s analysis of neo-Victorian fictions argues that

in many ways, these fictions are less concerned with making sense of the Victorian past, than with offering it as a cultural memory, to be re-membered, and imaginatively re-created, not revised or understood. They remember the period not only in the usual sense, of recollecting it, but also in the sense that they re-embodiment, that is, re-member, or reconstruct it. As we shall see, the dis(re)membered pieces of the past are reconstituted in and by the text, and also in the reader’s imagination. The reader thus literally embodies (re-members) the reimagined past. (7)

Using insect bodies to re-member the past implies the construction of a new relationship with nonhuman nature. At the same time, to the extent that we love *and hate* natural history for having led to present crisis, insects’ associations with pestilence figures a desired yet not-wholly-loveable past.



Fig. 4. *Silver Wings and Golden Scales*. Jennifer Angus. Chazen Museum of Art, Madison, Wisconsin, April - June 2007

The trauma of ecological crisis underlies the nostalgic neo-Victorian fantasies Jennifer Angus creates in her entomological art installations (see fig. 3). Angus uses an atypical medium to re-member the period: her pieces resemble textiles or wallpaper applied to the walls of galleries and other spaces, but they repeat patterns composed entirely of pinned insect bodies. Angus takes her inspiration from the Victorian period, which she describes almost entirely with approbation—even longing—as “a time of excitement,” and “the age of travel, exploration, scientific discovery and the dawning of photography” (Artist’s Statement). For Angus, the Victorian era represents a time of newness and wonder, when nature seemed to burst with abundance. Like the Victorians she admires, Angus pays harvesters from other countries (mostly in Southeast Asia but also Peru and Guyana) to collect her

insect treasures, (LaGorce); but as a twenty-first century artist, Angus must defend the ecological soundness of her appetite for these imports. She consistently emphasises her use—and repeated re-use—of sustainably sourced, non-endangered insects in her installations. She describes her trove of insect bodies as allowing her to encourage viewers to think about practices of collecting, “the possibility of collecting to death,” and “the ramifications of industrialization and urban sprawl” (though she does not make the links between these entirely apparent) (“Silver Wings and Golden Scales” 16). The immediate impression of Angus’ art, before its medium is understood, is one of order and beauty, but when the insects’ bodies are apprehended, (at least) one of two anxieties is provoked. Some viewers may experience intense aversion to the insects themselves as inherently upsetting vermin, while viewers with a greater appreciation for bugs may instead experience alarm at the number of dead animals they encounter.

The desire to hoard insects makes sense at a time when animals and “nature” seem threatened and precious, but conspicuously indulging that desire might read as anachronistic: the Victorian collector didn’t “know better,” but ecologically-minded contemporary audiences may find the practice distasteful. Like the alibi of art-as-critique (the idea that odious acts can be justified by art audiences’ reflection on their odious-ness), performing Victorian-ness downplays what it means in the present to display thousands of dead animals. This is not to make the too-simple assertion that Angus’ use of insect bodies as an art medium is “immoral.” Rather, what we can note is a reframing, even a disavowal, of a desire (Angus’, but not hers alone) to revel over great masses of shiny, colourful, beautiful dead bodies. The

collection-impulse can be explained as a critical parody, displacing it into a previous, ecologically innocent time. Similarly, the decision to treat the insects' lives as insignificant enough to justify pinning their bodies to the wall (albeit repeatedly) to make art is displaced by insisting that the bugs are sustainable. Angus relies on the pre-existing division of bodies into "endangered" and "not endangered," (and the cultural belief that for insects, only species-endangerment necessitates conservation), implicitly ceding to others responsibility for the decision to use bugs as resources.¹¹⁰ These installations scarcely register on the scale of human animal-consumption, but it is apparent that Angus' conservationist ideals are overshadowed by her work's escapist fantasy of Victorian abundance.

This abundance is exemplified by *Silver Wings and Golden Scales*, a collaborative installation Angus created with Alastair MacDonald in 2007 for the Chazen Museum of Art (fig. 3). Angus' contribution to the piece involved creating a wallpaper with a pattern made of insects, interrupted by circular arrangements of insects intended to "suggest flowers, fireworks or a dance circle" ("*Silver Wings and Golden Scales*" 15). The wallpaper's regular pattern implies orderly, ornamented domestic life, while the bosses that punctuate it celebrate seasonal bursts of natural beauty, leisure time, festivities, and rituals of social intimacy. That a life like this—of

¹¹⁰ We might consider, by way of comparison, how an installation of thousands of taxidermied baby chicks might be more acceptable if it were understood to criticize farming practices than it would be if the artist simply *liked* all those fuzzy yellow forms—and how the latter display of conspicuous consumption of animal life would likely receive far more bad press than would the average fast-food restaurant, despite the latter's greater exploitation of animal bodies. Art and insects are both governed by the strict cultural rules about which animals can be used to satisfy which desires, at which times, and which places.

well-ordered everyday fanciness and occasional parties—is one of economic privilege scarcely bears notice: poverty enters this reverie of Victoriana no more than does industrial pollution, leaving the nostalgia for resource-bounty intact.¹¹¹ The figure where natural and economic wealth intersects—the nineteenth century cabinet of curiosity—especially inspires Angus. Explaining that such displays were often arranged to create a particular aesthetic effect (as opposed to a taxonomic logic), Angus “channels that quirky spirit of collection and display, which embraces both science and fantasy” (15). The underdeveloped “scientific” element of the piece refers to the display of insects. While some mention is made to how the “wave-like” wallpaper pattern can be likened to “the ebb and flow of activity in a single day from dawn until dusk – the lifespan of a mayfly,” the mode of inquiry here is primarily aesthetic (15).¹¹² The “quirky spirit” of fantasy leads her to “appropriate” images from Victorian children’s books—children’s appreciation of insects, is, for Angus, apparently analogous to that of the Victorians.

¹¹¹ This nostalgia for a *Victorian* ideal is not founded in a universal nineteenth century experience, of course. British industrial workers and other proletarians frequently suffered harsh urban conditions. American homesteaders experienced devastating losses, sometimes to the point of starvation, from Rocky Mountain Locust swarms and other hardships (Lockwood, *Locust*). For people suffering the effects of colonial imperialism, natural wealth was not accumulated but stolen. The Victorian era as representative of the nineteenth century world focuses on certain traumas at the expense of others that are just as significant.

¹¹² MacDonald’s contribution to the piece, a soundscape, layered together children’s poems and children saying the names of insects, songs played on music boxes, recitation of Alfred Russell Wallace’s travelogues and many sounds made by the insects themselves. The soundscape was constantly adjusted so as not to repeat itself (Angus, “Silver Wings and Golden Scales” 14). MacDonald’s work, perhaps even more than Angus’, makes history not-quite-graspable: what is heard once cannot be heard again, and its overlapping elements recall the way memory combines too many things at once, refusing neat linearity.



Fig. 5. *Insect Fantasia*. Jennifer Angus. Newark Museum, Newark, New Jersey, 2008.

To restore the lost wonder and potentiality evinced by insect collecting, Angus' installations reach into the past biographically as well as historically: Victorian *childhood* is an especially potent site of escapism in her work. "Insect Fantasia," a 2008 work commissioned for the Newark Museum's centennial, nicely illustrates this aspect of the work: the show centres on the project of imagining two real Victorian children, Percy and Alice Ballantine, as bug-lovers, using bug-based signs (fig. 4). The site-specific installation in the Museum's restored Victorian-era Ballantine House (in which Percy and Alice lived) followed Angus' usual insects-as-decor idea—in this instance the effect was amplified by the 1890s surroundings. The children's bedrooms closely follow gender norms: the leaf-insects, cicadas, and beetles in Percy's room are intended to appeal in their "exoticism," and thereby "represent a healthy interest in travel and science," while Alice's "winged fairyland"

includes a diary, dioramas about princesses, and an “ABC” wallpaper border—all insect-based of course (“A is for ant, B is for bug, etc.”) (LaGorce). Angus attempts to “capture in [her] work ... the magic we experience as children” (Artist’s statement). However, we might also see a retroactive “reproductive futurism,” working here, reproducing social norms in the imagined past and in the nostalgic present (Edelman 2). That is, the centennial is inflected through these imagined characters to suggest that heteronormative families in the 1890s, by supporting children’s “natural” roles in and “natural” wonder about the natural world, made the following hundred years something to celebrate. There is a sense in which Angus conflates the Victorian era and childhood, painting them as similarly appreciative of and fascinated with nature—and similarly innocent of the violence that appreciation (inadvertently) leads to. The gender normativity of these scenes shuts out queerness and its critical potential for disrupting norms and assumptions.

The nostalgia inherent in Angus’ work also recreates, perhaps unconsciously, a Victorian experience. Helen Groth argues that nostalgic narratives of preindustrial nature emerged as part of a Victorian literary response to the newly invented camera’s ability to “capture the sheer variety of the transient phenomena of life and transform them into a meaningful sequence” (218). Nature became understood as the fleeting stuff of life, and art’s task was to capture that which was constantly disappearing. Groth argues that literary imitations of this photographic ability gave “expression to an inherently nostalgic desire for authentic experience in an age when many felt the dematerializing effects of capital and commerce had triumphed” (219). The hunger for something real, and a sense of alienation, continues to occupy

the space between environment and economy. Angus' transformation of wallpaper—which frequently figures abstract natural motifs—into wall decorations made of natural materials could be read as the literal expression of a desire for authenticity via engagement with the natural world.

Many critics read such nostalgia pejoratively, as a misrepresentation and simplification of the past. Kimberly K. Smith historicizes the ideological work performed by dismissing nostalgia, arguing that since the nineteenth century, promoters of industrialization and modernity have constructed nostalgia as

a universal but aberrant yearning for an irrecoverable past; a reality-distorting emotionalism triggered by thoughts of home, small towns, and rural life; an understandable but destabilizing force infecting our politics with irrationality, unreality, and impracticality. (507)

The charge of nostalgia can then be used to de-legitimize and “silence the victims of modernization,” in that it can “render their emotional experiences suspect (even to themselves) and undermine their confidence in their memories, their unhappiness, and their hopes” (507). Other critics counter dismissive readings such as those identified by Smith. Ann C. Colley, for example, takes seriously the homesickness and sense of loss expressed by Victorian writers, arguing that these writers do not simply idealize the past, but rather, they build their senses of identity in relation to these constructed pasts, and “their longing often gives them the means to move beyond themselves and their past—it creates new maps” (5). Angus' works' nostalgia may likewise be read as an imaginary cartography that attempts to lead viewers into alternative terrain. Her transgression of the boundaries between

domestic, decorative interiors and spaces of “nature” may lead to a reconsideration of the relationship between the two, and between an admiring or dismissive response to insects.

To dismiss Angus’ work because of its excessive nostalgic affect may be to deny authority to work that does not uphold historical discourse’s claim to objectivity identified by White; it also corresponds to the tradition by which women and people of colour have been silenced under the same charge. Mitchell, conversely, reads the nostalgia in neo-Victorian fiction as implicitly responding to Jameson’s call to historicize the present. She follows Svetlana Boym’s reading of nostalgia as a mode of critical engagement with the past, as an affect with “a subversive function, disrupting and diverting the gaze of traditional histories. Rather than falsify and trivialise the past it produces multiple stories, at least some of which challenge and critique official historiographies and other dominant images of the past” (Mitchell 5). Though Angus’ work produces fantasies of other ways of living in and engaging with the world (rooted in versions of the past that owe more to imagination than fact) we can also identify a Utopian impulse in such an attempt.

While nostalgia may not be in and of itself cause to dismiss the world-building that these installations undertake, we may still be wary of the content and consequences of such work. Jean-Luc Nancy observes, for example, the dangers inherent in the ubiquitous longing for a lost harmonious and intimate community (the *Gemeinschaft* identified in distinction from impersonal, formal society, *Gesellschaft*, by Ferdinand Tönnies). Observing that “at every moment in history, the Occident has rendered itself to the nostalgia for a more archaic community that has

disappeared, and to deploring a loss of familiarity, fraternity and conviviality,” Nancy claims that this situation leads to “ the onset of rivalry, dissension, and conspiracy ... the warring and political scene of society—pure exteriority” (10). The nostalgia for an imagined past, that is, can lead to violence against those views and bodies associated with the interruption of community; since the desired state is imagined as having once existed (as opposed to idealist utopias), its “rightness” is naturalized into the world. Politics, argues Nancy, becomes the work of restoring an ideal and lost state, but that work can become that which divides people in the present. Like history’s claim to greater authority than fiction, nostalgia can trump hope when it is expressed in a way that disavows its creative content. Angus’ artist statement runs the risk of idealizing the Victorian period in this manner, but the morbid and unsettling materials she uses can be read in two ways: they can be understood as inherent in the fantasy of Victoriana, suggesting that the era should be imagined as other than ideal; or, they can be seen as the exteriority that interrupts the fantasy, and be all the more hated for it.

As with many artists who work with insects, Angus’ work relies on a double take that encourages viewers to rethink the nature of what they see. One viewer described the “Insect Fantasia” installation as “so bizarre, so incongruous in this lovely space ... You think you’re looking at something beautiful, some lovely design that’s consistent with the rest of this house, but you’re really looking at dead bugs” (LaGorce). Whether the viewer objects primarily to the *bugs*, as inherently unlovely, or primarily to the *death*, as an act of mass taxidermy, the unsettling tension between desire for beauty and unease with the insects makes it difficult to wholly

identify with—or dismiss—the fantasy of Victorian plenitude. Rather than a simple escapist fantasy, Angus' entomological scene staging is more difficult. The pieces are immersive but not interactive: fragile and beautiful, they evoke a desired past, but one that is dead and strange, uninhabitable. It might be appealing to imagine its wealth—being able to over-consume the natural world—but the desire inevitably turns out to be a bit creepy and morbid. Insects in art, as in life, tend to unsettle our comforts and notions of progress.

Insect Textiles and Taxonomies in Neo-Victorian Art

Angus' combination of Victoriana and insects is exemplary, not unique. Discussing her curation of the 2013 show *Victoriana: The Art of Revival*, at Guildhall Art Gallery in London, Sonia Solicari observes that since the “at least” the 1990s, there has “appeared an increasing proliferation of Victorian inspired objects and images. ... Neo-Victorian things are all around us,” she argues (180-81). Many of these things are insects. Tessa Farmer has achieved fame for her tiny fairy sculptures made from insect carcasses and other found materials, which are staged in melodramatic battles against insects and small animals (see fig. 5); beetle-crazy Victorians were also “obsessed with fairies” (Susina 230). A number of textile artists, such as Mister Finch (see fig. 6 and 7), incorporate Victorian imagery and themes into embroidery, knitting, felting, stumpwork and soft sculpture that figures insects (and sometimes uses insect-derived silks).¹¹³ Others, including Michael Cook and Mary Corbet,

¹¹³ See in addition the work of Claire Moynihan, Catherine Roselle, Hannah Haworth, Yumi Okita, Rosemary Milner and Lauren Evatt Finley.

incorporate beetle wings into their textiles, in the nineteenth century style. Solicari dismisses the notion that the neo-Victorianism of the last two decades is purely a revival: many of the artworks in the show are “more about suggestion than direct inspiration and speak of dismissal as much as embrace” (183). Neo-Victorian textiles and soft sculpture draw out associations with gender, domesticity, tactile relations, and costume, playing off the friction between their forms’ associations with femininity, softness, intimacy, cosiness, richness etc., and the abjection of insects (elsewhere imagined as machine-like and deathly). These soft insect figures do not necessarily read as uncanny—suggesting the limitations of one or both sets of assumptions. Like historiographic metafiction in literature, these works trouble the representation of historical thought, calling into question its motivation, accuracy, and value.



Fig. 6 *The Hunt* (detail). Tessa Farmer, 2012.



Fig. 7. *Moth and Coach*. Mister Finch



Fig. 8. *Beetle-Wing Embroidery*, Michael Cook.



Fig. 9 Beetle-Wing Embroidery. Mary Corbett.

Artists whose work references the discovery or invention of new species frequently evoke the Victorian era. Painter and illustrator Paula Duță, known for her neo-Victorian “steampunk” watercolours and street art, has produced several insect-themed series in a Victorian style, such as an alphabet formed of drawings of insect bodies, watercolour paintings of insect-animal hybrids (such as a lion-beetle and giraffe-weevil), and a large series of “portraits” of insects, such as a large-scale drawing, “*Locusta Migratoria*,” which labels the grasshopper it depicts as if it were field research for a natural history textbook. Duță’s hybrids and other specimens, with their soft palette and labeled, specimen-style presentation of their subjects, resemble the “Cephalopodoptera” series of digital illustrations imagined by Vladimir Stankovic (see fig. 11). Stankovic created his portmanteau-title from the word for marine mollusks (cephalopod) and the suffix used for insect orders including moths and butterflies (optera); the name appropriately describes a fictional hybrid species Stankovic’s work invents. Stankovic creates the conceit that “Cephalopodoptera is a

newly discovered order of species, a link between molluscs and insects. They live in the deepest underwater caves of the oceans worldwide” but eluded previous discovery due to their “characteristics and intelligence of moths, beetles, octopuses and squids” (“Cephalopodoptera”). The fantasy creatures are presented as if in a natural history display; like Duță, Stankovic’s text is inscribed in an old-fashioned copperplate that intensify the work’s associations with an earlier age of discovery. The false Linnaean nomenclature he creates (which references the Victorian fixation on taxonomy as a mode of ordering and understanding the natural world) is inspired by an “old, huge” encyclopaedia with which the artist grew up, and his suspicion that the system of classifying living things it contained is “not complete yet and maybe even not one hundred percent correct” (“Vladimir Stankovic Illustrations”). The hybrids Duță and Stankovic create evoke Victorian conjecture about—and manufacture of—crypto-zoological creatures including hybrids such as the mermaid. Such species in Victorian literature “generate spectacular images of imperial outposts for Victorian consumption; these “other” creatures captivated the Victorian imagination and cultural vision” (Shu-Chuan 225). The notion of “missing links,” such as the Cephalopodoptera, in particular “formed an important part of nineteenth-century anxieties about situating other creatures within the scientific context [and] provided an alternative mode of understanding a larger world” (Shu-Chuan 237-38). Though the discovery of new species continues in the present, turning to the past—real or imagined—gives artists a greater latitude for their representations of discovery, allowing them to draw on already-familiar elements while reimagining them as “new.”



Fig. 10 *Locusta Migratoria*. Paula Duță



Fig. 11. *Cephalopodoptera*, Tab. V. Vladimir Stankovic.

Bates' Antimodern Entomological *Memento Mori* Photography



Fig. 12. *Histoires Naturelles*. Juliette Bates, 2011.

Photographer Juliette Bates uses the combination of neo-Victorian imagery and insect figuration to work through the somber affect and mysterious meanings of death and the dead. Drawing on her knowledge about uncanny nineteenth century art (learned while preparing a dissertation on nineteenth century “fairground freak” photography), Bates creates anachronistic images of death-in-life in her 2011 series of conceptual photographs *Histoires Naturelles* (natural history). Insects feature prominently in this dark, mysterious series. Bees and butterflies fly about while trapped under iconically-Victorian glass bell jars or parlour domes, which were referred to in the nineteenth century as “shades”; this word is also appropriately applied to Bates’ work in its secondary meaning, which is a synonym for ghosts (see fig. 12).¹¹⁴ White women wearing black velvet dresses resembling mourning gowns

¹¹⁴ John Whitenight’s in-depth look at the Victorian popularity of bell jars includes a chapter “Beauties from the Beehive,” that connects the shade to the use of insect

are shown (without revealing their faces, thereby replacing the singularity of the individual with the abstract category) often connected to insects: women (or perhaps the same woman) are shown holding bees attached to marionette-strings; wearing a large black ant at the throat as if it were a cameo necklace; laying face-down across a sofa next to a green beetle; holding a bouquet of white lilies surrounded by fluttering moths; and touching the lid of a travel case filled with neatly-arranged butterflies. One image shows the velvet-clad arms of a woman grasping a round frame filled with scattered, messy butterflies; at the top of the image a banner proclaims "*tempus fugit*" ("time flies"), recalling Klaus Enrique's entomological *memento mori* photographs. Other symbols of mortality in the images include human skulls, soap bubbles, and cut flowers. Somber blue and grey tones emphasize the calmly morbid mood of the series: rather than passionate rejection, the work characterizes death as perplexing. The photos suggest only unanswerable questions like "what is happening?" or simply "why?"

The crispness of Bates' photographs and their uncluttered composition read as contemporary: this project references Victoriana but does not mimic it. It thus brings together the present and the Victorian era, inviting comparison between the two. Mitchell argues that the Victorian period was used throughout the twentieth century

as an 'other' against which modernity might establish its identity, ranging from the modernist rejection of the period typified by Pound, to the

materials: he explains that the glass dome protected figurines and sculptures made of wax. He notes, "No culture heretofore had embraced beeswax, one of the humblest materials found in nature, as an artistic medium the way the Victorians did" (11).

celebration of the period by neo-conservatives like Margaret Thatcher and Gertrude Himmelfarb, each of whom, at least rhetorically, promotes the virtues of the era as the panacea for contemporary malaise. (8)

Bates' photographs raise the possibility that Victorian and contemporary malaise are being identified with each other, against modernity. In *Histoires Naturelles*, the two might be understood as aligned in admitting the existence of mortality, against the modern taboo against such subject matter.

Creepy Crawly Critical Fine China

Insects brought into contrast with fine porcelain or bone china comment on the historical specificity of ideas of refinement and class by citing and destabilizing the way such ideas inhered in Victorian objects. We now associate Victorians with excessive rules about class-appropriate objects, behaviours and appearances. Though Foucault's "We Other Victorians" demonstrates how representations of Victorian social norms fulfill specific ideological aims and may not reflect reality, material goods do and have communicated symbolic values, especially those about class (Bourdieu, *Distinction*; Douglas, *Implicit Meanings*; Douglas and Isherwood; Hall, "Culture, the Media, and the 'Ideological Effect'"; McCracken; D. Miller). In the nineteenth century, the proliferation of behavioural guidebooks, for example, helped an expanding middle class entrench associations between comportment and values; Michael Lucas argues that these guides "allowed the upper and middle classes to demonstrate their superior refinement" (82-83). We associate delicate tableware with Victorian ideas about class because in the nineteenth century in

Europe and America different dining styles became popular, including dining “*a la Russe*.” Diners were served many separate courses in this extravagant style, necessitating “the use of multiple servants and a surplus of extra plates,” which in wealthy households were of a finer, less sturdy quality (Lucas 82). Victorian tableware communicated status.

A number of artists have used insects to comment on the values still attached to such objects. The found porcelain objects Aganetha Dyck places into beehives, which accumulate deposits of honeycomb, blur the location of artistic value as they proliferate the number—and species—of artists that create them (see fig. 13).

¹¹⁵Carrienne Bullard’s *Object*, a delicate teacup made of cicada wings and legs, parodies the teacup form, showing that the most unloved, “valueless” elements of the natural world can exceed the human-made version in beauty, fragility, and inutility—all elements that in fine tea services are intended to communicate refinement and wealth (see fig. 14). Mary Douglas argues that objects such as tableware might inform viewers about “different degrees of hierarchy, inclusion and exclusion, boundaries and transactions across boundaries” (“Deciphering a Meal,” 249). Bullard’s mimicry of an object firmly associated with class codes evokes and challenges the messages communicated by such objects.

Evelyn Bracklow performs a similar operation with her *Chitins Gloss* and *Euphemia* series. Bracklow paints swarms of tiny, realistic ants on found vintage

¹¹⁵ Dyck’s work is also significant insofar as her practice of working with and thinking with bees differs from the way many other artists use insects. The bees provide not only raw material for her art, but act as co-creators. Her engagement with insect collaborators thus offers an intimate, perhaps in some ways reciprocal posthuman kind of becoming.

porcelain—in the former, the ants’ formation mimic the way ants might traverse the form of the cups, plates, etc. (see fig 15) while in the latter series, the ants swarm fruit and other decorative motifs painted on the objects. Bracklow values ambivalent reactions to her pieces, noting in her online artist statement that “Fear, disgust, fascination and admiration: this very interplay of feelings constitutes the charm of the work.” While insects’ negative affects are sometimes deployed to interrupt audiences’ received ideas about history, for Bracklow, ants *represent* history, not as reified facts, but as layers of living minutiae. She says that her “ants symbolize all the stories that any formerly discarded piece of porcelain carries with it. Where one once dined and drank [sic], today ants bustle in ever new formations.” Bracklow’s description of ants in this way—as eaters and drinkers analogous to the human users of the porcelain—draws on the trope of anthropomorphized social insects such as swarms and bees. Though these ants, in their realism, are more likely to connote ruined picnics than picnickers, Bracklow’s statement’s conflation of ants and historical humans offers a more intimate, vital picture of history. Ina Ferris argues that “all generic hybrids constitute what [Mikhail] Bakhtin calls ‘border violations,’” but historical fiction “violates an especially sensitive border” (qtd. in Mitchell 18). In art objects as well as in literature, incongruous historical associations perform and call attention to the tense border between “then” and “now.” Bracklow’s ants attempt to traverse that border: while teapots might bring to mind abstract notions of class, formality, and convention, insects might remind us of the passing away of such notions, as well as the living, mortal bodies, so like our own, that interacted with those objects.



Fig. 13. *Masked Ball Series—Arrival*. Aganetha Dyck.



Fig. 14. *Object*. Carriane Bullard.



Fig. 15 *Chitins Gloss*. Evelyn Bracklow.

Insects in Steampunk's Critique of Modern Alienation

The artists described above all link the present to the Victorian past, complicating notions of history, but a subgenre of neo-Victoriana foregoes representing the present altogether, instead dragging elements of the nineteenth century forward into an alternative, imagined future. Steampunk culture, literature, and art have become highly visible in recent years, and, like other genres that complicate ideas of time and history, steampunk swarms with insects. Rachel Bowser and Brian Croxall, in their introduction to a steampunk-themed issue of *Neo-Victorian Studies*, describe the steampunk aesthetic as a combination of science fiction's "tropes and techniques" and Victorian "projections and fantasies" that, taken together, "revels in anachronism while exposing history's overlapping layers" (1). Amongst the sci-fi tropes used alternate timelines and unfamiliar technologies are paramount, while the projections and fantasies are both abstractions (discovery, invention, theatrical social codes of behaviour, etc.) and (more obviously), objects (steam engines, gears and cogs, top hats and corsets, etc.).

The exposure of and revelry in history as a palimpsest in progress that Bowser and Croxall identify signal the possibility of including steampunk in the genre of historiographic metafiction, as steampunk fiction and art often exhibit the defining traits—intense self-reflection and use of historical material—identified by Hutcheon (*Poetics* 5). Indeed, Bowser and Croxall understand metafictional critique to inhere in the genre as a whole. They argue that

Through its own instability, enacted via nonlinear temporality and blended surfaces, steampunk reminds us of the instability and constructedness of our concepts of periodization and historical distance. Steampunk additionally reminds us of our conflicting desires as consumers, both of the Victorian period and of our own moment. (30)

While steampunk ostensibly rejects the present, the forms taken by its rejection express ideas or feelings about the present. Bowser and Croxall's description implies that such content is present as a conscious critique, though it may also express unconscious or no-longer-conscious content of the sort discussed by Fredric Jameson and Bill Brown, and Ernst Bloch before them. Richard Llewellyn concurs with Bowser and Croxall's analysis of the multi-temporal valences of steampunk's critical work. In his assessment (which focuses on literature, but which I believe applies to other forms as well), Llewellyn argues that

steampunk fiction has the potential to illustrate quite directly the imagined and real linkages and similarities through difference that are negotiated in our own postmodernist, post-human landscape ... while at the same time

demonstrating the roots of ideas surrounding choice, difference, conflict, and liberal idealism that can be found in the Victorian period” (Llewellyn 172). This historical double vision applies to neo-Victorianism as a whole, but steampunk foregrounds its temporal indeterminacy more explicitly than other genres of neo-Victorian texts.

Whereas science fiction, with which steampunk shares tropes, is typically set in the future, the temporal setting of steampunk is pure “anachronism: a past that is borrowing from the future or a future borrowing from the past” (Bowser and Croxall 2). While Bowser and Croxall date the online visibility of steampunk to 2007, they observe that, in its literary form, the tradition reaches back to the late 1960s—around the time of the invention of cyberpunk (11-13). The latter achieved widespread popular and critical attention earlier, but as Rebecca Onion’s seminal essay on the genre in the first issue of *Neo-Victorian Studies* notes, steampunk too has become internationally known and practiced (Onion 141).

Perhaps even more than in neo-Victorian art as a whole, steampunk art includes insects, most frequently combined with watch gears, as the embodiment of strange anachrony. While not all of the artists referenced here explicitly identify with the steampunk movement, their juxtapositions of insects and clockwork suggest a reading of their art in that context: artists whose work is not created in an explicitly steampunk aesthetic may nevertheless be especially appealing to devotees of that genre, whose appreciation may involve making connections with the steampunk genre. Some artists sculpt reclaimed material detritus of the past into insects, like Edouard Martinet (fig. 16), Mark Oliver (fig. 17), Tom Hardwidge (fig.

18), and Christopher Conte (fig. 19). This work very frequently recycles parts of watches and clocks: the insect art of Mike Libby (fig. 20), Justin Gershenson-Gates (fig. 21), Dmitriy Khristenko (fig. 22), Gaby Wormann (fig. 23), and Rachel Victoria Adams (fig. 24) all prominently or exclusively include timepieces. The Victorian love of insect-ornamentation is carried on in the steampunk jewelry of Denise Humphrey (fig. 25) and Daniel Proulx (fig. 26), while the characters populating Bruce Whittlecraft's steampunk-themed imaginary planet (including anthropomorphic insects) appear as toys and a number of other two- and three-dimensional art forms (fig. 27). The mechanical-Victorian insect concept has also been used as a form for everyday utensils (Juan Molleví, fig. 28), schematic drawings (Marton Borzak, fig. 29), feminine gift product designs (Brigid Ashwood, fig. 30) and environmentalism-inspired line drawings (Katharine Owens, fig. 31). Elementary school teachers can even download plans for a class building steampunk bugs (Dick Blick Art Materials, fig. 32). Far from being a complete list, this selection of artists represents only part of the broad interest in visualizing the intersection of insects and the mechanics of a bygone age.



Fig. 16. *Red Ant*. Edouard Martinet.



Reference Moth
Lepidoptera Britannica

Fig. 17. *Reference Moth, Litterbugs*. Mark Oliver.

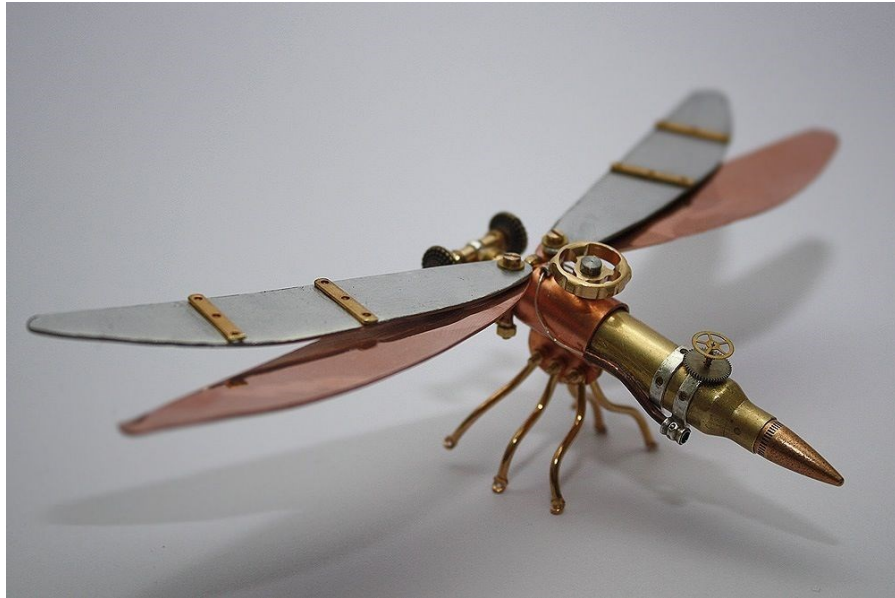


Fig. 18. *Arthrobot - mechanisoptera fumo*. Tom Hardwidge.



Fig. 19. *Steam Insect*. Christopher Conte.



Fig. 20. *Dynastidae: eupatorus gracilicornis*. Mike Libby.



Fig. 21. *Insect Sculptures*. Justin Gershenson-Gates.



Fig. 22. *Grasshopper*. Dmitriy Khristenko.



Fig. 23. *Acrocinus longimanus*. Gaby Wormann.



Fig. 24. *Kafka Clock*. Rachel Victoria Adams.



Fig. 25. *Tiny Brass Fly Brooch*. Denise Humphrey.



Fig. 26. *Steampunk Praying Mantis*. Daniel Proulx.



Fig. 27. *M.R.J. Blackwood*. Bruce Whistlecraft.



Fig. 28. *Aurea Mediocritas – Avispa Sacacorchos*. Juan Molleví.

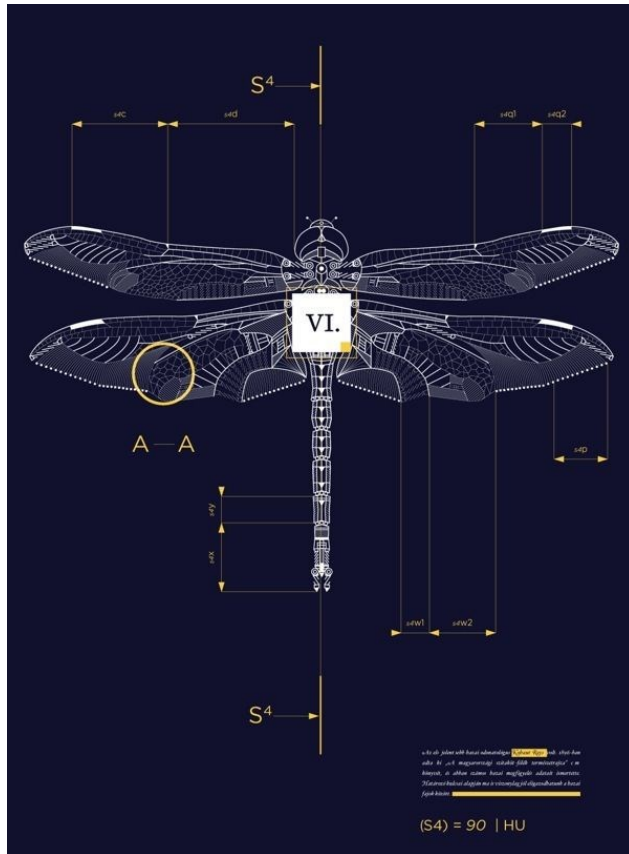


Fig. 29. *Mechanical Insect VI*. Marton Borzak.



Fig. 30. *Steam Bee*. Brigid Ashwood.

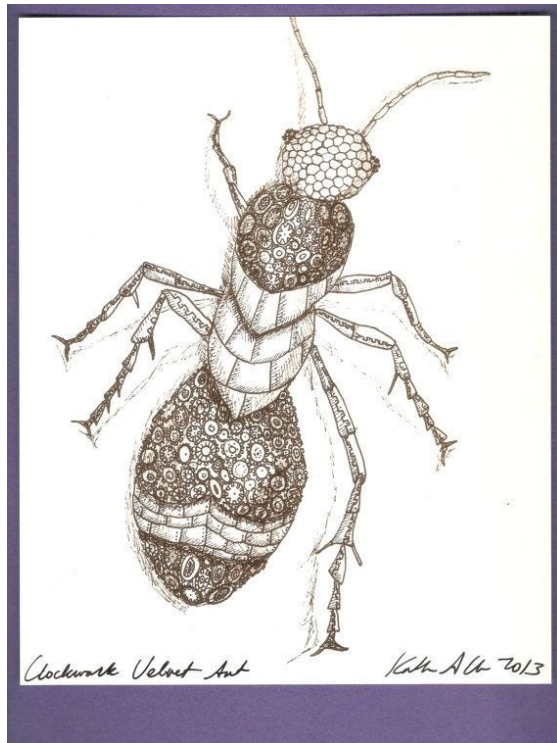


Fig. 31. *Clockwork Velvet Ant*. Katharine Owens.

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Steampunk Entomology

Create a futuristic insect specimen using clay, discarded metal pieces, and wire.

(art + history)(art + science)

The term "steampunk" was originally coined in the 1980s to define a specific type of literature that had been previously undefined. This literary genre is usually set in the Victorian era, combined with futuristic innovations that may have arisen if our advances in technology had been mechanical and steam-powered, perhaps without the invention of electricity.

Although the term Steampunk wasn't coined until the 1980s, its origins can be traced back to the 19th century and is seen in novels written by Jules Verne and H.G. Wells in which science fiction is infused with romance. For this reason, the imagery of Steampunk is always very futuristic but still retains the Victorian style — imagine brass, wood, glass, and plenty of detailing.

Steampunk itself is not limited to literature, however. It has become a complete subculture, with Steampunk fashion, art, games, and even music. From the fantastic imagery described in Steampunk novels, it was only a matter of time before people started to create gadgets and mechanisms in this style.

This project combines "steampunk" with entomology to create futuristic, robotic insects that appear to be powered by gears and mechanicals. These miniature sculptures are beautiful works of art and imagination. Air dry clay will serve as a base for the sculpture and will make assembly of the metal pieces easy.

GRADES K-12 Note: Instructions and materials are based upon a class size of 24 students. Adjust as needed.

Materials (required)
Various found objects such as gears, clock parts, metal washers, small screws, springs, or nails.
Amaco® Self Hardening Clays; choose two 5 lb boxes per class
Marblex Gray (33204-2505)
Stonex White (33247-1005)
Mexican Pottery Clay (33205-3005)
To glue metal to metal:
E6000® Jewelry Adhesive, 3.7 oz tube (Z3802-1004); share one across class
To glue metal to clay:
Weldbond® Universal Adhesive, 4 oz (Z3819-1004); share one across class
Blick® Armature and Sculpture Wire, 18-gauge, 32 ft spool (33400-1632); share one across class
Iridescent Film, 36" x 12.5 ft roll (1209-1036); share one across class

Optional Materials
Art Metal Foil Sheets, copper, 40-gauge, 12-pack, (60513-1040)
Blick® Copper Wire, 24-gauge, 100 ft roll (34415-1024)
American Crafts® Powl Glitter Paper, 12" x 12" sheet (11756-7)
Sargent Art® Liquid Metal Acrylics, assorted colors (00730-3)
Genuine Boxwood Tools, set of 3 (60502-1009)
Fiskars® Recycled Scissors (57097-3)
Mini Wire Cutters (33083-1020)

Fig. 32. *Steampunk Entomology Lesson Plan*. Dick Blick Art Materials.

Questioning how the famously hazardous, dirty and dangerous technologies of the early Industrial Revolution came to be the unlikely material of Steampunk utopias, Onion argues that the genre appeals because it constructs a fantasy in which subjects are not alienated from technology. She argues that reconstructing specific contemporary technology is less important than accessing

the affective value of the material world of the nineteenth century. The steampunk ideology prizes brass, copper, wood, leather, and papier-mâché ... fetishise cogs, springs, sprockets, wheels, and hydraulic motion [and] love[s] the sight of the clouds of steam that arise during the operation of steam-powered technology. (138-39)

Steampunks love, fetishize, and prize these construction materials for making the world sensuously accessible—unlike the slick and unidentifiable components of a contemporary computer or phone. Bowser and Croxall agree that steampunk has become popular due to the way its emphasis on technology relates to “our experiences of, unease with, and desires for technology in the present” (16). They note the alienating effect of the current technological trends for ever-smaller and more streamlined devices, the functions of which can only be understood or modified with specialized training, tools and manufacturers’ permission (16-18). Steampunk machinery looks quite different from today’s technologies (“large, heavy, rough, dirty, and mechanical as opposed to small, light, glossy, clean, and electrical”) but, they note, its functions are the same, so that the steampunk world offers a utopian alternative to our lived relationship with machines:

we are ... presented with an opportunity to consider what it would be like to be in control of technology – and not simply any technology, but the technologies that we are ourselves depend upon most heavily in the twenty-first century and yet seem so alienated from: technologies of communication, transportation, and computation. (23)

To this list of centrally-important areas of technology we might wish to add technologies of temporal location, violation, and ornamentation: steampunk insects' inclusion of clock-parts and sharp metal, and their frightening but usually quite beautiful appearances represent agency over time, security, and style, against the current press of 24/7 time (as Jonathan Crary describes it), the increasing presence of surveillance and weaponry in civilian spaces, and the pressure to define our social affiliations by curating our appearances and belongings.

The fabrication process of steampunk bugs, by the hand of the individual artist, is almost always included in the description of the art piece or practice, heightening the way the work reimagines the historical alienation of labour. In contrast to the speed of the production line, these works emerge from slowness itself. While a few artists allow the fine intricacy of their pieces to make their patient work apparent (Wormann, Khristenko), or suggest complicated work-to-come (Borzak's blueprints), most speak explicitly about the patience and skill the pieces represent. Many of the artists mentioned here make detailed reference to their processes and techniques. Oliver's website contrasts the litter he uses (which implies a speedy "throwaway" mode of consumption) to the "painstaking" labour he puts into sourcing and crafting it into (implicitly environmentalist) artworks—

painstaking being an adjective that appears frequently in relation to these objects. Whistlecraft and Conte's websites foreground the craftsmanship the artists acquired in their previous careers as industrial toymaker and prosthetist, respectively; Conte's statement explains that his dual training in medicine and art gives him "strong connection with future technologies" *and* the ability to use "ancient techniques such as lost-wax bronze casting." This description evokes the contradictory temporality of steampunk more broadly. Martinet's use of screws, rather than solder or glue, is highlighted as evidence of the purity and precision of his work—his homepage says it "gives his forms an extra level of visual richness—but not in a way that merely conveys the dry precision of, say, a watchmaker. ... a beautifully finished object glows not with perfection, but with character, with new life." That is, Martinet sees his labour as gestational: not mere production but reproduction. The time required to "birth" a steampunk bug is a matter of pride: for Gershenson-Gates, "creating fragile wonders takes an extraordinary amount of patience and many hours of work" (McManus), while Conte's processes can take "months," and "it took [Martinet] just four weeks to make his first sculpture and 17 years for his most recent completion." These slower-than-thou boasts advertise the luxury of a specific kind of ethical consumption. Just as it costs more to eat locally, ethically grown slow food, few can afford to patronize these leisurely, un-alienated artisans. The business of producing these bugs in this world contradicts the ideals of the steampunk world, though it may be unfair to hold the economic pragmatism of these artists against the value of their aesthetic.

The workings of technology in this world have become as mysterious as the workings of biology. Most of us no more understand what makes our cellphones work than we grasp the processes operating in our pets—and when they die, we are equally helpless to intervene. Worse, we are more reliant on our devices than we are on many of our animal companion species. Steampunk insects invert this situation: rather than being unable to create either our devices or animals, steampunk bugs evoke a fantastic world in which both are repairable. Steam-bugs blur the boundary between machine and animal by combining the two. They embody the mythic anti-essential cyborgs (cy-bugs) imagined in Donna Haraway's early work as promising "transgressed boundaries, potent fusions, and dangerous possibilities" ("A Cyborg Manifesto" 363).

Onion argues that steampunk cyborgs, moreso than futuristic ones, recall to viewers bygone metaphors for the body's "mechanical nature," the likeness between body and machine. She argues that by "making visible what, in the actual flesh, remains hidden behind a smooth, iPod-like surface," the steampunk-cyborg soothes viewers by suggesting "that the functions of the body have a visible, comprehensible (and thus medically controllable) logic of their own" (Onion 149). Though the insect's body stands, in other contexts, for a body utterly alien to the human form, when it is contrasted to screws and gears, the differences between arthropod and mammalian flesh recede. As insects are already often imagined as simple, fairly mechanical forms of life, the idea that some of Dr. Frankenstein's colleagues could have made cyborg insect life seems nearly as plausible as the achievements of contemporary genetic science.

Steampunk practitioners comment on the historical properties that inhere in objects by foregrounding the materials with which they work. They expose interior parts and leave clues as to the former lives of recycled materials. Onion argues that the crafting practices of steampunks specifically counter the ideology of what Latour has called the “black box” (*Science in Action*). Black boxes are those

instruments, concepts, or laws that are immutable and unassailable [that have been] created by scientists or other authorities ... but are treated as though they came into being as whole, functioning entities, and as such, must not be disassembled or questioned. (Onion 145)

The authority contested by the “punk” in steampunk is, to a great extent, the passive authority implicit in black-box commodities that are built to rebuff curiosity.

Steampunk’s strong associations with “maker” culture and a DIY, open standard ethic emphasize these ideals; its online literary presence includes a great deal of fan-produced (i.e. non-professional) fiction, comics, and directories/encyclopaedias; and its expression in art, particularly as performance/body art (e.g. cosplay) celebrates construction tutorials and in-progress construction narratives almost as much as finished products. Onion sees the philosophy of self-sufficiency manifested in the transparency with which steampunk artists foreground the kinds of materials they use. Materials drawn from the past

are seen to endow an elusive authenticity to the object. These fragile and breakable materials may not be efficient, but provide their own special qualities of ‘friendliness’ or accessibility. ... The resulting products may be easily breakable, but this is seen as an advantage. ... This vulnerability adds

to the physical experience of owning an embodied steampunk object (Onion 147).

Like fragile Victorian tableware, delicate steampunk art communicates the privilege of risk: the owner has the stability and safety to preserve something fragile, and can afford to lose their investment if it breaks. Time inheres in objects. To own old things is to connect to history, and to play about with them as steampunks do—to “give them new lives”—is a way of transforming time. Steampunk bugs symbolically transform the autocratic aspects of technology into the very figure of anti-authoritarian adaptability—but when they are completed objects, reified as “art,” their value depends on the cessation of tinkering, and the foreclosure of adaptation.

Steampunk’s defining interest in combining Victorian style with contemporary technology (Onion 138) does not prevent it from reimagining the human relationship with the natural world. Recycled materials used in steampunk art inspire nostalgia and attempt to counter consumer capitalisms’ disregard for material finitude, while animal cyborg subjects imply a harmonious relationship between technology and “nature.” As insects imagined in the steampunk style make apparent, technology is a major element of our engagement with nonhumans. In place of our own genomic aspirations, neo-Victorians dream of steam-powered sheep. While gene-hacked glow-in-the-dark rabbits demonstrate real-world technological prowess, so does steampunk display mastery with its animal automata, animals made of gears and levers. The hard bodies of insects lend themselves easily to such uncanny robot fantasies. Robots made from scraps have the veneer of environmental responsibility. Libby’s studio, *Insect Lab*, strives for

zero-waste work, using “almost every little part” of the antiques he reassembles; while Oliver’s “litterbugs” are explicitly made of trash, and Martinet, Adams, Humphreys, Conte, Proulx and Gershenson-Gates also source found vintage materials. Hardwidge describes his media, which include deactivated ammunition, as “anything and everything really.” By including bullets in the list of things that come easily to hand, Hardwidge subtly disrupts the steampunk fantasy by reminding viewers that, in *this* world, robots are not commonplace, but guns are. Some of the artists who use the animal bodies of insects attempt to “greenwash” them: Libby says that not only are all of the bugs he uses non-endangered, some are “found at hand” and “salvaged” (from their less-than-worthy lives, presumably), and Adams’ etsy store includes a note arguing that her support of the ethical, sustainable farming of insects is a preferable alternative to “slash and burn agriculture.” Consumers of steampunk objects need such reassurances so that their fantasy of idealized steampunk “making” is not interrupted by exploitative labour, resource shortages, or species extinction.

Assessing the ethical status of commodities that criticize the historical effects of industrial capitalism while depending on its continuation for their manufacture is difficult. Christine Ferguson identifies “an interest in DIY creativity linked to the green values of reclamation and recycling” as one of the “hallmarks” of the genre (66). Stephanie Forlini, for her part, argues that steampunks’ insistence “that we can and should remake ourselves through the things that we make and re-use” counters our current, unsustainable patterns of consumption (77-78). Margaret Ratt ventriloquizes steampunks as saying, “no, thank you. I’d rather have trees, birds, and

monstrous mechanical contraptions than an endless sprawl that is devoid of diversity” (qtd. in Onion 143). Celebrating the recycling practices of steampunk, in the manner of these critics, has become commonplace; however, we can also read them as a form of what Patricia Yaeger has termed “dirty ecology.” Yaeger argues that by making use of detritus, the protagonists of Benh Zeitlin's film *Beasts of the Southern Wild* “practice a dirty ecology, making do with what they can salvage from other waste-making classes” (“*Beasts of the Southern Wild* and Dirty Ecology”). Though these characters are not directly responsible for the omnipresence of trash, they are nonetheless beneficiaries of its production. *Beasts'* characters, who suffer from dramatic economic and environmental violence, model what Yaeger sees as the predominant response to the unsustainability of petroleum-based society. Since altering our dependence on oil would require us to “reformulat[e] our entire subjectivity,” she says that instead,

we practice a dirty ecology: recycling a few things while leaking and expending everything else. In other words, dirty ecology is the science of halfway practices. We know that driving and flying and industrial pollution and living in drywall houses destroys the planet, but we continue to do it.

It may, then, be in bad faith—a misdirection of sorts—to sell costly recycled nature-loving art to those who need their consumer consciences assuaged (and one might further wonder what percentage of these pieces are sold to buyers whose wealth was made in technology). Even making such art for one's own consumption may be suspect, if doing so involves glues, paints, or other toxic materials alongside the

recycled components. Steampunk bugs made of authentic litter might sell “inauthentic” ethics from an ecocritical standpoint.

Moreover, the widespread trope of the post-apocalyptic world populated only by machines, insects and trash makes the adoration of this combination in steampunk art troubling. Oversimplified neo-Victorian nostalgia should worry us no more than this other form of anachronistic veneration: do these pieces literally place insects, machines and trash on a pedestal, as if idolizing a world wherein they rule? If so, such a self-destructive desire (often metaphorized as that of a moth for a flame) for the nonhuman might imply that steampunk images sometimes show not an *alternative* world, but the glorified future consequences of *this* one. Once again Yaeger’s offers useful insight into what might be going on here. In a conference presentation arguing for the scholarly value not of information but of “ex-formation ... what gets discarded, what’s useless, what gets thrown away,” Yaeger observes the emergence, since the Second World War, of an aesthetic tendency to illuminate thrown-away debris—including enlightened, discarded robots (“Luminous Trash”). The robotic-looking steampunk insects that are of interest here are not thrown away but composed trash that has been reclaimed, yet Yaeger’s tripartite explanation for the “dazzling trash form” applies equally well to them. The first element she identifies is a “politics of *conspicuous destruction*” (emphasis added here and throughout citations to Yaeger). Conspicuous consumption necessitates excessive waste, strategies for which have become, according to Yaeger, “domestic and subjective.” The “litter” highlighted by steampunk artists signals this proliferation of everyday waste.

The second element, “*robot radiance*,” draws on the work of Heinrich von Kleist and others who discuss the way we perceive in automatons with a kind of soul.¹¹⁶ Yaeger reads the discarded robot as “incarnat[ing] a strange metallic mourning for what we throw away” that also makes sensible “the uncanniness of labour lost twice—once in the object’s production, in cycles of capitalist alienation, and then lost again with the object’s demise.” The lighted debris of steampunk sculptures, conversely, promise a similarly doubled redemption: first through the unalienated labour of the steampunk artist, and second through the consumption of what was once “lost”—though if we read the hope thus given as a form of dirty ecology, we might also read this recycled-robot-radiance as the disavowal of loss and the rejection of mourning.

The last element of Yaeger’s analysis is “*non-synchronous time*.” She notes that in films with bright discarded robots, time “goes awry.” The “weird temporality” of these texts, she explains, is not reducible to science-fiction habit, but instead pertains to the temporality of late capitalism, wherein consuming and leisure have become indistinguishable, and time is compressed and “abused” on behalf of instantaneous consumption and planned obsolescence. Discarded robots compel viewers by opening the possibility of thinking about nonhuman time, both in the brief flicker of the disposable commodity’s use, and the long duration of its

¹¹⁶ In his essay *On the Marionette Theatre*, Kleist’s speaker describes a conversation with a marionette enthusiast which leads to the conclusion that grace is a property of the extremes of consciousness, such that the most graceful forms are God (pure consciousness) and the puppet (the complete absence of consciousness). The essay concludes with reference to the third book of Genesis, in the suggestion that “we must eat again of the tree of knowledge in order to return to the state of innocence” (24). That is, since humans cannot relinquish knowledge, we must instead pursue the grace of more complete insight.

existence thereafter—the same micro- and macro-temporal frames that insects evoke. Yaeger concludes that despite the power of such narrative frames, throwaway robots are best encountered as opportunities to “address our own inner automata, which have learned so perfectly from our own corporate fathers the robotic rhythms of trashing and consumption.” If we follow Yaeger and read steampunk bugs as luminous trash (or perhaps as luminous recycling), we enter a space of profound ambivalence: should these artworks be celebrated for shining a light on the beauty of the abject—the obsolete, the inhuman, the discarded—or should we recoil from them as self-portraits that illuminate (and perpetuate) the immanence of the destructive human appetite?

The weird temporality Yaeger describes is intensely present in steampunk insects’ near-invariable inclusion of gears, springs, sprockets, and other clockwork mechanisms. Artists frequently reassemble antique pocket watches and wristwatches into insect figures. Libby highlights the historical continuity that can be imagined in his use of these materials by informing would-be patrons that “Some people donate their broken watches or father’s old watch repair kit, which is always a great treasure” (an idea that likely encourages would-be buyers to commission new art made of their own family timepieces rather than buying ready-made new pieces). Pieces without actual gears often include representations thereof (e.g. Ashwood, Borzak, Owens, Whistlecraft); Hardwidge describes their inclusion of gears and spring, as well as his own, when he claims that “no steampunk creation would be complete without some of the old and interesting pocket watch parts.” Steampunk insect art bears out his claim, which suggests that clockwork gears and

their implied weird temporality constitute a defining symbol of steampunk. Gershenson-Gates, whose pieces are predominantly clockwork-based, argues that his pieces display “the more delicate and ephemeral side of gears, rather than the cold, hard factory feel they normally portray.” His comment suggests the competing presence of two kinds of temporality at conflict in the steampunks’ timepieces. On one hand, industrial time can be implacable, its relentless rhythms grinding down the human (memorably imagined in the image of Charlie Chaplin caught between huge gears in *Modern Times*). The other time—fleeting, precious— is more commonly represented by (archaic) hourglasses than by (modern) timepieces, perhaps implying that the time, so to speak, of ephemeral time has passed.

Barratt notes that anxiety about time characterizes both the Victorian era and the present. In the present, she observes, we live “always with an eye to the time, bringing to mind the irony that our timepieces are called ‘watches’” (170). Her observation suggests something like the contemporary capitalist paradigm of “24/7” in which Johnathan Crary sees the demand that time be unceasingly and maximally productive. Ecological calamity also produces anxiety about time, as chapter 1 of this dissertation demonstrates. Barratt notes that regulatory timekeeping *emerged* in the Victorian era, when the vicissitudes of travel by horse and carriage gave way to the regular schedules of steam engines; she cites Nicholas Daly’s notion of “temporal training” to describe how watches “yoked” Victorians to machines’ timetables (170). Bowser and Croxall likewise argue that nineteenth-century England is “an ideal source of inspiration for [steampunk’s] revised temporal paradigms,” because of that period’s shift “from agrarian time to factory

time,” accelerated by the Industrial Revolution—a shift that “rewrote the relationships between time and productivity” (3). They also note that the Victorian sense of time was destabilized by the publication of Charles Lyell’s three-volume *Principles of Geology* (1830-1833), which “lengthened the planet’s timeline to a degree that staggered the Victorian imagination” (4). Lyell’s associate and correspondent Charles Darwin no doubt amplified this anxiety about prehistoric time with the dissemination of his theory of evolution by natural selection, which drew on and provided evidence for Lyell’s old-earth theories (Desmond and Moore 117). In the present and in the Victorian period, changing epistemologies of time provoked anxiety about the relationship of the human body to the mechanized world and to the Earth.

Barratt understands steampunk style to express anxieties concerning the loss of the human, consonant with those expressed in Jean-Francois Lyotard’s 1991 collection of essays *The Inhuman: Reflections on Time*. In that book Lyotard reflects on two post-human futures: capitalist technoscience’s potential to supplant humanity as we currently understand it, and the biological death of the species occasioned by the inevitable exhaustion of the sun (64). That is, he sees humanity as threatened by the world *and* the Earth (according to the meanings of those terms used by Heidegger). Barratt reads the frequent appearance of clocks in steampunk culture as expressing similar anxieties to those described by Lyotard: fear of humanity lost “to the encroachment of machines,” and “paranoia” about inevitable

“end times” (167, 170).¹¹⁷ However, though fear is amongst the affects produced by a sense of temporal dislocation, it cannot alone account for the popularity of steampunk’s time-estranging art. While no doubt many viewers encounter timepieces with trepidation—particularly insectile timepieces—fear does not seem to be the primary affect provoked by these pieces.

Steampunk insects articulate temporal dislocation with affects associated with the suspension of certitude. The affective response to a time of not knowing *can* be fear, frustration, or anxiety, but it can also be a sense of loss, curiosity, wonder, playfulness, uncanniness, euphoria, or awe. Onion argues that many steampunks express nostalgia for the lost possibility of technological mastery and “complete knowledge”—the possibility that an individual could learn *all* of the important technological concepts known to their society, for example (151). Beyond the steam-bug’s association with the Victorian era’s promise of mastery, such nostalgia also appears in the artists’ romantic attachments to the past lives of their recycled materials, and their performance of a combination of artistic, entomological, and mechanical knowledge, which harkens back to early nineteenth century admiration of polymathy. The desire to learn in a way unhindered by discipline also describes childhood curiosity or wonder, which many of these curious figures provoke. Childhood wonder with insects and machines is also behind the manufacture of these objects: Martinet recounts the foundational influence of a teacher’s “obsessive” lessons in insect life, for example, while

¹¹⁷ Barratt discusses two artists who do not include themselves in the steampunk movement as nevertheless representative; she argues that their work and steampunk more generally express a ubiquitous state of temporal anxiety.

Gershenson-Gates points to his childish curiosity about the workings of toys (and his resulting habit of disassembling them to try to understand them) as an origin for his adult art practice involving the rearrangement of old watches. As in Angus' neo-Victorian entomological fantasias, the work of these neo-Victorian artists treats childhood as a time when ignorance is pleasurable and generative, as it is pre-conditional to the joy of discovery.

The end of human time is only a source of anxiety for those who feel themselves comfortably included in humanity. Those who find the category difficult to inhabit may find liberation, not fear, in strange alternative forms. Donning steampunk jewellery (such as that made by Proulx, Humphreys, and Adams)—especially as part of the culture of steampunk cosplay in which such adornment proliferates—aligns the wearer with a nonstandard juxtaposition of body and machine. Adopting such an appearance as part of a subculture insists on the arbitrariness of conventional aesthetics of personal technologies (denying the idea that the person with the newest gadget is the “coolest”) without subjecting the wearer to the risk of wholesale social ostracism.

Anthropomorphic steampunk insects (such as those made by Proulx and Whistlecraft) reduce the unsettling otherness of insects and machines by emphasizing familiar human features; Whistlecraft's neotenous figures (which have child-like large heads and eyes, receding chins, and short limbs relative to their torsos) go a step further and reduce them to the merely “cute.” As Sianne Ngai argues, cuteness, which implies “helplessness, pitifulness, and even despondency,” evokes the desire for tactile pleasure but also potentially involves an “exaggerated

passivity and vulnerability ... intended to incite a consumer's sadistic desires for mastery and control as much as his or her desire to cuddle ("The Cuteness of the Avant-Garde" 816). Whistlecraft's cute steampunk bugs, then, can be read as fetishes that reconcile within themselves a contradictory relationship to the weird, or more specifically, being weird. That is, the little character that embodies weirdness (in its relationships to subcultural identity, age, technological prowess, physical form, etc.) can be the subject of identification, desire, and aggression, all at once. The steampunk insect may be an ideal countercultural point of identification, but one's relationship with the notion of counterculture can be as complex as one's feelings about the culture that is countered.

One of the most desirable forms of mastery is that which dominates complexity, particularly in the so-called information age. Onion argues that "steampunk objects ... derive their ability to produce awe from their intricacy," which, rather than sublime fear, is "more commonly accompanied by delight" (154). Exposed, complicated machine-workings and elaborate neo-Victorian decorative flourishes provide relief to eyes that tire of the monotonous blankness of smooth, sealed-off iPods and the like. Such visibly elaborate, carefully-crafted systems no doubt hold special appeal to people who intend their idiosyncratic appearance or actions to reveal a unique, complex selfhood—in contrast to those whose predictably-consistent performance of a received identity (the always-appropriate corporate-climber or preternaturally enlightened yogini, for example) betray no such "authentic" personality. Steampunk's conspicuous departure from the aesthetic mainstream implies that anyone with the material means can purchase a seamless

device or persona off-the-shelf; those whose tastes run to detailed mechanical scorpions are clearly *real* individuals. Gaby Wormann's delicate, exceptionally intricate sculptures embody the painstakingly complex; she describes it in accordingly-dense rhetoric. Together, they articulate a fit between machine- and insect-intricacy, the *negotiation* of which demonstrates a near-divine human power of creativity:

the radical separation between living creature and machine has been abrogated – the synthesis between biomass and mechanics becomes a part of evolution. A living thing, defined as being an organised genetic unit, gains additional mechanical attributes, and the transplant becomes a part of the act of creation. The mechanical creature is born. (Wormann)

This description's tone—technical and almost mechanical—seems to echo the subject it describes, as if it were written by a robot or cyborg speaker (according to sci-fi conventions for the speech of partly or wholly robotic beings, at least). That is, far from expressing the doom Barratt perceives, Wormann embraces and even seeks to embody the imbrication of biology and mechanics. The beauty of Wormann's art beauty arises from the fantasy of mastery it offers. Insects signal the complexity of the nonhuman Earth, fractally: in their tiny, precise bodies, in their myriad species and subspecies, and in their countless unique habits and habitats, they evince an intricate natural order that we increasingly register as delicate and breakable, perhaps broken. Taxidermy, as an art form, aims to forestall death by arresting the individual animal in time, but as a practice that reached its golden age in the Victorian era, it also brings us back to the beginning of the breach, when the

industrial revolution was winding up, and nature yet thrived. We see through a double vision that suggests that maybe *this* is the time when nature is still okay and a technological leap is about to reveal itself and redefine our abilities. To imagine that insects' bodies, and by extension, natural complexity, can be repaired with technology—and then manifesting “technology” as the kind of simple mechanics that can be fixed with perhaps some wire, a screwdriver, and enough time—is exactly the kind of mastery over complexity for which we hunger, for it imagines a world in which we have enough knowledge to repair fragile, broken nature.

That technology now occupies a comparable position to nature in the human imagination is apparent in the recent profusion of scholarly discussions of the “technological sublime,” sometimes abbreviated into the portmanteau “technosublime.” John Kasson argues that machinery has been thought of as provoking sublime awe and terror similar to that caused by sublime landscapes since the nineteenth century, when Americans encountered the paintings of Thomas Cole and Frederick Church (qtd. in Onion 149).¹¹⁸ In some instances this fear related to the threat technology posed to vulnerable bodies. Onion suggests that steampunk art fetishizes machinery's danger as a kind of technological liveliness or vitality, and as a “reproach to a modern world, which is overly insured against catastrophe” (149). Onion's comments imply that bodily risk is a sign of authenticity in steampunk culture, in a kind of *Fight-Club* masculinist logic that prizes violence as a

¹¹⁸ I have found no consensus on the origin of the term technosublime, as most writers treat the idea as self-evident; the earliest use I have found is in David Nye's 1996 *The Technological Sublime*, which credits Leo Marx's use of the term in 1965. Historian John Kasson locates the *idea* emerging amongst nineteenth century American orator Edward Everett and others (Onion 149).

form of intimacy.¹¹⁹ Hardwidge's ammunition-based sculptures, which he describes as having "sharp, pointy bits" and as being "not suitable for young children," would certainly seem to bear out Onion's observation. On the other hand, most of the pieces here described are more vulnerable than violent, and imply intimacy far more than they do sublimity. Technology is more likely to be experienced as sublime when encountered in the omnipresence of cell phones, cloud computing, drones and nanobots, than it is in simple Victorian cogs and pistons; just as the destructive power of plagues and swarms of insects can be sublime, but individual insects connote vulnerability *par excellence*. The danger invoked by steampunk bugs is appealing precisely because of its inconsequential scale—physical harm to one's body, experienced immediately, threatens less than immanent, ambient problems like systemic racism or anthropogenic climate change.

The steampunk ethos that esteems the creative authority of amateurs and encourages them to fulfil their own desires by reshaping discarded objects runs counter to the present values of consumer capitalism. This tension between DIY-agency and purchasing power accounts for artists' tendency to characterize their work as *either* steampunk art *or* costly fine art. Martinet, Libby, Wormann, Oliver, and Gershenson-Gates—all of whom produce works selling for hundreds to thousands of dollars—each have websites that make no associations between their

¹¹⁹ A discussion of gender normativity and gender bending in steampunk visual art is out of my purview here, though I note that only Ashood, amongst the artists here, makes what could be called "feminine steampunk" art, whereas several of the male artists foreground the masculinity of their engagement with machinery (e.g. Gershenson-Gates' self-description as the "grandson of a railroad man, the son of a gearhead," or Oliver's explanation that "Robots, industrial architecture and mechanics are consistent themes (boyish treasures)."

creations and steampunk, despite the presence of clear steampunk aesthetics and ideas in their works as discussed throughout this section. Instead, these artists protect their capacity to command a high price for their work by highlighting the originality of their work. The artist is implicitly characterized as unique genius, rather than a participant in a movement that values that which is homemade over that which is purchased. The fine artists are also more likely to describe their works as “insects” than the more familiar, folksy “bugs,” and emphasize the rarity of the precious specimens. Oliver’s website describes his “litter bugs” as giving a “(Post Modern) bow of respect to the Victorian tradition of insect collecting,” periodizing his work only in relation to established, mainstream categories. Whistlecraft’s original creations emphasize a steampunk aesthetic at every turn, but they are sold as collectible reproductions (prints, toys etc.) that, while expensive for toys, are neither one of a kind, nor explicitly marketed to the wealthy. Proulx, Humphreys, and Adams, who sell their less-costly work to the public through etsy, all embrace the steampunk appellation and discuss their relationship to the style, as do the commercial artists for whom steampunk-bugs are portfolio pieces (Mollevi, Borzak). Owens, whose creative work is a sideline to her position as associate professor in the department of Politics and Government at the University of Hartford, Connecticut, describes sci-fi and steampunk as words that “feel odd” because they are “just the tools [she] use[s].” Commercial artist Ashwood, who sells reproductions of her work on journals, tote bags and the like, has similar reservations about her place in steampunk; her website includes several paragraphs about her relationship with the descriptor, explaining her aversion to “annoying”

labels and the presuppositions and prescriptions they entail.¹²⁰ Artists whose work is less known or less costly also tend to create less-specific or unique insects (for example, a “grasshopper” or “butterfly,” rather than “*mantidae - blepharoppsis mendica*”). For creators and consumers of popular art representing quotidian bugs, a small departure from the mainstream is sufficient aesthetic risk, whereas in the fine art market, where exclusivity and uniqueness are costly commodities, aesthetic risk-taking signals a consumer’s freedom from social judgement (and though the wealthy don’t depend on community acceptance in the same way as do the less well-off, their privilege generally leads their departures from aesthetic norms to be rewarded rather than censured).

Explicitly steampunk insect art, then, occupies a middle ground between mass-market aesthetics (which admires charismatic megafauna, not insects; buying, not making; the new, not the old-fashioned; and ever-newer-faster-smaller smooth tech, not dangerous, obvious gears), and the rarefied space of the artistic avant-garde and its wealthy patrons (which might deride such accessible art as banal, even while admiring a one-of-a-kind brass *chrysophora chrysochlora*). Steampunk insect art aficionados might be an example of how an aesthetic alignment can constitute a political identity group. While they do not align themselves with the global populace nor with the undifferentiated body of “nature,” neither do they treat their desires and values as utterly singular. While as individuals their social positions, for the most part, do not suffice to make their consumer choices significant (in the way that

¹²⁰ Without having specifically analyzed the relationship between steampunk-insect artists and gender, I would note that female artists seem considerably more hesitant or averse to adopting the term, perhaps out of concern about its association with Victorian gender norms as discussed in relation to Miéville’s steampunk novels.

a celebrity's choices are, for example), as a subculture they draw attention to values they see as underrepresented in the present moment.

Chapter 4: Insects and Social Critique in China Miéville's Steampunk Bas-Lag Trilogy

Considering the insect figures used in China Miéville's steampunk "Bas-Lag" books—*Perdido Street Station*, *The Scar* and *Iron Council*—brings into focus insects' usefulness in decentring ideas about race, sex, Empire, and the frontier: ideas that are connected to historical time and human exceptionalism. This chapter considers the question of whether using Victorian tropes necessarily reinforces nineteenth-century social values, grounding its analysis in a case study of Miéville's books. The Bas-Lag trilogy demonstrates how neo-Victorian temporal estrangement can heighten its critical capacities by integrating insect figures. Miéville's insects unsettle norms and work against the possibility that his *references* to the mastery-seeking hierarchical narratives of colonial imperialism will *reinforce* those narratives. Insect figures in the Bas-Lag books preclude readers' uncritical inhabitation of Victorian tropes relating to gender; race; colonization and immigration; the meaning of art, nature, and the frontier; and the ethical status of the other. This analysis suggests some of the means by which the critique of historical time can contribute to social critique, making a contribution our ways of thinking about lived relations in the present.

The Bas-Lag novels take place in a "New Weird" version of the nineteenth century.¹²¹ Miéville describes Bas-Lag as a "secondary world ... with Victorian era

¹²¹ The precise definition of the New Weird literary genre is still subject to some debate. However, for a basic explanation and discussion of the genre, which

technology ... an early industrial capitalist world of a fairly grubby, police statey kind" ("The Road to Perdido"). The city of New Crobuzon, a prominent setting for much of *Perdido* and *Iron Council* that is also important to the plot of *The Scar*, is "clearly analogous to a chaos-fucked Victorian London" (Mieville "Reveling in Genre" 362). The extremely popular and critically acclaimed trilogy, though clearly participating in the steampunk genre, defies uncomplicated generic classification.¹²² Aishwarya Ganapathiraju argues that *Perdido* "uses the familiar tropes of steampunk, but coerces them into ... a 'hetereotopic' [*sic*] narrative space"; while Christopher Kendrick, responding to a suggestion that Miéville's work in these books is "Marxist steampunk," argues that the Bas-Lag trilogy, is for the most part "what steampunk *ought* to be" (Ganapathiraju 3; Kendrick 258). William J. Burling, for his part, focuses not on Miéville's place in steampunk, but instead reads *Perdido* as an exemplary text of "Radical Fantasy," responding to the same overtly-political, urban world-building content that complicates other critics' attempts to describe the books' genre. While few steampunk cultural productions comment so progressively on history as do Miéville's Bas-Lag books, steampunk as a genre is

combines elements of science fiction, fantasy, and horror, see Vandermeer and Vandermeer; and Walter.

¹²² *Perdido Street Station* won the 2001 Arthur C. Clarke Award and the 2001 British Fantasy Award, ("Science Fiction & Fantasy Books by Award: 2001 Award Winners & Nominees") and received nominations for the Hugo, Nebula, World Fantasy, Locus and British Science Fiction awards (Worlds Without End, "*Perdido Street Station*").

The Scar won the 2003 British Fantasy Award and the 2003 Locus Award for Best Fantasy Novel, ("Science Fiction & Fantasy Books by Award: 2001 Award Winners & Nominees"); received nominations for the Hugo, Arthur C. Clarke, World Fantasy, Locus, Philip K. Dick, and British Science Fiction awards; and received a Philip K. Dick Award special citation (Worlds Without End, "*The Scar*").

Iron Council won the 2005 Arthur C. Clarke Award and the 2005 Locus Award for Best Fantasy Novel, and received nominations for the Hugo and World Fantasy awards (Worlds Without End, "*Iron Council*").

subject to the political concerns about which Miéville's trilogy is so self-aware. The books work to undercut the possibility that they will be read as endorsing racist, sexist, and otherwise objectionable values. The series features several non- and hybrid-human species (which are referred to as "races," and are anthropomorphic to varying degrees), some of which are insectile. The fantasy world of Bas-Lag, by remixing species as well as historical signifiers, creates enough distance between readers and their own world to defamiliarize (and ideally compromise) the politics of the status quo.

Fantastic insects have several functions in the Bas-Lag books. Members of three species—Weavers, slake moths and khepri—significantly advance the plot of *Perdido* while foregrounding art's powerful world building capacity. Weavers and slake moths, which are plot devices as much as they are characters, encourage readers to question art's ability to manipulate readers; these ambivalent insect figures foreground insects' strangeness and apply it to artistic production. Khepri, which are sympathetic human-insect hybrids, bring personal urgency to the question, especially through the khepri character Lin's embodiment of intersecting racial, sexual, and colonial subalternity. Lin figures all of us for whom questions of representation can never be merely academic. These concerns are extended in *The Scar's* development of the subaltern human-insect Anophelii species, which allegorizes empire's extortion of colonized people's energies to simultaneously derive profit and forestall resistance. Finally, in *Iron Council*, the colonial-capitalism-driven genocide of the insect-like stiltspear species develops the parasite as a metaphor for the transformative power of witnessing violence against the Other and

its capacity to galvanize the present. The parasite metaphor here, further, gives image to the encryption-mechanism of *pre-emptive melancholia*, an unshakeable refusal to recognize that a loss has not (yet) taken place.¹²³ Pre-emptive melancholia is a strategy through which a witness disavows ethical responsibility to act on behalf of another, by identifying (in advance) with the progressive historical narrative that will reductively frame loss as inevitable. The insect parasite in *Iron Council* figures the ethical claim of the queer, difficult and unpredictable Other, which is mastered via encapsulation as a lost object rather than incorporated as an active responsibility. By queering history and historicism with these insect metaphors, Miéville abjures the Victorian-associated fantasy of temporal and political mastery—the same fantasy that the steampunk genres has been denounced for repeating.

Insect Alterity, Art, and Artists in *Perdido Street Station*

Perdido's Weaver, a giant supernatural spider that exists on multiple planes, emphasizes the powerful yet amoral capacity of art to manipulate history. It does so quite literally, manipulating existence itself as the material of its art, which grounds Sandy Rankin's argument that the Weaver represents an "immanent utopian impulse"—a construction that arguably describes art, also (256). The Weaver rearranges the world according to a design incomprehensible to human characters,

¹²³ The concept of pre-emptive melancholia and its background is discussed in greater depth in relation to *Iron Council*, beginning on page 323.

for example, cutting off the ears of everyone in a room or requesting that a character meet him naked in a boat (338-39, 578). As a species, Weavers are described as

aestheticians of astonishing intellectual and materio-thaumaturgic power, superintelligent alien minds who no longer used their webs to catch prey, but were attuned to them as objects of beauty disentangleable from the fabric of reality itself. Their spinnerets had become specialized extradimensional glands that Wove patterns in with the world. The world which was, for them, a web. Old stories would tell how Weavers would kill each other over aesthetic disagreements, such as whether it was prettier to destroy an army of a thousand men or to leave it be, or whether a particular dandelion should or should not be plucked. For a Weaver, to think was to think aesthetically. To act—to Weave—was to bring about more pleasing patterns. They did not eat physical food: they seemed to subsist on the appreciation of beauty. (335)

The Weavers' work is described through a textile metaphor rather than a textual one, and they can be read as metaphorically figuring artists generally, but their portrayal in *Perdido* does solicit associations with the work of the author. Authors and Weavers alike are metaphysical manipulators, rearranging material to suit their own desires rather than simply making "good" things happen: like the Weaver, an author might easily place great importance on the description of a flower but edit out an army with little consideration. As a spider weaver, rather than a human figure, the Weaver's actions are more instinct than occupation: its mysterious temporal affects are inherent to it. Its insect identification allows Miéville to

sidestep the idea of reason: the otherness of the insect, like the otherness of artistic production, follows logics other than those that govern progressive history.

The Weaver's insect ambivalence facilitates the book's suggestion that art is ambivalent with regard to the production of human freedom or happiness. The Weaver (the only one of its species present in *Perdido*) speaks in a "dream poetics" that resembles free word association (33). It enters into the human world announcing " "FLESHSCAPE INTO THE FOLDING INTO THE FLESHSCAPE TO SPEAK A GREETING IN THIS THE SCISSORED REALM I WILL RECEIVE AND BE RECEIVED," which those present correctly understand as a desire to be greeted by the sounds of scissors opening and closing; it responds to the "snapping susurrations" by saying

AGAIN AND AGAIN AND AGAIN DO NOT WITHHOLD THIS BLADED
SUMMONS THIS EDGED HYMN I ACCEPT I AGREE YOU SLICE SO NICE AND
NICELY YOU LITTLE ENDOSKELETAL FIGURINES YOU SNIP AND SHAVE
AND SLIVER THE CORDS OF THE WOVEN WEB AND SHAPE IT WITH AN
UNCOUTH GRACE" (330).

The "FLESHSCAPE" of New Crobuzon is "SCISSORED" and "FOLDING" insofar as it takes historically-associated snippets—images, settings, vocabulary, etc.—and folds them together in new ways, reconfiguring their relationships to each other. The great spider's vision exceeds that of the non-insect characters—those mere "LITTLE ENDOSKELETAL FIGURINES"—as if it has a metafictional awareness of the story into which they are all written. A cynical reader might interpret the Weavers' foodless subsistence as a comment about artists' remuneration; a more simple reading would note the preternatural ability of the author to transcend material plausibility. Either

way, the Weaver's intervention does not appreciably resolve the story's central political conflict. William Burling describes *Perdido's* resolution as resulting from a "progressive and 'forward looking' solution, namely collective class action among previously unaligned subaltern segments of society" (332). That is, the book eschews the notion that art plays more than a supporting role in positive political action. The Weaver's radically nonhuman art, like art generally, can be usefully directed at moments, but as a whole emerges from its own ethically ambivalent caprices. Art will do as art does, suggests *Perdido*, and politics can but follow.

Perdido Street Station's principal monsters, the slake moths, embody art's malign seductive potential, and facilitate the book's anti-Victorian representation of sexual violence. The approximately human-sized slake moths excrete "dreamshit," a street drug that makes users hallucinate what they take to be many overlapping dreams of human and various human-hybrid ("xenian") species. Dreamshit is revealed, instead, to be the excreted residue of the slake-moths' prey: the sentience of self-aware species. The slake-moths' wings display hypnotic, shifting multidimensional patterns that draw out their victims' "psychic resonances and subconscious patterns" so that they can consume them, leaving the bodies intact but emptied of self (374). These monsters are bred for the nebulous aims of the New Crobuzon authorities and its crime lord (who, as discussed below, embodies not just organized crime but capitalism *in toto*). Kendrick argues that "the moths call up and stand for something absent ... from New Crobuzon's daily life but very much present in "ours," namely television, or more generally, the culture industry" (270). The metaphor holds for the worst characterizations of cultural products (drawing on the

moth's association with self-destructive desire): art and monster alike are images produced by the powerful to manipulate the masses via their own captivated desire. The public's consumption of juxtaposed, decontextualized social fragments (dreamshit or perhaps partial historical narratives) empowers a creature that aims only to empty their minds. Dreamshit, then, shares its most salient quality with free social media: *people are the product*.

Perdido Street Station uses the seductive violence of the slake moth to subvert a harmful idea circulated in the narratives of patriarchal mass culture since the Victorian era: the notion that experiencing rape makes a woman impure and therefore less valuable. Miéville describes a slake moth eating the sentience of a woman (Barbile, whose name's similarity to the children's toy Barbie echoes the stereotype of vapid, pretty, commodified femininity) in terms that frames the psychic violation as a drug-assisted rape:

Barbile was squirming and screaming in the complex embrace of the slake-moth. Limbs and folds of flesh caressed her. She wriggled and her arms were held ... [Isaac] heard her scream until she vomited with fear and then stop all her noises very suddenly as she caught sight of the flexing patterns on the slake-moth's wings. Saw those wings gently widen and stretch taut into a hypnotic canvas, saw Barbile's entranced expression as her eyes widened to gaze on those morphing colours; saw her body relax and the slake-moth drool in vile anticipation, its unspeakable tongue unrolling again out of that gaping mouth and snaking its way up Barbile's saliva-spattered shirt to her face, her eyes still glazed in idiot ecstasy at those wings. Saw the feathered tip

of the tongue nuzzle gently against Barbile's face, her nose, her ears and then shove suddenly, forcefully past her teeth into her mouth (and Isaac retched even as he tried to think of nothing), thrusting at indecent speed into her face, her eyes bulging as more and more of the tongue disappeared into her. And then Isaac saw something flicker under the skin of her scalp, bulging and wriggling and rippling beneath her hair and flesh like an eel in mud, saw a movement that was not hers behind her eyes, and he watched mucus and tears and ichor pour from the orifices of her head as the tongue wriggled into her mind and just before he fled Isaac saw her eyes dim and go out and the slake-moth's stomach distend as it drank her dry (363, 365).

The import of this scene's visceral effect goes beyond its plot function of illustrating the slake moths' atrocity. An important theme in *Perdido* is the meaning and appropriate punishment for rape. To be specific, a character who is sexually violated insists that the crime be thought of in her cultural context—as “choice theft”—rather than being culturally translated as “rape” (692). Readers are required to consider the means by which they evaluate the harsh corporal punishment of the (heretofore sympathetic) perpetrator of the crime; the recent, intimate depiction of the slake-moth's monstrous violation keeps the viscosity of such an assault in view.

The slake moths are not wholly unsympathetic; at times the third-person subjective narration recounts elements of their perspectives and readers are given to understand that they can no more stop eating psyches than humans can stop eating plants and animals. Nor do the slake-moths understand their actions as

ethically objectionable. They are simply fulfilling their animal appetites, and their presence in New Crobuzon ends up being as tragic for the moths as it is for their victims. As figures of harmful representation, we might read them as also evincing art's potential for harm where none is intended

The *displacement* of horrific abuse onto the insect-monster's act also helps Miéville to avoid certain received ideas about sexual assault. The gender politics of the book are informed by Germaine Greer's argument that sexism intensifies the cultural horror surrounding rape (by imagining it as a "fate worse than death" and its victims as "despoiled"); *Perdido* instead describes rape "in an absolutely serious way, but showing it as something women suffer, and overcome, rather than it ruining them or driving them mad" (Miéville "Revelling in Genre"). The slake-moth becomes a point of cathexis for the energies invested in sexist rape stereotypes, while the "actual" rape (which happens between acquaintances) is not shown but described by its victim Kar'uchai, leaving her in control of its narration. Kar'uchai's culture does not sexualize the victims of the crime. She insists to protagonist Isaac Dan der Grimnebulin that she "was not *violated* or *ravaged* ... not *abused* or *defiled* ... or *ravished* or *spoiled*," adding, "You would call his actions rape, but I do not: that tells me nothing. He stole my choice, and that is why he was ... judged. It was severe" (694). Recognizing the victim-blaming judgement implied in the concept of rape, she stresses that the concept is inappropriate to her context.

The misogyny Kar'uchai describes with antipathy historically belongs to the Victorian era. In nineteenth-century England, a woman who made a public rape charge was herself consistently reviled: "Unless she had been the victim of a brutal

public assault by a total stranger, judge and jury assumed that the incident had probably been a seduction and that she was to blame" (Conley 536). Against the residuals of such beliefs—which *Perdido* risks reifying by repeating many other Victorian tropes—Miéville draws a clear distinction between the clichéd monster-attack and a more complex situation that forestalls victim-blaming. Readers become familiar with the rapist long before learning of his crime, and there is no suggestion that Kar'uchai's appearance or behavior were relevant to the crime. Victorian magistrates "frequently dismissed charges without a hearing if they felt the accuser was respectable. Since rape was so heinous a crime that only a monster could commit it, proof that the accused was of at least recognizably human character meant he could not be guilty of rape" (Conley 536). By including the slake moth, a "real" monster that violates a woman in an unimaginable and irresolvable way, Miéville locates common fantasies of rape in the context of the Victorian penny dreadfuls from which they came. Voicing experience to official ears can be dangerous for the already vulnerable; Miéville implicitly reminds readers that even when representational spaces *can* be accessed, the historical record has only been willing to trust statements made from certain privileged subject-positions.

Miéville's depiction of the khepri species work against any possibility of reading *Perdido* as expressing nostalgia for Victorian empire, a charge which was levelled against the steampunk aesthetic most prominently by author Charles Stross. Stross claims that by focusing on romanticizing wealthy adventurers, steampunk exonerates the deeply exploitative social hierarchy that sustained such wealth; he

argues that the Victorian era was “a vile, oppressive, poverty-stricken and debased world *and we should shed no tears for its passing*” (“The Hard Edge of Empire,” emphasis original). The Bas-Lag books describe adventure and wealth but do so alongside several axes of oppression, many of which intersect in the experiences of the khepri Lin. Like the Egyptian god from whom their name is taken, khepris take the form of scarabs: the males are insensate bugs a few feet long, while the females have the body of human women but with crimson skin and heads that take the form of entire scarabs.¹²⁴ *Perdido* undermines the anthropocentrism of defining khepri as having “human” bodies, however, when Lin tells her human lover Isaac that “Humans have khepri bodies, legs, hands, and the heads of shaved gibbons” (10). The Bas-Lag novels recode racial difference into species, and the description of xenian features by their proximity to (or variation from) human ones metaphorizes the racial privilege by which whiteness is frequently used as a measure, an invisible norm. Readers’ humanity automatically forces them into identification with privilege, but as the third-person subjective narration focuses also on nonhuman species (and gives the first person perspective of one xenian character), the book attempts to decentre privileged perspectives.

Lin, a culturally assimilated member of a diasporic population, and an artist whose work is described in positive terms, embodies the merit—and the difficulty—of seeing from multiple perspectives. Her (literal and metaphorical) compound vision enables Lin to see the minority khepri community and the hegemonic culture of New Crobuzon from the inside and as they see each other. The khepri “ghettoes”

¹²⁴ The Egyptian god Khepri is likewise either represented as a scarab or a scarab-headed man (Hart 84-85).

were settled after an undisclosed tragedy—known as the Ravening—killed millions in their homeland, the eastern continent of Bered Kai Nev. Knowledge about the nature of that trauma, initially obscured by the refugees’ linguistic and psychological inability to communicate their experiences, is further lost to a “systematic mental erasure” in which the “refugees had deliberately forgotten ten thousand years of khepri history, announcing their arrival at New Crobuzon to be the beginning of a new cycle of years ... Khepri history was obscured by the massive shadow of genocide.” The repressed details of the violence allow it to stand as an abstraction of historical trauma, but use of words like “ghettoes” and “pogroms” of course invite comparisons between khepri and Jewish people (further recalling descriptions of Jews as vermin during the Holocaust, discussed in the Introduction). If one of the effects of steampunk fiction is historical estrangement, the loss of khepri history qualifies the tone of that estrangement: the “Tragic Crossing” frames history-play as a privilege. Some forms of estrangement from history are unwilled (as the refugees’ descendants’), while others are willed as matters of survival (as the refugees’). Moreover, official histories of hegemonies like New Crobuzon and its model, London, omit even cherished diasporic narratives; but by pointing to unrecoverable events that nevertheless strongly influence many inhabitants’ lives, *Perdido* desacralizes official history.

Lin’s upbringing traverses khepri religious and cultural communities, illustrating diversity within immigrant communities that racism often effaces—particularly with regard to gender roles. While the Ravening leads many refugees to reject their religions, later generations embrace a variety of gods brought from

Bered Kai Nev. The species' extreme sexual dimorphism means that sex figures prominently in khepri spirituality, and while most deity names suggest female empowerment (gods include "Awesome Broodma," "the Tough Sisters," and "the Wingsister"), the text explains that "some lonely, desperate souls—like Lin's broodma" worship "Insect Aspect," the "insectile purity of God and male." Young female khepri in the sect are taught that they are cursed, flawed by their anthropomorphic bodies and conscious minds. Thus they are compelled to be self-abnegating and domestically and sexually servile to mindless male scarabs, their brothers. As an adult Lin recalls fleeing her family of origin to live in a wealthier khepri enclave, adopting its mainstream religion and learning to take pleasure in her sexuality despite the incest to which she had been subjected. Though Lin later rejects this district as insular, "blind to itself," and partially responsible for the poverty of its satellite neighborhood, it remains a source of strength and sanctuary for her. Lin's transcultural personal history permits her to see multifarious parts of the khepri diaspora in relation, without synthesizing them into a consistent whole. The narrative highlights the highly specific contextualizing knowledge needed in order to understand someone else's experience of religion and sex, and further, the absurdity of generalizing experiences to entire cultures. Such a demonstration undercuts the narrative that excuses xenophobic violence by claiming that the entirety of a targeted population mistreats women.¹²⁵ To the extent that khepri

¹²⁵ Because the text explicitly raises the issues of religious suppression of female agency and the external reading of cultural difference, we might also question whether a reference to practices of female veiling is communicated by the khepri's scarab-faces, which cannot be "read" by most human characters, and who part their

settlements allegorize Eastern and diasporic communities in London, Miéville here works against residual imperialist desires to “civilize” ethnic and religious difference out of existence.

Lin’s insectile alterity—the way she looks *and* the way she sees—also enable *Perdido* to figure the kyriarchy’s ambivalent desire for difference. Khepri experience considerable speciesism: at the outset Lin states that her grocer treats her well because he doesn’t know she’s a “bug” (11).¹²⁶ Some states “butchered” khepri fleeing the Ravening “in terrible pogroms,” (the analogy is not always subtle); while in “New Crobuzon, they were welcomed with unease, but not with official violence.” Khepri settlers work and pay taxes, and are “preyed on, sometimes, by bigots and thugs.” That is, New Crobuzon accepts khepri money, but not khepri neighbours. Lin’s lover Isaac conceals their relationship to protect his tenuous academic job—their relationship is a loving one, but involves the negotiation of considerable physical, cultural, and linguistic differences. Lin and Isaac’s complicated mutual desire exists neither *because* of their species difference nor wholly *despite* it, but includes elements of both:

It was when she ate that Lin was most alien, and their shared meals were a challenge and an affirmation. As he watched her, Isaac felt the familiar trill of emotion: disgust immediately stamped out, pride at the stamping out, guilty desire. ... I am a pervert, thought Isaac, and so is she. (10)

protective carapace to reveal their fragile wings and abdomens only for those with whom they are intimate.

¹²⁶ *Kyriarchy* is a term coined in 1992 by Elisabeth Schüssler Fiorenza to describe the matrix of interlocking and mutually-reinforcing systems of domination (Fiorenza 115-17, 122-25).

Both characters deal throughout the novel with internalized as well as external speciesism-cum-racism, which is rendered imaginatively more accessible to a greater number of readers because it cannot be perfectly mapped onto any one identity.

The most explicit depiction of the ambivalent relation between mainstream and outsider is given in Lin's art, particularly her commission to sculpt a likeness of crime-boss Motley. Though sculpting the excretions of their head-scarabs is a traditional communal art form amongst khepri females, Lin rebels against the staid production of consensus-bound pieces. Her aversion to unified artistic vision amplifies what has already been described as the nature of khepri vision. Rather than unifying perception into an undifferentiated picture, her compound eyes and "chymical"-sensing antennae perceive parts in relation. She describes her vision to Isaac in a way that undermines the value of consistent, coherent narratives such as we form when we imagine history:

You must process as one picture. What chaos! Tells you nothing, contradicts itself, changes its story. For me each tiny part has integrity, each fractionally different from the next, until all variation is accounted for, incrementally, rationally. (16)

For Lin's ability to process by pieces, she is commissioned by crime-boss Motley to sculpt a likeness of his figure, which has been modified to include elements of every species disarranged into a chaotic assemblage. Motley's "lunatic anatomy" (67) leads Burling to read "his physical appearance... as a metaphor for the nearly-incomprehensible complexities of capitalism," which is seen in New Crobuzon to be

“a vast and unrepresentable economic system *whose criminality is not an aberration but a fundamental constituent element*” (334, emphasis original). Burling’s reading is corroborated by Motley’s collusion with the law (when it is convenient for him), and his obsession with “the fundamental dynamic. Transition. The point where one thing becomes another. ... The zone where the disparate become part of the whole.”

Motley could easily be describing capitalist subsumption, or, as Anna Tsing describes it, the constantly-remade “frontier” where “resources are ... wrested from previous economies and ecologies in violent extractions” (50). Motley’s description of his appearance as “not error or absence or mutancy” but “image and essence ... totality” would seem to demand a reading such as Burling’s, in which Lin’s portraiture becomes a “meta-critique of aesthetic efforts to depict the operations of capital and its effects” (334). The relationship is established by financial pressure and flattery but when Motley physically seizes Lin, the work of art becomes her relief from the suffering he inflicts upon her. When capitalism captures art, what it shows is primarily the system of production—Jonathan Beller argues that “what is meant today by ‘the image’ is a cryptic synonym for ... relations of production”—and of course the work necessarily remains unfinished (4). Motley and Lin’s relationship, practically a caricature of Hegelian master-and-slave dialectics, leads to the destruction of Lin’s vision. The artist, weakened by the hegemon’s exploitation, finally has her sapience stolen by the hypnotic dream-monster he bred, the slake-moth. Subsumption of many kinds flourished in nineteenth century British colonial system of capital, but by metaphorizing the process in this way, Miéville abjures romanticizing the wealth thus produced.

***The Scar* and the (Insect) Subaltern**

Whereas the khepri are refugees, *The Scar's* Anophelii species have been colonized and quarantined; they are the series' clearest use of an insect metaphor for subalternity. Like the khepri, Anophelii (a near homophone for *anopheles*, the genus of malaria-carrying mosquitoes) are sexually dimorphic: the herbivorous males are "brilliant" scholars, whereas the blood-sucking females are kept in a near-mindless, speechless state by their unsatiated hunger. Anophelii resemble humans but for their mouthparts and the females' wings—they are not incomprehensibly inhuman, but rather human-with-a-difference. The Anophelii suggest the colonial divide-and-conquer strategy that values those members of the colonized population that are of use to their oppressors, only so long as their abilities pose no challenge to the maintenance of Empire.

The Scar uses insect figures to represent in fiction how the human figure has been, as Povinelli argues, a "weapon" of the colonial state. As discussed in chapter 1, Povinelli argues that a humanist historical narrative—predicated on the idea that colonized societies' collectivizing traditions suppress human creativity and individuality—works in part by framing other (implicitly less human) social norms as regressive and out-dated (302). *The Scar's* depiction of the insect Anophelii people literalizes the threat of the colonialized other as less human and retrograde, but does so in a way that critiques this narrative, rather than corroborating it.

Empire, in *The Scar*, has subordinated the Anophelii civilization, and has narrated it as an inherent biopolitical threat to the health of its people. Two thousand years before the events of *The Scar* take place, an Anophelii empire, “The Malarial Queendom,” covered much of the warm-climate territory in Bas-Lag. At the time the book takes place, the Anophelii have been detained to a single small island due to the risk of another “Malarial age” (327). Female Anophelii reproductive power is curtailed by starvation (which also literally prevents them from politically resisting, as they are too deprived to be able to speak). The ability of the Anophelii population to support and maintain itself is therefore presented as a threat to imperial progress. The speechlessness of the Anophelii females is an effect of imperial actions, but is perceived as part of the otherness and healthiness of their society. Butler’s *Frames of War* describes how western gender norms are conflated with modernity and freedom in order to justify violence against other cultures (109). Following this observation, we can say that so long as female Anophelii are imagined as speechless, the imposition of Bas-Lag power over their society can be imagined as a form of progress.

Miéville attempts—with questionable efficacy—to destabilize the sexist cliché of the bloodsucking women by including a scene in which nervous men joke about “females of all species being bloodsuckers, and so on,” and in which the sympathetic focalizing character “trie[s], for the sake of conviviality, but [can]not bring himself to laugh at their idiocies.” The Anophelii women, however, remain subaltern in the text, never able to speak their perspective. As the details of this persecution become apparent, the species seems less fearsome and more

sympathetic, a development amplified as Anophelii scholar Krüach Aum occupies more of the narrative.

Anophelii males are intellectually quarantined. They speak a language without a written form, and write in their oppressors' language without knowing that it has a spoken form. They are kept as "captive scholars" for the benefit of their subjugators (*The Scar* 301). Krüach Aum possesses historical, mathematical, and scientific knowledge that the Armada, a floating state, needs in order to harness a mythic source of energy and increase its kinetic power—and therefore its capacity for domination. Aum, and his colonial-insect-other abilities become a resource that must be subsumed by Empire in order for one political faction to meet its aims and shift the balance of state power. The two Anophelii sexes, then, embody fearful-yet-powerful abilities, material and intellectual; their ability to use them in support of their own lives and autonomy is inimical to the all-encompassing drive of Empire—and the human species—to control life as a whole. *The Scar* demonstrates how martial and educational strategies can capture such abilities, transforming potential powers of resistance into colonial capital. Mapping these relations onto insect affects likens the emotional weight of colonial ideology to that of entomophobic anthropocentrism.

Insect Hauntology in *Iron Council*

Iron Council uses an insect-associated indigenous species, the stiltspear, to critique the relationship between history and its Others. The novel suggests that in the frontier of extractive capitalism, the alternative to assimilation is extermination—a

violence that produces an indelible historical remainder. The stiltspear's life-world exemplifies alterity that New Crobuzon cannot subsume; this alterity forces the dominant power to reveal the capture-or-kill logic it extends in its frontiers. The frontier, as Tsing describes it, is not "a place or even a process but an *imaginative project* capable of molding both places and processes" (32, emphasis added). *Iron Council* shows how an imperialist city-state redefines Others as resources by imagining the frontier. In the text, New Crobuzon is explained to have been at war with rival city-state Tesh, and attempts to build a railroad across the continent in support of this war. Judah Low, sent ahead to survey the terrain, briefly lives amongst and studies the aboriginal stiltspear species; when he attempts to divert the course of construction away from their territory, the railway boss' response embodies frontier-making logic: "What they have, what they've had lying there for centuries in that marsh, whatever it is, it's welcome to face the history I bring, if it can." Forced into being by an aggressor who declares at once a contest and its terms; *the frontier is a machine for producing history, and its dividend, resources*. The book's insect metaphors, in this context, represent the abjected agency of resourcified life.

The question of whether the stiltspear can *face* New Crobuzon's developers reveals the insufficiency of the crew boss' attempt to frame expansion as a legitimate contest: his consideration is dependent on his choice to recognize the other as *having face*, predefining all those from whom recognition is withheld as always-already resource. The stiltspear, who have "unmoving, near-unfeatured faces," and who resemble trees when threatened, expose the coercive side of

Levinasian ethics, which implicitly demands that the other manifest its worthiness of ethical standing. And it is in their ambivalent relation to face, too, that the stiltspears' relation to insectitude opens. The stiltspear are not insects, nor even insect-human hybrids like the khepri and Anophelii. Described as a difficult-to-perceive contradiction of features, however, they bear insectitude as a significant element of their hybrid natures. Like insects, they have unreadable faces that are difficult to recognize as such; they also resemble insects in their performance of mimicry and in the similar language used to describe them and the supernatural spider Weavers. More important than these, though, is Miéville's use of the insect-metaphor to describe the stiltspear's *effect* on Judah Low: they instil in him a magic of golemetry that is also an ethical imperative, and this remainder is represented as an insect. In this abstract apparition, the insect figures the queer utopian potentiality by which the past lives in the present. However, the text also uses the metaphor to demonstrate how would-be allies and revolutionaries, in their attraction to this potentiality, can forestall its actualization by preempting its loss.

Stiltspears embody animality without resolution, described so as to frustrate readers' (and Judah's) desire to know them: they share with insects an unsettling resistance to mastery or total perception. Stiltspears' bodies resemble "scrawny cats," but they are also "like birds." They have a communal social organization, like bees, but their "camouflage glands" enable them to become imperceptible as they perfectly become "a copse of sudden trees." Rather than a passive constant resemblance, their arboreal mimicry is an active power associated strongly, if not exclusively, with insects. Roger Callois argues that the insect's mimicry of plant life,

as a weak defense against predation, bespeaks a “temptation by space,” or the insect’s deathly desire to become immanent in their surroundings. In the eyes of the colonizers and at times in Miéville’s prose, the stiltspears need not *become* the swamp, but already *are* the swamp—the inherently unknowable potential lost to the frontier project of making history. A hunter shoots the first casualty to the railroad’s arrival—a stiltspear so young that its camouflage “flicker[ed]” between animal and tree—and “it is only by chance and neophobia that he does not eat the child.” The phrase “eat the child” also flickers disturbingly between the nonhuman and human; in Derrida’s terms, it unsettles the carnophallogocentric decision: is this a life that can be killed (and eaten), or one that can be murdered? We readers know it to be the latter, but are constantly frustrated in our desire to anchor our empathy in physical familiarity. Miéville thus disturbs any expectation that ethical standing can be assessed visually—especially insofar as potentiality, by definition, has no appearance.

The stiltspears’ insect-likeness manifests in their similarities to those largely unknowable supernatural spiders, the Weavers. The species move with similar precision: “the Weaver pick[s] one leg up at a time, lifting it very high and placing it down with the delicacy of a surgeon or an artist. A slow, sinister and inhuman movement”; while the stiltspears hunt with “one leg at a time raising so slow ... no drips trouble the surface as the asterisk of fingers come together into a stiletto that poises over its reflection.” The Weaver’s feet, like the stiltspears’ hands, are also “sharp as a stiletto,” it has “knife hands” (*Perdido*) and “dagger-feet” (*Iron Council*). A stiltspear’s digits, too, are sharp weapons: its “fingers are radial from its little palm,

a star. It ... hinges its tapered digits like the petals of a closing flower, into a point ... its hand become a spearhead." This radial, plantlike symmetry, and the stiltspears' arboreal appearance, reappear in the description of the Weaver as "a fat tree with branches splayed in perfect symmetry" (*Iron Council*). The variety of natural life to which Weavers and stiltspears are compared suggests that they should be read as icons of nonhuman nature—but a dangerous, weaponized nature. While the artist-Weaver's sharpness is terrifying, though, the stiltspears' morphology is tragically anachronistic when compared to colonial weaponry. For both species, though, their most significant affects are immaterial and mystical. Stiltspears' bodily vulnerability belies the impact of the lessons they teach.

The stiltspears' affects—the powers of golemetry and temporal manipulation, *and* an ethical imperative or "inner goodness"—consistently appear, once passed on to Judah, as a symbiotic insect he hosts. The stiltspears' hospitality primes Judah to receive the parasite: he "feels himself greened ... inhabited by infusoria, a host, a landscape as well as a life." As a stranger welcomed into the swamp, Judah feels the stirrings of hospitality within himself. Though the swamp's receptivity suffuses Judah, his playful mimicry of the young stiltspears' golemcraft yields nothing until a stiltspear elder

touches Judah's chest. Judah opens his eyes, feels things move in him. ... he feels a facility he never has, and in astonishment he sees that he can make his mud model move. ... He does not know what it is he makes happen or how the stiltspear children have taught him or what the adult put in him, but his new capabilities delight him. ... It is his only pleasure.

The image of the adult putting *something* in him, some kernel of its own unknowable, much-desired difference, recurs to symbolize Judah's growing empathy and magic. Jordana Rosenberg's reading of the erotics of this scene highlight its implicit fantasy of "masculine autogenesis" (as described by Judith Butler) and how it "intensifies-by-eroticizing the narrative's engagement with the incomprehensible fact of historical transformation" (329).¹²⁷ The goodness in Judah—which animates his desire to intervene in history's progress—appears itself as an incomprehensible intervention into Judah's selfhood, but only *after* he departs from the stiltspear, maintaining the moment in the swamp as the (lost) moment of transformative potentiality.

Initially—when he cohabits with the stiltspear—Judah and his inner-insect are as one. Shortly after his metamorphosis, he learns of the railroad's inexorable approach, but is unable to convince the stiltspears to flee its course. Judah "feels pinioned by history. He can wriggle like a stuck butterfly but can go nowhere." The

¹²⁷ Judah's bisexuality is troublingly framed not as a latent orientation but as something instilled as an *alien* openness. His parasite morality is syntagmatically implicated in his queerness when the text describes his employment, after leaving the swamp, by a wealthy man: "Judah's duties include the sexual. He does not mind: he feels no less or more than when he is with a woman. There is a nugget of compassion in him, and he feels it growing. He feels something inchoate, some beneficence." As appealing as it is to read about a character whose bisexuality signifies mystical powers and intense goodness (rather than untrustworthiness or other common stereotypes), the troubling notion that sexuality is easily-transmissible—or evidence of *any* additional character trait—outweighs the pleasure of the positive associations. However, Judah's "beatific refusal to *express* desire" for his lover Cutter, as Rosenberg describes it, offers another possible reading: the text excludes any mention of Judah *experiencing* sexual desire (327, emphasis added). If we read Judah as an asexual character, who experiences no sexual desire—but who engages in sexual acts out of an enjoyment of his partners' pleasure—then we can separate his (biromantic asexual) orientation from his learned desire to empower others where they are vulnerable.

image describes the *stiltspears'* situation, more than his own: the stiltspears can neither abandon their traditional territory nor defend it against the rail line that will pierce it. Judah's empathy is such that he identifies with their helplessness—at this point when he lives amongst them, Judah almost *is* stiltspear. Almost. When history arrives, and neither the stiltspears' camouflage nor their weaponry can protect them, Judah chooses to preserve himself and what of the stiltspear he can. He returns to deliver his ethnography to the land developers—identifying with the cataloguing collector rather than the pinned specimen—and leaves the swamp. The insect metaphor here goes beyond a representation of vulnerability, referencing the (popular Victorian) pastime of collecting and displaying insects, and its connotation, beyond the display of knowledge, of murderous mastery. After leaving the stiltspears, Judah no longer identifies with the good *thing* in him, but responds to it as an alien presence.

Stiltspear magic and ethical debt slowly develop within Judah, whose very name refers to the confluence of mystic power and goodness: Tim Miller notes that “Judah [Low]’s name is ... plainly cognate with that of Rabbi Judah Loew, the golemist of that most famous of golem tales, the legend of the Golem of Prague and its unflagging defense of the Jewish ghetto” (55). When he witnesses the “disproportionate” violence meted out by gun-for-hire Oil Bill, the “thing he has felt born within him, a creature of his congealed concern, flicks its tail.” Judah is driven to thwart Oil Bill’s plans to wreck and loot a passenger train when “The grub in Judah, not conscience but some nebulous virtue, moves. He feels disassociate from it, but it gnaws him.” Not conscience—not based in moral norms—the gnawing grub

nevertheless motivates Judah, who must interpret its wordless affects.¹²⁸ Judah's next associate, a bounty hunter, kills victims Judah thinks of as "scum" but "the presence in Judah is not at ease"; when the bounty hunter takes a commission to kill a small tribe (the trow) who impede a mining operation, the gnawing grub metamorphosizes into an instar Judah cannot resist:

He thinks, he cannot do otherwise, of the stiltspear and their hopeless unkenning resistance. He is cold, but inside him the worm of uncertainty, the oddity that is not a conscience but an *awareness* of wrong, a *goodness*, is uncoiling. He sighs. —Lie down, he tells it. —Lie down. But the oddity will not lie down. It moves in him and secretes disgust and anger he is sure are not *his*, but that stain him, and whether they are his or not he feels them. They well up in him. He thinks of the stiltspear cubs, and the trow in the little mountain.

The *something* instilled in Judah by the swamp's receptive agency, the young stiltspears' lessons, and the elder's touch has been catalyzed by their deaths, burdening him with responsibility that overflows those events. He has seen the face of the of the Other, in the Levinasian sense of seeing "The way in which the other presents himself, exceeding *the idea of the other in me*" (*Totality and Infinity* 50, emphasis original). Because the other so overflows our perception, being so much more than our thought of him or her, to receive the other "means exactly: to have the idea of infinity. But this also means: to be taught" (51). Judah's lesson in the

¹²⁸ The difference between this grub and conscience appears in contrast to the Disney character Jiminy Cricket, who mouths truisms and one-size-fits-all moral guidance—with the tautological promise that one's goodness can be judged by his or her adherence to good behaviour.

swamp holds out for him a sense of possibility—an incomprehensible transformative potential—precisely as it corresponds to the infinite uncaptureability of Otherness. Judah’s “worm of uncertainty” thus insists not as *conscience*, which is limited, but as the limitless obligation Levinas sees arising from the death of the other:

The death of someone is not, in spite of what it appeared to be at first glance, an empirical facticity (death as an empirical fact whose induction alone could suggest its universality); it is not exhausted in such an appearance. Someone who expresses himself in his nakedness—the face—is in fact one to the extent that he calls upon me, to the extent that he places himself under my responsibility: I must already answer for him, be responsible for him. Every gesture of the Other was a sign addressed to me. To ... show oneself, to express oneself, to associate oneself, to be entrusted to me. The Other who expresses himself is entrusted to me (and there is no debt with regard to the Other—for that which is due cannot be paid: one will never be even) ... The Other individuates me in that responsibility that I have for him. The death of the Other who dies affects me in my very identity as a responsible I ... made up of unspeakable responsibility. This is how I am affected by the death of the Other, this is my relation with his death. It is, in my relation, my deference toward someone who no longer responds, already a guilt of the survivor. ... The relation to death ... is neither a seeing nor even an aiming towards ... It is an emotion, a movement, an uneasiness with regard to the unknown. (qtd. in Derrida, “Adieu” 5-6).

Judah's "stain," his "worm," is one such unspeakable responsibility, a debt that can never be repaid. Derrida, speaking on the occasion of Levinas' own death, emphasizes the unknown in the above passage as an *interruption* of the self, an "infinite interruption where the face appears" that is doubled by death, that "rending interruption at the heart of interruption itself" ("Adieu" 7). He identifies this interruption as the foundation of hospitality or friendship ("Adieu" 6). That is, unlimited hospitality (which we at best asymptotically approach) has, by definition, to welcome the limitless strangeness of the stranger, who similarly cannot be known in advance of her arrival. Insects' metamorphic life cycles aptly figures such unpredictability; the infinitely strange stranger likewise finds its analogue in the insect as harbinger, suggesting the presence of undisclosed others of its kind.¹²⁹ The image of disgust and anger *staining* Judah visualizes responsibility's individuating effect—though the change is not *of* him, it can no more be separated from him than cochineal can be washed from silk. As Judah's grub of responsibility grows, his golemcraft also metamorphoses, from the animation of insignificant mannikins to the creation of a giant, ephemeral figure of justice. Pouring the secreted disgust and anger into "a cathexis purer and stronger than he has ever felt before," Judah makes a golem from poisonous gas and kills the bounty hunter with the very toxins intended for fumigating the trow. As the golem engulfs the bounty hunter, its body language—"The thing twitches a gas tail"—echoes that of the interior "thing" that announced its presence by "flick[ing] its tail," which parallel insinuates the co-

¹²⁹ Timothy Morton uses the term "strange stranger" in *The Ecological Thought* as a translation for Derrida's *l'arrivant*, his term in *Specters of Marx* for the messianic other-to-come who by definition cannot be anticipated in their radical alterity.

identity of the parasite and golem, and thus the golem and loss. As the narrative progresses, Judah gains greater control over larger and more ephemeral golems, arming a rebellious faction of rail workers, the Iron Council, in their socialist revolt against New Crobuzon with golems crafted from dust, water, sound, the railway, and at the novel's climax, even *time*. His increasing power raises the question of whether the import of Judah's loss has grown, or whether his abilities correspond to his ability to *master loss*. The objectification of his "inner thing" as a parasite suggests the latter, and elucidates *Iron Council's* criticism of a good-intentions/bad-faith politics of loss.

The question of parasitism—of receiving or exploiting hospitality—arises repeatedly. Judah returns to New Crobuzon and "walks the city at the behest of the grub, the oddity in him that will not be still." The grub insists upon him, demanding to see a city that itself parasitizes the frontier: "He is tugged by it; he feels it seeing through him. *It's a strong goodness in me*, he thinks without arrogance, *but it's an intruder. I don't feel it as my own. Does that make me good? Does that make me better? Does it make me wicked?*" The ambivalence with which Judah perceives his parasite inheres in the concept: J. Hillis Miller notes that its early positive referent, "a fellow guest, someone sharing the food with you," transformed into something negative, "someone expert at cadging invitations without ever giving dinners in return," or someone who does not reciprocate the generosity of another (442). Unravelling the etymology of parasite, guest, and host, Miller shows the "uncanny antithetical relation [that] exists not only between pairs of words in this system, host and parasite, host and guest, but within each word in itself" (443). The

undecideability of the relationship between host and parasite is also Levinas' "uneasiness with regard to the unknown" instilled by the death of the other. Loss is parasitical and reciprocal: it takes each party from the other, so that we both *have* lost and *are* lost. Derrida explains that the incomplete distinction between guest (which cannot be "kept outside of the body 'proper,') and host (which "incorporates the parasite to an extent, willy nilly offering it hospitality: providing it with a place") means that the parasite "'takes place.' And at bottom, whatever violently 'takes place' or occupies a site is always something of a parasite. Never quite taking place is thus part of its performance, of its success as an event, of its taking-place" (*Limited, Inc* 90). The *frontier event*, that process of dividing resource from History, violently takes place, seizes occupancy literally. The frontier never finishes taking place, then, in a doubled sense: the procession of history demands the unceasing production of resources, but loss—the remainder of the division—persists, too, as an irremediable parasite on the present. Is the parasite of loss also ambivalent? Michel Serres' reading of parasitism as an excitation in a system suggests it may be: he explains the parasite as that which

produces toxins, inflammations, fever. In short, it excites the milieu. It excites it thermically, making noise and producing a fever. It intervenes in the networks, interrupting messages and parasiting the transmissions. Thus its name is coherent and its act single. The phenomenon of expansion is its proper business and its appropriation (144).

If we read that which is lost to the violent insistence/imposition of history through this framework, we see loss remaining to trouble official history. The ethical

responsibility to the Other *motivates* change in the system. The call expands as it ripples through time. In a positive sense, persistent awareness of loss becomes pain's lesson: ideally, we are motivated ever after to act against suffering.

Judah's growing magical abilities register as the awesome potential of what has been forestalled or forgotten, and in this *Iron Council* holds out hope for messianic reparation-to-come. Jordana Rosenberg lauds *Iron Council's* "allegory of British Imperialism and capitalist development" that "delink[s] secularization from historicism itself" (326). In this light, Judah's magic is "not the residuum of a prior mode but a marker of historical relation itself, of history's recursive loopings-forward ... not a nostalgia for enchantment but the textual registration of the nonsynchronous character of historical transformation" (Rosenberg 328-9). That is, Judah's magic literalizes the past coming alive in the present. His golems embody the persistent power of everything supposedly lost to progress, secularization, and the production of history, and thus Rosenberg sees Judah's rebellion as avenging the death of the stiltspears, whose story is but the mere "*Bildung* of Judah's leadership" (328).

This account of the presence of magic, while convincing, does not go far enough in considering why the workers' revolution *fails*. Convinced that the revolutionaries, the "Iron Council," will be destroyed when they return to attack New Crobuzon, Judah conjures a time-golem around them, freezing them into a kind of public monument of revolution-to-come in some messianic future. Magic brings the revolution near, but holds it also at bay. Rosenberg observes that this image shows us that history is an unfolding of utopian desire, rather than progress. This is

true so far as it goes, but the moment of revolution is utopian (in the sense of having no place) *only because Judah makes it so*. Magic's use is not narrated as inherently good; Judah's time-golem, for example, is "a violence, a terrible intrusion in the succession of moments, a clot in diachrony" and its existence has a "dumb arrogance."¹³⁰ Rather than risk the loss of potentiality, would-be savior Judah faithlessly pre-empts the revolution in the static future-perfect tense.

The stiltspears are not avenged by Judah's protection of revolutionary potential—not primarily because that form of vengeance is arrested on the cusp of becoming, but more directly *because they are not extinct*. Readers' understanding of the species is focalized through Judah's perspective, which is limited. At no point does the narration explicitly contest the terminal prognosis he gives them, but he makes his assessment at first bloodshed, assuming he knows the future: the

¹³⁰ Magic is repeatedly described as insectile, as when a rebel attacks the miliita with a "gob of colour [that] flew with butterfly flight" to its target. New Crobuzon's rival Tesh also works golem-like insect magic in New Crobuzon, as in one scene in which a woman is attacked by a gaseous wasp. The militia's counter magic is also insectile:

The air souring and, like badness in milk, particles of matter coagulating from nothing, clots of rank aether aggregated into organising shape, and then there was a moving insectile thing made of scabbed nothing and sudden shade that twisted in the air as if suspended by thread and glimmered visible and invisible and then was unquestionably there, a hook-legged thing in the colours of rot, as large as a man. A wasp, its waist bone-thin below a thorax that refracted light like mottled glass, its sting like a curved finger beckoning from its abdomen, extending and adrip. It cleaned its legs with its intricate mouth. It turned ugly compound eyes and looked at the aghast crowd. It unfolded its limbs one by one and shuddered and was moved, though not it seemed by the motion of those legs, but still as if it dangled and some giant hand holding its line had shifted. It came closer. ... Bullets went through it, to break glass and china beyond. The woman in its shadow spat and died. ... An officer-thaumaturge cracked his fingers and made occult shapes, and filaments spun into sight between his fingers and the wasp, plasm made hexed fibres and webbing, but the predatory thing passed through the mesh ...".

stiltspears “have killed, and Judah knows then it is over and done. The time is finished. They do not see it. The sun is dead for them. There is nothing left. He is frantic to learn, to preserve these people in his notes, to salute them.” He holds to this belief, even years later, face-to-face with survivors. When he learns that sound can be preserved on wax cylinders, Judah’s “parasite goodness stirs, his saintly innard thing” moves at the prospect of recording the sounds of the last, near-extinct stiltspears. In particular, he aims to save the songs by which they refine their magic. The ambivalence affect of the parasite’s verb here, “stirs,” mirrors the ambivalent ethics of Judah’s plan: the recording strengthens Judah’s own capacity to defend others, yet gives no benefit back to the tribe on whom its production depends. The stiltspear are displaced and changed and many *have* died, but their putative demise is, in the end, assumed. In this sense, Judah’s magic, though *itself* a positive force, is deformed by his defensiveness; he reduces the infinite face of the singular Other to a limited abstraction thereof.

Judah’s desire to master his infinite debt to the dead—the impossible desire to reshape history yet not be a parasite—leaves him desperate to *save* someone. Confronted by Judah’s inability to save the “doomed” species along with their sounds, Judah’s “interior thing jackknives,” and only when he aligns himself with the exploited rail line workers (to whom he can give value) does the “good thing” again express happiness, because Judah “be part of what he sees, not a parasite in its trail.” In one sense, this aversion to parasitism seems positive—he does not wish to receive benefits from the rail builders that he cannot reciprocate. In another sense,

though, Judah is averse to being the fellow guest, as he was when he shared of the stiltspears' lives.

When recording the displaced stiltspears, Judah notes that their hunting traditions have changed in response to their forced migration. They no longer perfectly resemble the static image of authenticity he romanticizes. He hears their sounds only as “*uh uh uh*,” and though he appropriates what these phonemes *do*, he doesn't ask what they *mean* in their traditional context. Judah, “to his shame ... feels *drab* among the doomed people” and “the environs oppress him. No bower in the woods, no green den, but a frosted huddle of mulch and constant war parties, stiltspear out to fight, haunted by the ghosts they will certainly become.” Judah is ashamed because he *feels drab*—his shame is that of a man who knows he will abandon a cause that no longer seems exciting.¹³¹ Reifying the railway boss' perception of the stiltspear as “ghosts” whose demise is inevitable, licenses *him* to leave *them*—it allows him to understand himself as having lost (rather being lost to) his onetime hosts. Judah's aversion to parasitizing the workers' rebellion is thus also the rejection of another's claim on him. Having chosen not to reciprocate the hospitality he enjoyed in the swamp—because his friends' vulnerability exceeded that which he could master—and then having disavowed responsibility for that choice, Judah limits his future openness to debt. Where the rebellion offers the thrill of heroic glory, the dislocated stiltspears' need, *had he asked them*, might have been to tarry in grief, to mourn alongside them. To bear witness. To listen. Judah cannot countenance being a parasite because *he cannot tolerate being subsidiary*. Rather

¹³¹ Hopelessness is a kind of presumptuousness, a pre-emption of infinite, messianic possibility implied by the *arrivant*.

than being a parasite on the stiltspears' hospitality, he pre-emptively redefines them as his parasite. *Iron Council* thus demonstrates how parasitism is a matter of perspective, as is history—both depend on one's identification with the dominant body.

Though *Iron Council* shows the loss of the Other to have enormous motivating potential, its greater strength is in its critique of a *pre-emptive melancholia* that enervates political action. That is, it illustrates unyielding attachment to a loss that has not occurred in an attempt to limit and master loss (by containing it in the past). This protects the pre-emptive melancholic (subject or culture) from the persistence of their responsibility to act in the present. My use of the term pre-emptive melancholia here draws on that essay as well as a number of discussions of anticipation and melancholia.

Sigmund Freud recognizes the anticipatory element of grief in his discussions of mourning in *Beyond the Pleasure Principle*, in which he discusses the reactions of World War I soldiers and his grandson to the kinds of loss they experience. Freud describes the soldiers' nightmares as the persistence of loss, and the child's habit of discarding and retrieving objects as an attempt to manage loss to come, in the form of his mother's absences from him. As Anna Elsner observes, "Freud captures the paradoxical temporality of mourning by showing that it is always 'out of time'—either in the traumatic dreams which repeat a past event ... or as a preparation for mourning that starts long before the actual separation from the other" (39). Mourning's temporality, we see, challenges the strict sequential logic of linear narratives of causality.

The psychiatric concept of “anticipatory grief,” or the reaction to potential, impending loss, has been discussed in relation to terminal illness and dying since shortly after World War II, when Erich Lindemann observed that some soldiers’ wives essentially carried out the processes of mourning in anticipation of their husbands’ deaths, leaving them detached from their spouses in the instances when those soldiers survived and returned home from the war. Since the publication of Lindemann’s piece, the concept of anticipatory grief has been studied and written about extensively in medical literature (Siegel and Weinstein, Fulton and Gottesman; Moon).

Sarah Jain has argued that anticipation and grief are central to “living in prognosis,” a condition that applies not only to patients with terminal cancer prognoses, but to all those living in risk culture more generally. Jain claims that prognosis “recursively projects a future as it acts as a container for a present,” and “offers an abstract universal, moving through time at a level of abstraction that its human subjects cannot occupy, and in so doing it threatens to render us all ... inert” (78-79). Kim Cunningham takes up Jain’s argument in relation to climate change and “the era of mass catastrophe” to argue that prognosis is no longer an *individual* condition, but a temporality “in which we [all] find ourselves, a form of governance that is preemptive, anticipatory” [*sic*] (20). That is, we are all in a state of “anticipatory mourning” for global warming and the other catastrophes we perceive to be on the brink of occurring (12). Cunningham reads the present state of mourning as pre-emptive insofar as it eschews other affective possibilities: we mourn now as part of an ineffective strategy to curtail future mourning.

The temporality of responses to loss has been a key issue in animal studies discourse in particular, which is concerned with the ongoing absence of animals from our lives and, increasingly, from existence. John Berger's milestone essay "Why Look at Animals?" discusses the loss of animality from human experience as a synecdoche for the loss of the good life under modern industrial capitalism. Following Levi-Strauss, Berger's argument describes—or imagines—an earlier time in which animals were "with man at the centre of his world" (3). The animal human relationship had a dual nature – animals were both worshipped *and* eaten, magical *and* food – which it has, in the urbanized, industrialized present, lost.¹³² Berger laments the absence of the animal's gaze (which is to say, for Berger, genuine alterity, and nonhuman agency) even from the zoo, where one encounters only a life rendered mechanical and "immunized to encounter": existence with neither access to the world in which its species developed, nor any substantive agency regarding its survival. Berger thus imagines that perhaps the "final metaphor" of the animal is to reflect back to man the emptiness and artificiality of his capture in an inhuman

¹³² Berger draws on Levi-Strauss' discussion of totemism, which rejects the superiority of so-called "civilized" societies over the "primitive," and argues that totem animals are chosen *not* because they are good to eat (the view held by anthropologists at the time) but because they are "good to think" (268). Berger argues that animals were *both* for early man, and that this duality was the condition of possibility for metaphorical thought, thus "the first metaphor was animal" (7). Berger is amongst the scholars who critique Cartesian mind-body dualism; Descartes' inscription of (animal) dualism within man allowed him to reduce the animal to machine. This, according to Berger, began the process in which early industry used animals as machines, then so-called post-industrial society reduced them to raw material – the same process which also reduced humans to "isolated producing and consuming units" (13). The alienation of humans and animals is not alleviated by the pet/owner relationship; for Berger, as for Deleuze and Guattari, this signifies nothing but the artificiality of the living conditions and relationships of both parties.

system. Berger's implicit suggestion that animal representations come to compensate for the disappearance of animals is explained as a mode of mourning as it is taken up in Akira Mizuta Lippit's *Electric Animal: Toward a Rhetoric of Wildlife*.

Like Berger, Lippit is concerned with the "disappearance" of animals, and a concurrent rise in animal representation. However, Lippit is interested in the animal as, primarily, the *form* of representation or communication, rather than the content: *Electric Animal* argues that reproductive media – namely cinema – has been the instrument of animals' entry into, and exit from, modern life. Lippit claims that from prehistory to the 18th century, animals existed in a sacrificial economy, but "animals enter a new economy of being during the modern period, one that is no longer sacrificial ... but ... spectral" (1). Animals exist in a perpetual state of disappearing, always about to vanish, never vanished.

Lippit makes this argument in part by drawing on the Western philosophical tradition in which animals, deprived of language, are also deprived of death. He considers the way the animal's cry has been taken up (e.g., by Rousseau, Kant, Burke, Hegel) as a supplement—neither language nor not-language—and then traces this supplementarity to claims that animals therefore have a kind of deathlessness, particularly in Heidegger, in which the animal can perish, or croak, but not properly die. That is, since the animal is deprived of the "as such" and language, captivated in the moment, it also is deprived of death, which suspends the animal in a virtual existence.

Lippit recognizes the animal's phantasmatic, undead existence as being equivalent to certain modern psychoanalytical structures, literary creations, and

especially recorded technological media (film and photography). For example, he characterizes the animal as a “fleshy photograph,” drawing on Bazin, Barthes, Berger, Lacan, and Bacon to claim that photographs and animals present themselves to us in the anterior future tense, as that which will have vanished (21). Lippit shows how the animal, as sign of the image, affect, and (electrical) energy outside of language (for which he formulates the term “animetaphor”), has been supplemental to the linguistic and the human; in the contemporary world, this perpetual spectrality is manifest in photography and film. Thus technology now reflects the spectral mode of animal existence. For Lippit, this means that film functions as an animal “crypt,” following on the psychoanalytic theory of Abraham and Torok: he explains cinema as a massive mourning apparatus, in which we incorporate the lost animal. This is to say the lost animal is not metaphorized, processed and mourned through consciousness and linguistic structure (introjection), but psychically avoided, through the preservation of the object itself (as cinema “becomes” animal). The animal is encrypted since, because it cannot “die,” it could not be properly mourned.

In Lippit's discussion of encryption, certain elisions and contradictions begin to become apparent. Following Freud's (and Abraham and Torok's) psychoanalytic theory of mourning and melancholy, encryption signals a pathological psychic *refusal* to mourn. However, despite Lippit's obvious fluency with this theory, he persists in describing the cinematic crypt as a *mourning* apparatus. When he raises the issue of melancholy, it is only to associate it with the supposedly past sadistic logic of animal sacrifice; he is unwilling to represent his object of study, film, as a

pathological symptom (as his argument would seem to suggest), rather than the beginning of a new “evolutionary cycle” (197).

Questioning the *failure* to mourn opens the door to a discussion of the historical, ongoing, active *elimination* of animals, rather than simply a passive loss. Lippit's desire to represent sacrificial logic as supplanted by spectrality repeats utopian fantasies that affective or immaterial economies could function without industrial production. Thus he avoids questions concerning the insufficiency of representation to replace animals, the *degree* or *progress* of active animal elimination, and the conceptual framework and social relations that enable (or could alter) animal extinction (or overproduction and slaughter). Despite these shortcomings, Lippit's text is an invaluable work on the way animals analogize energy or experience in excess of language; it is also an important text for thinking through the melancholic attachments of environmentalist discourse.

Karyn Ball takes up Lippit's argument in order to argue for the persistence of a melancholically disavowed primal animal loss, a “melancholy that should have already shrilled into a howl of mourning” for the violent loss of animal lives (“Primal Revenge” 536). She observes a “melancholic anthropomorphosis” at work, a “foreclosure that extends a legacy of human crimes against other species” (551-552). Ball traces irruptions of the primal nonhuman, not to suggest that “the animal” has utopic potential, if recognized, to extricate humanity from the self-inflicted threats to its futurity, but instead to diagnose the melancholic condition that attends Western modernity. In “Introducing the ‘Global Animal’: An Insomniac's Recourse in the Anthropocene,” Ball and I extend this arguemtn to argue that the trope of the

soon-to-be-extinct animal potentially allows ecological mourning to forestall political action, which constitutes another example of pre-emptive melancholia. This excursus into animal-loss related melancholy has been necessary because the encryption and disavowal of animal loss is an element of the pre-emptive melancholia seen in Miéville's representation of Judah.

Judah, the pre-emptive melancholic, demonstrates a repeated disavowal of the persistence of the so-called "lost" object—not lost individual stiltspears, but the species. Pre-emptive melancholia is thus one of those forms of compulsive repetition that diminishes anxiety by "converting a passively unanticipated moment of vulnerability into a homeopathically administered symbolic mastery," to use Ball's summary of Freud's "economic" theory of repetition ("Losing Steam" 7). The presence of the *threatened* object, introjected as a lost whole, immunizes the subject against the persistent threat of loss. Judah's attempt to master the parasite goodness within him enables him to reject the greater work demanded by the ongoing presence of the stiltspear people. Following Ball's identification of compulsive repetition in Freud's schema as a means of realizing the death drive's anti-entropic function, we can see pre-emptive melancholia as one such "means of defusing excess stimulation," in an "urge to ... circumvent depleting psychophysical work" ("Losing Steam" 8). That is, if Judah repeatedly, pre-emptively imagines the stiltspear as "a dead people" *even as he looks at living children before him*, he avoids the work of experiencing anxiety about the threat of their (non-inevitable, more complex) loss, and his ongoing responsibility to them. He introjects a fantasy of their death, and

that allows him to move on to a role that appeals to him more than does stiltsppear-ally. Judah's attempt to lead—to *master*—the rebellion of the railroad builders depends on his prior (fantasized) mastery of the stiltspears' claim on his energies.

Judah's pre-emptive internalization of the stiltsppear as parasite exposes his racial melancholia and heterosexual melancholia (despite the character's queerness). Racial melancholia, as described by Anne Anlin Cheng, David Eng and Shinhee Han and Sara Ahmed, constructs dominant white identity and that of racialized others alike, in reciprocal dis-identification. Judah's view of himself, as that central figure, the host (a view corroborated by narration that excludes the stiltspears' voice), involves a complex of desire and rejection in which he holds the other species-cum-race (-cum-parasite) *near away*.¹³³ He divides the stiltsppear into "good objects" (the pre-lapsarian, "traditional" stiltspears associated with self-discovery) and "bad objects" (the displaced stiltsppear from unfamiliar tribes, associated with the "horrible wet cold" and hopelessness), constructing the former as a "model minority" (Eng and Han 674).¹³⁴ Pre-emptive melancholic Judah thereby

¹³³ Cheng claims that both the dominant white culture and racial others experience racial melancholia, which "constitute[s] their mutual definition through exclusion" (xi). Judah's identity and authority, as a male human from New Crobuzon, is analogous to that of American whiteness, which, Cheng argues, "is secured through the melancholic introjection of racial others that it can neither fully relinquish nor accommodate and whose ghostly presence nonetheless guarantees its centrality" (xi).

¹³⁴ Eng and Han draw on Melanie Klein's extension of the Freudian theory of mourning to argue for a subject who can move fluidly between mourning and melancholia, which latter state is not necessarily pathological (667). Klein, unlike Freud, describes introjection as a healthy process, in which the lost object is "preserved in safety inside oneself" and aligned with good internal objects (qtd. in Eng and Han 690). Eng and Han, building on Klein's claim that good attachments can be transformed into bad ones (if the lost object cannot be aligned with other good

manages history by ending *his*-story at the point when his efforts to relocate the “good object” stiltspears appear as wise, if futile. The “bad object” stiltspears, “melancholy migrants,” respond to their changing world with self-determination (not obedience, or gratitude)—even if they *are* the last of their kind, they do not allow Judah to determine the means and meaning of their lives and deaths.¹³⁵ They will not, that is, be reduced to a parasite upon the history of others.

Queer theory has offered positive interpretations of melancholy as a refusal to “get over” love and loss, but such readings seem inappropriate to pre-emptive melancholia, especially as represented by parasitism. For thinkers such as Judith Butler, Douglas Crimp, Ann Cvetkovich, Jose Muñoz, and Catriona Mortimer-Sandilands, queer preservation of loved and lost ones honours the dead, dignifies

object of the past), describe how such transformations can be mediated along the axis of race, leading to a division between “‘good’ and ‘bad’ racialized objects” (690). The “model minority stereotype” from the bad object, note Eng and Han “den[ies] the [stiltspears’] heterogeneity, hybridity, and multiplicity ... that do not fit its ideals of model citizenry [and] erases and manages the history of these institutionalized exclusions” (674).

¹³⁵ Sarah Ahmed’s discussion of the “melancholy migrant” figure in British race politics also draws on Klein’s framework; she argues that “the melancholy migrant holds onto the unhappy objects of differences, such as the turban, or at least the memory of being teased about the turban, which ties it to a history of racism. Such differences – one could think also of the burqa – become sore points or blockage points, where the smooth passage of communication stops. The melancholic migrant is the one who is not only stubbornly attached to difference, but who insists on speaking about racism, where such speech is heard as labouring over sore points. The duty of the migrant is to let go of the pain of racism by letting go of racism as a way of understanding that pain. It is important to note that the melancholic migrant’s fixation with injury is read not only as an obstacle to their own happiness, but also to the happiness of the generation-to-come, and even to national happiness. This figure may even quickly convert in the national imaginary to the ‘could-be-terrorist’. His anger, pain, misery (all understood as forms of bad faith insofar as they won’t let go of something that is presumed to be already gone) becomes ‘our terror’.” (“Multiculturalism and the Promise of Happiness” 133). The stiltspears are melancholic insofar as Judah perceives them to be so, and because they impede *his* happiness.

their survivors, and validates those survivors' grief. It staves off false resolution to ongoing traumas, and insists that loss cannot be made all right. Most importantly, it instantiates community as a source of identification, solace, and political mobilization for those who share in suffering.¹³⁶ Judah's attachment to his lost object, by comparison, conceals the dead, abjures their other survivors, and flees their grief; it provides false resolution, and attempts to avenge, and thereby assuage, loss. Most importantly, it alienates community, allowing Judah to evade the

¹³⁶ Butler argues that loss compounded by the pre-emption of grief (grief that is not so much forbidden as made unimaginable) can be unbearable, and "collective institutions for grieving are thus crucial to survival, to reassembling community, to rearticulating kinship, to reweaving sustaining relations" ("Melancholy Gender / Refused Identification" 148). Douglas Crimp, Ann Cvetkovich, and Jose Muñoz further articulate the necessity for melancholic politics in queer community.

Against the popular injunction to supplant mourning with militancy, Crimp insists on the continued importance of activism that publicly mourns the countless deaths to AIDS, against a normalizing pressure to move on; he further notes the potential antimoralistic politics that such attachment to a lost object (such as a lost gay sexual culture) can produce (89). He locates a queer responsibility in affirming creative pleasures in the face of ongoing trauma, and of "moralizing as a form of false resolution" (90).

For Cvetkovich, the melancholic work of maintaining an "archive of trauma," particularly in lesbian artistic and political documentation, convenes a surviving public; she argues that (re)collecting losses "can also be a productive form of melancholy because mourning is not terminable when we keep the dead alive and with us" (Cvetkovich 235).

Muñoz builds on Raymond Williams' concept of "structures of feeling" to describes the melancholia of queers of colour as "not a pathology but an integral part of everyday lives ... a mechanism that helps us (re)construct identity and take our dead with us to the various battles we must wage in their names—and in our names"; Muñoz sees this mechanism as opening a "space of hybridization that uniquely exists between a necessary militancy and indispensable mourning" (74).

Mortimer-Sandilands suggests that queer melancholy offers a powerful resource for thinking through ecological loss, as the same bourgeois narrative that renders non-heterosexual relationships ungrievable also forecloses mourning unrecoverable "more-than-human" relationships. She explicates the ways that "allowing the natural world to be a field of intimately mourned lives and possibilities" can open a way for a "principled understanding of the relationships between non-heterosexual lives in the midst of homophobia and the more-than-human world in the midst of environmental devastation" (355).

survivors. Pre-emption marks *heterosexual* melancholia, described by Butler as the instantiation of gender identity through the melancholic internalization, as prohibition, of the sex of the prohibited object (*Gender Trouble* 63). The dynamic of compulsory heterosexuality is pre-emptive because

if ... the prohibition on homosexuality operates throughout a largely heterosexual culture as one of its defining operations, then the loss of homosexual objects and aims (not simply this person of the same gender, but any person of the same gender) would appear to be foreclosed from the start. I say 'foreclosed' to suggest that this is a pre-emptive loss, a mourning for un-lived possibilities. ...The prohibition on homosexuality pre-empts the process of grief (Butler, "Melancholy Gender / Refused Identification" 139-42).

Pre-emptive melancholia performs a hollow mourning to foreclose identification with the lost object, an identification that would open the subject to the infinite, perhaps unbearable magnitude of the loss that is feared. It may be a survival strategy for subjects who can not afford the energetic cost of fear, or of grief at the loved one's exposure to harm, and in recognizing this, we can maintain sympathy for the fearful, pre-emptive melancholic, even while remaining critical of the way they resolve their fear.

Privileged individuals' fear and good intentions, misdirected, can objectify and silence cultures, as is the case in the salvage ethnography Judah practices in the swamp: the attempt to pre-emptively "save" vital communities reifies the

harmful “vanishing native” trope.¹³⁷ Like “saving” butterflies by putting them under glass, the worst forms of salvage ethnography kill what they want to keep. Such methodologies show pre-emptive melancholy operating as a cultural force (obscuring contemporary indigeneity to, for example, undermine unceded land

¹³⁷ Salvage ethnography is the attempt to preserve cultures threatened with extinction—often by modernization—by recording practices and saving artifacts. It is associated with anthropologist Franz Boas and his students, who attempted to record indigenous cultures in the Americas in the late nineteenth and early twentieth century (Calhoun 424). The term was coined by Jacob Gruber to describe the anthropological practices of the turn of the century, identifying the destructive effects of European colonialism on “vanishing” tribes (Gruber). Judah Low’s use of wax cylinders to record the stiltspears evokes in particular the work of ethnomusicologist Frances Densmore, who used the same technology to capture thousands of recordings of the songs of Native Americans (“Frances Densmore”).

The trope of the “Vanishing Indian” circulated uncritically at the turn of the twentieth century, and continues to be deployed in popular culture; however, the stereotype has been identified as a frontier myth that attempted to naturalize land theft and other forms of ongoing colonial violence. The concept frames contemporary indigenous people as anachronistic exceptions to modernity (“Myth of the Vanishing Indian”).

Gerald Vizenor describes the relationship between artistic practices of salvage, such as Edward Curtis’ photographs of Native Americans, and the vanishing native trope. He argues that the “modernist constructions of culture, with natives outside of rational, cosmopolitan consciousness, are realities by separation, a sense of native absence over presence in history. The absence of natives was represented by images of traditions, simulations of the other in the past; the presence of natives was tragic, the notions of savagism and the emotive images of a vanishing race. The modernist images of native absence and presence, by creative or representational faculties, are the rational binary structures of the other, an aesthetic, ideological, disanalogy. ... American civilization was a cultural manifest and a religious covenant over bogus savagism. The “Indian was the remnant of a savage past away from which civilized men had struggled to grow,” wrote Roy Harvey Pearce in *Savagism and Civilization*. “To study him was to study the past. History would thus be the key to the moral worth of cultures.” American civilization progressed from “past to present, from east to west, from lower to higher.” Pearce pointed out that those ‘who could not journey to see Indians in person could see them pictured in numerous collections of Indian sketches and portraits.’ (Vizenor)

claims) over and above its expression in an individual.¹³⁸ Rosalind Morris observes that the concept of salvage “shares with ‘salvation’ the etymological connotation of wholeness, the antithesis of fragmentation and disintegration” (54). Judah’s understanding of his scholarship’s inadequacy, though, withholds from readers any identification with the promise of wholeness implicit in ethnography. The fragment of the stiltspear life-world assimilated into New Crobuzon’s archive is but a shed skin, the empty shape left behind when its vital inhabitant took on new form. Further, his salvage ethnography echoes the frontier process; in the frontier, “making, saving and destroying resources are utterly mixed up, ... zones of conservation, production and resource sacrifice overlap almost fully, and canonical time frames of nature’s study, use, and preservation are reversed, conflated, and confused” (Tsing 32). Though salvage ethnography is associated most immediately with indigenous peoples in North America, the most obvious point of comparison for the salvage-frontier depicted in *Iron Council* is

early modern fen drainage ... the enclosures by which, beginning in the sixteenth century, the peasantry were “freed” into wage labor, and the vast drowned worlds of eastern England — worlds that supported traditional stilt- walking and gleaning—were painstakingly turned into arable pasturage (Rosenberg 327).

¹³⁸ The salvage-ethnographic urge is extended beyond Judah to New Crobuzon as an imperialist entity, when the train boss contemplates turning the stiltspear village into a museum.

More generally though, *Iron Council* mixes signifiers to signify historical commonalities; thus the “swamp mimics all landscapes,” and the stiltspear can be read as any mode of life that existed outside of empire’s history-making project.

Judah’s displacement of his metaphysical desire from the stiltspears to the Iron Council revolutionaries, with their potent futurity, suggests his overweening need for desire itself; it also reveals him as one of those well-intentioned, privileged men who assume leadership positions in others’ resistance movements, insensitive to their subordination of those whom they putatively empower. Metaphysical desire, aimed as it is at the *absolute other* that is by definition unable to be absorbed or possessed, motivates endlessly because it can never be grasped (Levinas, *Totality and Infinity* 33). It requires, though, a big Other, an abstract alterity that obscures the singular other, *this very specific other before you* (Lacan, “Introduction of the Big Other”). When the stiltspear cease to evoke pure alterity—when contaminated by literal blood on their hands, entering history—they become a lost object to Judah. Transforming them into a parasite teaches Judah the capacity to encapsulate the Iron Council in futurity, as a parasitism that never takes place. Endless potential mirrors indefinable loss—both illusions obscure real causes so that a dominant sympathetic figure can speak *on behalf of the Other*. Like Judah, such so-called allies reduce others to insects—voiceless presences on behalf of which they can act. The other-as-parasite is confirmed in their inherently alien embodiment, not a coequal but as a silent presence that requires toleration and salvation.¹³⁹

¹³⁹ Note that Judah’s inner parasite of goodness only gestures, flicking its tail or ambivalently stirring, but never speaks.

Gayatri Spivak discusses the impossibility of speaking for the other in the germinal article “Can the Subaltern Speak?” in which she argues that colonialism has been justified with the idea that “white men are saving brown women from brown men” (101). She emphasizes that the sentence is one “indicating a *collective* fantasy of a *collective* itinerary of sadomasochistic repression in a *collective* imperialist enterprise” (*A Critique of Postcolonial Reason* 284). Whereas the collective fantasy of sadomasochistic repression is used to justify intervening on behalf of the subaltern, pre-emptive melancholia fantasizes an already-silenced subaltern voice, covering our collective ears in order to justify whatever course of action—intervention *or* neglect—was already desired. By using the insect-image to describe salvaged alterity, the text materializes the would-be saviour’s perception that the Other simply does not speak, or if they do, their language is inherently too strange to be understood.

The arbitrary, perspectival definition of the parasite is redoubled in the text when the dominant body, in Judah, becomes the encrypted motivation of history-to-come. As a male, human, coherent, fantastically-abled self, Judah cannot effectively resist New Crobuzon’s power—he embodies it. Rather than leading the revolution, for Judah to *resist* would require him to *desist*. This argument is voiced explicitly after Judah imprisons the Iron Council in time, by Ann-Hari, onetime leader of a sex-strike that inspired the Iron Council’s own resistance (even adopting its slogan, “no pay, no lay” to refer to train tracks). In a microcosm of violent revolution, Ann-Hari shoots and kills Judah, with a speech that lays out Judah’s transgression plainly:

Judah Low. Iron Council was never yours. You don't get to choose. You don't decide when is the right time, when it fits your story. This was the time we were here. We knew. We decided. And you don't know, and now we don't either, we'll never know what would have happened. You stole all those people from themselves ... And you won't hear this, you can't, but this now isn't because you're a sacrifice to anything. This isn't how it needed to be.

This is because you had no right.

Ann-Hari's position with regard to the revolutionaries qualifies the book's critique of solidarity. She and the other prostitutes withheld sex from the rail workers because the workers passed their pay-delay to the sex workers, so that when the two groups later act collectively against the bosses, it is on the basis of a shared experience of vulnerability and oppression.¹⁴⁰ Placing the criticism of Judah's pre-emption in Ann-Hari's mouth specifies that presumptuousness is unacceptable, but collective social action is not. By *rejecting* an interpretation of Judah's death as sacrifice, Ann-Hari's speech invites the reader into the paradox of the well-intended member of an oppressive class. Reading Judah as *allowing* himself to die, in a paroxysm of saintly self-effacement that finally relinquishes mastery over the other, perpetuates the savior narrative (a view that Judah's lover Cutter takes, imagining the many golems with which the bullet could have been stopped). Judah's death can

¹⁴⁰ The workers resolve the financial power of coercion that the builders have over the sex workers: in their community no worker is to be treated as a commodity. Ann-Hari is also dissociated from New Crobuzon in her rural origins, which the text strategically alludes to in politically significant moments by mentioning her "Ragamoll accent."

only reach toward its goodness, then, by failing to be saintly. Cutter builds a cairn over Judah, who has become a lost and encrypted other for the history to come.¹⁴¹

Using insectile indigenes and parasitic insects to represent history's spectres, *Iron Council* exposes history as a process that depends on the abjection of discomfiting lives. The metaphor envisions the victims of development as speaking through body language, with alien bodies, in a tongue that constantly risks mistranslation. By foregrounding the ambivalence of the parasitic relationship, the text emphasizes the subjective nature of perceptions of "lost," "subsidiary," and "silenced." In the associations it makes between exploitative insects and goodness, it offers a nuanced metaphor for ethical responsibility that reflects its often-unwanted arrival; that same ambivalence also represents the agency of abjected lives as possessed of a queer, agential vitality that becomes admirable or abjectionable only in the context of their relationship to another. All of this works to queer historicism. History appears as a violently produced, nonlinear narrative subject to many interpretations. Protecting potentiality, the book warns, can be a way of preempting the future; salvation and petrification work hand-in-hand; and pinned insects cannot metamorphosize. *Iron Council's* own best intentions do not pan out wholly to the good, either, particularly because Judah's shortcomings seem insufficiently developed to critique the novel's re-inscription of the vanishing native trope. As a whole though, the text works to make readers aware of the way the past parasitizes the present, and suggests that *though loss is powerful, the way in which*

¹⁴¹ Interpreting Judah as a motivational lost object further explains Cutter's decision to revive an underground protest publication, the *Runagate Rampant*.

we incorporate it is at least as important. As a work of steampunk fiction, it counters its audience's idealistic tendency to lament the lost possibility of having "complete knowledge" (Onion 151). Stephanie Forlini argues that steampunk offers "unique opportunities to rethink the human, technology, and morality in a 'posthuman' world,"—specifically, opportunities to dismantle social hierarchies founded on the self-interest of the rational liberal humanist subject—*only* so long as it overcomes this desire for complete knowledge and mastery (72-73).¹⁴² Miéville's intervention here emerges as twofold: *Iron Council* performs the harm that can come from the desire for mastery; at the same time, it shows the risks in mourning for not-yet-lost possibilities. If steampunk or neo-Victorianism treat certain values (technological agency in public hands, for example) as lost, encapsulated only within the aesthetic fantasy of anachrony, it may attempt to master the loss rather than engage with such fears in the present. The book not only queers Victorian ideals, but implicates them in displacing posthuman revolution with a fetishized messianic potentiality.

Pre-emptive salvage logic—encapsulating others as parasites hosted by history—extends beyond the turn of the twentieth century and the museumification of vital cultures. Bruce Braun's *The Intemperate Rainforest* argues that mourning the loss of nature founds capitalist modernity. Braun suggests "that mourning is an irreducible element of *being* modern, and that this is tied less to the actual destruction of the premodern than to the sense of *temporality* that defines and

¹⁴² This nostalgic longing overlooks the Victorians' own anxiety about the rise of the expert. For example, the word "scientist" itself did not exist until 1833, when Cambridge mathematician and philosopher of science William Whewell coined the term in defiance of "the fragmentation of intellectual culture as embodied in the rise of botanists, zoologists, and entomologists" (Clark 10).

pervades modernity” (137). He cites Foucault’s observation that modernity is inaugurated just as Western epistemologies begin to privilege the concept of history, reading this as meaning that “to be modern is to be imbued with a historical consciousness; it is to always situate the present in relation to a past that has been displaced and superseded, such that the present is, by definition, constituted through loss” (Braun 137).¹⁴³ Temporal anxiety and a corresponding desire to master the loss of fleeting potentiality from the onslaught of industrial capitalism have been ongoing themes of modernity. *Iron Council’s* steampunk style brings present anxiety about loss (of nature, of possibility, of the future of humanity, etc.) alongside the Victorian obsession with literary and photographic posterity that was rooted in “a need to touch, to possess, and to know both the past and the present [and] that was inflected with a ... sense of absence and loss” (Groth 189). As seen from the turns of two centuries, the melancholia of a fearful, dominant culture emerges in stereoscopic depth, not a historical event but an ongoing material presence. Well-intended people can appropriately direct their political energies against this pre-emptive melancholia: looking beyond our own sense of loss, we can instead consider our debts to those whom we have parasitized. Beyond interrogating the contingency of our powers, we should aim first not to help others, or even to demand teaching, but only to listen to what is asked of us. *Iron Council’s* insistence on the powers of the parasite shows that our own insufficiency—our

¹⁴³ Braun gives ecotourism in Clayoquot Sound, BC as exemplary of a modern practice of mourning nature: subjects of capitalism witness “salvaged” remnants of premodernity to assure themselves of the transcendent destructive power of modernity, that is, its mastery over nature. This critique of course recalls various arguments made by the Frankfurt school that critique modernity as the emergence of an instrumental rationality that alienates people from nature and immediacy.

indebtedness, our wounded-ness, our losses—motivates political change, *and* paralyzes us with fear; it describes an insurgent power that goes nowhere so long as revolution is appropriated or imposed presumptuously from above.

In all three of Miéville's Bas-Lag books, insect metaphors contribute to a project of queering historicism. Collectively the books describe history as a strategy by which the dominant conserve their claim on "resources," forestalling competing claims to those spaces, bodies, and energies. They suggest that by restricting access to spaces of institutionalized history, (archives, laws, educational bodies etc.) to resourcification's beneficiaries, power reifies the resource-perspective: a single reality of an objectified external world. By using insects as abstractions of "otherness," Miéville's texts comment on general structures of power and history, rather than specific instantiations thereof. They frame history as suspect in many ways and means. The arachnoid Weaver and the Slake moths' threatening alterity represents the dangers of aestheticized reality, embodying respectively the capricious amorality of art, and the voracious culture industry deployed to confuse and enervate the masses' attentions. The slake moths are further cathected with long-held fantasies that have been used to limit female mobility and autonomy. The diaspora of the beetle-like khepri foregrounds the intergenerational silences and intercultural misunderstandings that arise circumstances of trauma; through khepri Lin, the acuity of totalizing vision is disputed (as a way of understanding ethnic difference or the operations of capital). Mosquito-human hybrids, the Anophelii exemplify subaltern populations whose voices and agency are excluded from

history, and who come to seem monstrous only from the perspective of those whose power is threatened by their independence. Finally, the two ways in which the stiltspear are represented as insectile give two perspectives on history's Others. Narrated as objectively insectile, the stiltspear embody alterity that is destroyed because it is (or is seen to be) incommensurable with the historical project of capitalism. The subjective understanding of stiltspears as lost objects—from the perspective of history's would-be agents—demonstrates a form of pre-emption that forestalls collective action (such as in saviour/salvage ideologies); the framing of such loss as *parasitical* on history shows that metaphorical constructions of otherness are used to suppress inconvenient voices, ethical claims, and agency. This encryption of others, via limiting descriptors (e.g. "parasite," "vanishing") drains the potent singularity of Others, leaving only an abstract shell of otherness for history to ventriloquize. Victorian steampunk imagery and plot points relating to the expansion of empire associate this critique specifically with colonial expansion, while the weirdness of the trilogy's world encourages readings that apply also to the contemporary period. The multiple perspectives from which loss can be perceived and the ambivalence of parasitism destabilize the single perspective of history: like loss, history is defined by perspective, and the parasite past endures as its remainder and its spectral alternative.

The insect figures of the Bas-Lag trilogy can also be read as elements of neo-Victorian counter-histories that use fictional literary devices (in the way that Hayden White argues Primo Levi's work does) to differentiate "merely truthful" accounts of events from artistic representations which rise above the "truth-reality

distinction,” demonstrating that, as White contends, “the conjuring up of the past requires art as well as information” (“Introduction: Historical Fiction” 149). The series uses insects’ alterity, especially their capacity to represent otherness *per se*, to critique Victorian political, economic, and social norms not only as they appeared in the nineteenth century but also as they have been carried forward into the present moment. The series actively engages the politics of mimicking Victorian aesthetics, treating the period’s implied values as an opportunity for critique. Steampunk scholar Jess Nevins argues that recent steampunk culture has abandoned its “punk” aspects, likening its desertion of politics to the transformation of cyberpunk “from a dystopic critique of multinational capitalism to a fashion statement and literary cliché”; suggesting that neo-Victorian practitioners repress the knowledge that “the attire of empire is never free of meaning, even if we wish it to be” (qtd. in Ferguson 75,77). However, Miéville’s work bears out Christine Ferguson’s counter-claim that “some of the most vocal and vehement critics of the potential ideological significations of steampunk come from within the subculture itself.” (70).

Ferguson argues against dismissing the aesthetic as a nostalgic adoption of “the regalia and style of empire,” suggesting instead that steampunk offers an opportunity to *challenge* “the legacies of Victorian capitalism, sexism, and imperialism” (66). *Steampunk* proper, as a critical genre, may open up the past as a frontier to make the ossified distinction between historical actor and resource plastic once again. At its best the genre models the ways in which history is at least as much a story about the present as the past, and its counter-histories can be tactical modes of resistance that re-signify lives and places hegemonically defined as

mere resource. These alternative perspectives make claims on spaces, energies, and definitions in ways that oppose a schematized, stratified social order. The move to revisit the past (rather than imagine the future) as the space of imaginative work, contests the valorization of newness that drives a throwaway consumer culture; exclusive cultural focus on futurity is implicated in processes of subsumption that treat many human and nonhuman lives in the way that insects are generally regarded: expendable, unknowable, irretrievably alien and yet wholly insignificant.

Conclusion: Insect Insignificance and the Decomposition of Thought

Paying attention to those aspects of life that are minor, disregarded, and unimportant, as well as those things that provoke discomfort, disgust, anxiety, fear or other negative emotions, is a practice of challenging the norms that govern what we are supposed to think and care about. Part of the importance of this work is in building a greater appreciation of overlooked beings, things, ideas, processes etc.: there is pleasure and creative freedom in identifying elements of the world such as insect life that we can relate with in new ways. Becoming more sensitive to the world and its inhabitants is reason enough to undertake this kind of research; however, studying that which is overlooked produces insights over and above what is learned about those research objects.

We can begin to recognize that statements calling insects and other things insignificant or hateful can be performative utterances aimed at bringing realities

into being. The affects of bodies—the abilities they have in relation to others around them—can be suppressed by norms that unevenly distribute attention and care. As Butler has observed, the frames through which we perceive who and what matters have consequences for those lives left out of frame (*Frames of War*). Frames of perception are naturalized, so it can be difficult to perceive them—partly because when they proscribe curiosity about something, they also suppress interest in the reasons for its marginalization. Norms circulate as self-evident views: it is “obvious” that insects are “just bugs,” for example.

When we leave the territory of expected significance, we are freer to recognize that its boundaries are contingent, and inquire into those boundaries’ histories and functions. We can ask why it is that we are not supposed to care about things like insects, and look for oversights caused by our limited perspectives. This is neither to say that our normative beliefs and actions are misguided in every situation, nor that every norm warrants strenuous opposition; it is, however, a claim that norms are shortcuts that impede the acuity of our thoughts and should not go unquestioned, particularly in a world in which colossal inequality and suffering are the status quo. Taking the study of insects as an example, we can see that purportedly meaningless beings can have substantial bearing on things we do already care about, such as the question of what it means to act collectively as humans. The production of insignificance can occlude cognitively and ethically meaningful relationships, impeding their transformative capacities.

Insects are amongst the least-regarded lives on the planet. When we recognize their import, we tend to perceive them as nuisance or raw material, not as

co-creators of the world. Calling something an insect usually dismisses its agential and ethical significance. When we begin to consider the deep, long-standing intimacies between those we call insects and those we call humans, it seems odd that we rarely think of bugs as “companion species,” even given our conflicts with their many species (Haraway). Looking at the way we figure insects provides some insight into their abjection. Insects appear not as others but as otherness: they are associated with transgressions of boundaries, transformations of self, and limitations to knowledge. As “sticky” figures that carry multiple, historically determined associations, they have come to be connected with those things that we place outside of human-ness; and as figures of abjection, they are disturbing reminders of our inability to completely define ourselves. As our interdependence with a host of weird things, processes, and beings has come to greater attention, insect abjection is giving way to greater ambivalence: that which is nonhuman is a threat, but also a need.

Human history, as we have understood it, has not reflected this multispecies interdependence. Instead, history tells the story of a single, exceptional species, in distinction from everything and everyone else (which are collectively known as nature). Because of this human species’ unique qualities (rationality, language, industry etc.), it has been able, for the most part, to master nature (including its own animal nature), transforming it from external obstacle into resource and tool. This narrative has been consolidated and intensified in step with capitalism (and the technologies that have been developed in its service), so that economic subsumption is conflated with human progress. Bringing something into the world of human

progress is also to make it available to the market. Together, progress and capitalism operate according to frontier logic as described by Anna Tsing: as an “imaginative project” of resource-seizure (32). “Resources” are the industrial equivalent to the political concept of “bare life” as developed by Agamben: they are included—via exclusion—in human use. To make something a resource is to frame it as outside of human industry, but also to recognize it as something that is vulnerable to being brought into that sphere. The frontier logic of resource-making is colonial: vulnerable human societies have been framed as less “developed” (i.e. less human, more natural), implicitly defining them as external resource; once they are understood this way, they can be exploited under the guise of humanizing historical progress. The exceptionalism of the “non-animal” human and historical progress have been, in the language of Deleuze and Guattari, “territorializing” narratives that pre-emptively define and limit the nonhuman. As science has given us increasingly detailed knowledge about them, insects have become a frontier for an increasingly immaterial economy. Their role as resource is going beyond the material production of wax, honey, pollination, etc. (which resources have long made the bee a uniquely valued bug); as resources for biomimicry—as sources of genetic, biochemical, mechanical, organizational knowledge, for example—insects are being brought into the market and into the human world.

The modern conceptual separation of nature and culture has been in decline, particularly since the end of the twentieth century, as the planetary scope and scale of human activity became more apparent (which can be seen in the rise of globalization discourse). Current discussions of the Anthropocene explicitly

recognize that the sphere of human influence extends beyond Earth's atmosphere. In this context, the meaning of the nonhuman has become especially urgent and fraught. In one sense, the nonhuman (and our dependence on it) is extremely threatening: changes in the nonhuman world—the unrecognized “background” of history—now threaten human life as we know it. Changes in the planet's climate, biosphere, biogeochemical flows, and land systems highlight human dependence and vulnerability (Steffen et al., “Planetary”). These aspects of the nonhuman world, with which we are intimately co-responsive but cannot wholly control, seem “out of control” in terrifying ways. At the same time, what used to be called nature continues to be an object of intense desire. Acquiring knowledge of and control over the nonhuman world is the way we change our affects—and the pervasive sense of threat makes us extremely desirous of change (if only change on our terms).

“Nature” is disappearing and extremely valuable, even as the complex unpredictability of the nonhuman world menaces: “nature” is the nonhuman world as resource: available for human understanding, territorialization, and control (perhaps akin to earth that is disclosed to produce the world, as Heidegger would have it); the nonhuman, by way of contrast, is not so pliable (“Age”). Insects straddle this divide: as natural resource, they bear desirable and necessary otherness; but as resolute nonhumans, they evince the limits of what humans can know and control and bear ominous difference.

This dissertation engages with the interface between nature and nonhuman as it runs through the body of the insect. That I treat insects as nature, i.e. as immaterial resource, is apparent: I have argued that their difference can be

instrumentalized to transform human thought. As an analysis of insect *figuration*, this study proposes that we look for new uses for the tools we have already made of insect affects; it aims for de-and-reterritorializations of insects. I also argue that insect figures are especially potent because they can stand in, in our imaginations, for that which is intractably nonhuman. The texts I have discussed use insect figures to approach the edge of our world and gesture beyond it. In reminding us what Derrida calls the undecideable, the insect figures the non-representable *arrivant* who is always-to-come. In so doing, it can incline us to a messianic openness to the unknown and unexpected others history cannot account for.

The narratives of history assimilate time without otherness—without many beings and their worlds, without other possible pasts and futures, and without consciousness of the fact that there are other ways of “doing” time.¹⁴⁴ Time is normative—its bindings secure group identification, and can chafe against anyone who does not fit them (Fabian; Freeman; Helgesson; Herzfeld; Lewis and Wiegert; Luciano; Mbembe; Moxley and Karlholm; van Den Scott; Zerubavel). I have explained in Chapter 1 how dominant modern temporalities—clock and calendar time and historical time—are interrelated and similarly tyrannical: they create empty, standardized and standardizing time in which people are isolated and abstracted (as workers, members of nations, or humans, for example) so that they can be compared against one another in order to maximize production and

¹⁴⁴ While I use the phrase “doing’ time” to indicate that we do not only think about or experience time, but also act in and through our temporal modes, the meaning of the phrase “doing time” to refer to imprisonment is not unwelcome. We are constrained by the limited temporalities available to us; those of “free” people are not identical with those of people who are serving prison sentences.

consumption (Anderson; Benjamin; Giddens; Habermas; Koselleck; Lukaács; T. Martin; Mumford; Ogle; Thompson). They operate through a teleological fantasy of human mastery and freedom, which are qualities that—for all but the most privileged—they steal from the present to promise in the future. Recent developments have only intensified the alienating, extractive logics of capitalist temporality (Bauman; Beck; W. Brown; Crary; Hassan; Virilio). Modern temporal ideologies also impede our ability to perceive and engage with the world in the age of ecological crisis known as the Anthropocene (B. Adams; Baucom; Chakrabarty; Colebrook; Haraway; Heise; Klein; Nixon; Povinelli). This means that the postmodern work of temporal and historiographical critique needs to be continued (Baudrillard; Harvey; Hutcheon; Derrida; Eagleton; Lyotard; Jameson; White). In cultural texts that carry out this critical work, insect figures can reintroduce otherness to history, decentring temporal norms and narratives.

Insects in public reporting, and postmodern literature, film, and art show that we desire insects' otherness, which we sometimes imagine as potent and mysterious temporal affects; but our feelings about insects are ambivalent, because we also feel discomfort or even horror at the human limitations that it reveals. Chapter 2 offers examples of insects' temporally estranging effects. Reports on the emergence of periodic cicadas remind readers that as embodied, aging beings, we are vulnerable to time—but technoscience still holds out the promise of increasing our control over it. Beetles in Abe's *The Woman in the Dunes* suggest that historical ideas of progress and posterity—served by a taxonomizing imperative—are futile; but entering nonhuman time would be an uncomfortable, bizarre experience. Abe's

The Ark Sakura uses a Dadaist insect figure to express disgust with ideas of progress and standardization that have led to unsustainable relationships with the nonhuman world, including the invention of the atomic bomb. It shows that real sustainability would be perceived as disgusting, because that would involve consuming what has already been consumed, which is at odds with our ideas about progress. It also suggests that the negative consequences of human progress are incompatible with eschatological time: religious faith is undercut by ongoing and threatened environmental devastation. Insects in Michael Please's *The Eagleman Stag* are used to think about the diminishing marginal utility of time. Please shows that memory and the capitalist institutionalization of knowledge reduce our experience of wonder (and are bad for science), and presents the idea of a coherent consistent self as an illusion; but his insect figures also suggest that memory and collective knowledge construct the world that many people feel comfortable and safe living in. *Eagleman* shows that identity depends on individual and collective memory, which are co-constitutive with representation; however; it expresses unresolved unease about the way memory's representations can incorporate only a limited part of the experience they come to stand in for.

The Hellstrom Chronicle's many species of insects are used to undermine human exceptionalism by figuring an instinct-driven technological superiority based on deep evolutionary time. *Hellstrom's* insects pre-empt disavowal of anthropogenic ecological damage, and create an image of (what would later come to be called) the Anthropocene, allowing viewers to imagine how futile human progress might look to an outsider, after the destruction of the species and the archive. A final example,

Klaus Enrique's paired *Darth Vader* portraits, pairs insect forms with allusions to famous sixteenth- and late twentieth-century artworks to complicate the relationship between immediate perception and historical and fictional representation. These photographs incorporate insects as part of an exploration of perspective, time, and death. The texts discussed in the second chapter give a varied if incomplete picture of how insect figurations can reopen time as a matter of concern (Latour *Politics*). They help us to imaginatively work through changeability and difference, performing our anxieties about our vulnerability to them and our fantasies of achieving control over them.

In entomological neo-Victorian and steampunk art, the same temporal decentring is applied to help reopen the 19th century as a nexus for our contemporary alienation from authenticity, nature, and the "life" cycle—construction to destruction—of technological devices and other manufactured things. Chapter 2 looks at how these texts undermine historical certitude by foregrounding mediation and representation while also evoking the limits to human understanding. Neo-Victorian bugs are not just the repetition of a motif, but insects *were* prominent in the Victorian imagination, where they were connected to changes that continue to impact us. They were deployed in self-improvement rhetoric, and helped Victorians imaginatively respond to changes in race, gender, and technology (Kohlt). Insects were associated with the urbanization of society and the resourcification of rural spaces; the naturalization of new forms of governance; and the accumulation of wealth through extractive capitalism and the rise of consumerism (Clark). They circulated as signs of the exotic knowledge and wealth

to be gained from imperial colonialism (Sleigh). Reading Victorian texts for beetles reveals the exclusions that allowed Victorians to present increasingly disciplined and institutionalized knowledge production as rational and dispassionate; it also begins to reveal the extent of the trauma produced by theories of evolution (C. Schmitt). Neo-Victorian art borrows the Victorian entomological epistemological tool and turns it to historiographical critique.

Neo-Victorianism elides modernism, engages the Victorian and postmodern pasts, and, in the case of steampunk, implicitly connects them to the future or an alternate present. Insects heighten this genre's provocation of viewers: they help to produce an uncanny anachrony that calls history's purported inevitability and desirability into question. This can be seen in the opening credits of the television show *Penny Dreadful*, both in the official scenes, and in an alternate opening that was produced but not used. These sequences suggest that we associate insects with Victorian change and trauma: the clash of science and religion; the scientific rejection of bodily sanctity and its newly acquired abilities to intervene in the body; ideas about class and gender changing; the production of public spectacle and illusion; the transformative effects of colonialism. The second, unused credits, which were produced for a more horror-inflected program, figure insects to signify the Victorian era as a time when norms of class, classical associations, fragile femininity, whiteness, and ideals of accumulation were traumatically violated by blackness, disorientation, nature, and time/change. In contrast to the *Penny Dreadful* credits, Jennifer Angus' installations nostalgically displace responsibility for irresponsible accumulation and ecological degradation into the Victorian era, which can discharge

that guilt insofar as it is figured as a time of appreciative childlike innocence. Angus's insect interiors recreate idealized nineteenth century spaces in order to allow audiences to re-inhabit a space in which nature's wonder, wealth, and mystery can be restored. Insects in Juliette Bates' *memento mori* photographs and in several artists' taxonomizing artworks achieve a similar restoration of mystery and natural wealth, albeit in a more sombre emotional register in the former, and a more whimsical one in the latter. A number of artists who integrate insect figures into textiles and fine china that mimic Victorian aesthetics use bugs to question (presumed) nineteenth century assumptions about gender and class that inhere in such objects.

Finally, the creation of a surprising number of steampunk insects—especially in the form of organic insects that are made to appear mechanical with the addition of gears and other clockwork parts, and insects that resemble natural forms but are composed wholly of mechanical and manufactured objects—revel in juxtaposing time periods. These works, which frequently integrate antique timepieces, create varied fantasies of technologies that are not in conflict with biological life, neither human nor nonhuman. These objects help us to imagine technology as crafts in which labour retained its value: lively pieces that could be built, used, repaired, valued, and disassembled, rather than inaccessible, disposable commodities that are manufactured in distant, automated assembly lines, briefly used by disempowered consumers, discarded in an instant, and linger as waste longer than we can even imagine. Insects in neo-Victorian and steampunk art can facilitate an aesthetic and philosophical resistance to the traumas of modern, alienating, wasteful capitalist

norms, but the mode of that resistance can vary greatly. The texts I have examined show that artists fetishistically repeat those traumas, fantasize their non-existence, and confront them in critique—and sometimes can be read as doing all of these at once.

Insect figures can help texts critique history, including values that draw strength from their association with it, by hyperbolizing the distance between the reader's everyday world and the fictional one. In China Miéville's trilogy of steampunk novels—*Perdido Street Station*, *The Scar*, and *Iron Council*—insects stand in for various kinds of otherness. In some instances this emphasizes the strange frightening aspects of characters without attaching these affects to specific identities. In other cases, the elimination of precise human identifiers makes figures more broadly available for identification, empathy, or sympathy—while also making the abjection of these figures more emotionally immediate for readers. The estranging effect of insects limits the degree to which readers can read implicit acceptance of (what are commonly supposed to be) Victorian values in Miéville's repetition of Victorian signifiers. In *Perdido Street Station*, abject insects short-circuit tropes of monstrosity by parodying them. Specifically, the text reproduces spectacular images of monstrous rapists in order to undercut their misogynist implications for its discussion of the meaning(s) of rape. Miéville's ambivalent insects figure the ethical indeterminacy and uncontrollable effects of art in *Perdido*, while sympathetic insect figures facilitate solidarity-building comparisons between different populations' experiences of racism, inherited trauma, and diaspora.

While insects are not so omnipresent in *The Scar*, the second book in the sequence includes a discussion of a once-powerful empire of anthropomorphic mosquitoes who have been reduced to a small, subjugated island population. These beings, the Anophelli, are used to reflect on how the colonial imaginary frames colonized societies as threateningly other (including explaining *effects* of colonization as evidence for this pathological alterity) as part of the ideological strategies by which colonizers extract, for their own use, the resources required the maintenance and reproduction of these societies as independent economies.

In *The Iron Council*, Miéville uses insects' associations as part of a subtle and complex critique of the frontier-making operations of colonialism. With his creation of the insect-like stiltspear species, who have a magical control over time, and who stand in the book for populations displaced and devastated by colonial expansion, Miéville risks reifying tropes of magical indigeneity. Without dismissing the significance of that possibility, we can also appreciate how their non-industrial affects are imagined as elements of precious, irreplaceable difference that instils ethical obligation in those who witness its loss.¹⁴⁵ The stiltspear also allow for the development, in fiction, of a theory of the pre-emptive and retroactive composition of historical progress narratives. Pre-emptive melancholia, in particular, is shown as a mechanism through which participants in frontier making projects can disavow their responsibility for the violence of which they are part: by framing events as inevitable, virtually completed, in advance of their occurrence, the meaning of a time

¹⁴⁵ The phrase “non-industrial” is meant as an alternative to “pre-industrial,” which phrase allochronistically accepts industrialization as an inevitable stage of progress, and positions exceptions to it as retrograde.

is created by way of reference to its future historical uses—a performative utterance that seeks to speak blamelessness into being. That is, pre-emptive melancholics inhabit the illusory, incomplete view of history-to-come, identifying with its partial perspective as if plausible deniability in history supersedes ethical obligation in the moment. *Iron Council* also uses the imagery of the insect parasite to figure the strange otherness of ethical obligation when it is internalized but not incorporated. Bearing witness imposes unasked-for burdens that are not easily borne; though invisible, their persistence can have positive or negative affects, depending on how the witness chooses to respond to their parasite. *Iron Council*, like *Perdido Street Station* and *The Scar*, plays on the sticky associations of insects to intensify contrast between self and other, the familiar and the strange. Insect figuration also detaches these concepts from their everyday objects, denaturalizing assumptions about the known and the unknown in historical narratives and the meanings we make of them.

Insects are by no means the only figures that can expose the limitations of everyday perspectives. Animal studies, thing theory, and posthumanism in the humanities are based on recognizing and remediating anthropocentrism's deleterious effects. This is partly a project of recognizing that anthropocentrism is not one thing, but an interlocking set of stories, beliefs, feelings, structures and relationships that are woven through our world. Trying to trace even a small part of these leads in short order to questioning fundamental assumptions about the world—which doesn't make it any less necessary. As nonhuman studies increasingly consider less familiar

and/or less-charismatic lives—specific insects, “pest” species like rats, the still-largely-unknown multitudes of underwater lives, plants of all kinds, fungi and lives from other kingdoms, and a multitude of other live, quasi-live, and lively beings and processes—the difference, changeability, and interdependency in which we are (and have always been) immersed become ever more apparent.

We can hope that the notions based on human exception and nature’s exteriority— notions such as “resources” and “external costs”—become less available to us as means by which to rationalize the extravagant wasteful violence that is committed in the name of “human progress” and realized in wealth for the few. It would be naively utopian—or optimistically progress-minded—to *expect* that multispecies awareness, or any other change, will bring about this amelioration. Believing that there cannot be better lives for more beings, though, is equally stultifying. Working to stay attentive to our ongoing relations, and helping one another to do so, is part of the practice of “staying with the trouble” for which Haraway advocates.

I don’t believe that effectively “staying” is as simple as acting in the here and now, as opposed to elsewhere in the past or future: studies of temporal norms and alternatives leave me dissatisfied with this clear ternary temporal schema. Looking for ways to intervene in the past and the future—and searching out and using other temporal frames—continues to be an important area of investigation, as is insects’ capacity to estrange us from our assumptions about space and scale. While this dissertation has focused on insect time and historical critique, the more obvious area of study would have been on insect time as it relates to futurity, in science

fiction and other imaginaries; this compelling work remains unfinished.

Additionally, other scholars have studied insectoid aliens and insects' relationship to the figuration of extra-terrestrial life, but we have just begun to think about the consequences of the idea that only outer space or supernatural realms are truly external to humanity. Like animals, aliens and monsters figure otherness in interesting ways that we too rarely take seriously.

Ambivalence and abjection, defining aspects of insect figuration, are key terms for thought in the Anthropocene. Relating to others not in terms of friend/foe or good/bad, but as context-specific constellations of affects is extremely difficult and also necessary. Reliance on binaries in our thoughts and emotions is only easy in the short term, as these shortcuts impede our capacity to think and act in the times of slow violence or hyperobjects (Nixon; Morton). Complicated revisions of celebratory and pejorative ideas—such as the phenomenon of marginalized communities re-signifying dehumanizing animal and insect labels that have been applied to them—show us changes in the way we are thinking about each other and the world. Whereas ambivalence suggests recognition of complexity, abjection implies its frustrated rejection. Though we are disinclined to even think about those situations that we neither can successfully reject nor properly integrate, and from which we cannot extricate ourselves (a description that increasingly describes aspects life on earth) these entanglements require our attention, even if we have no expectation of a resolution. These complicated situations and relationships are not neatly reduced by our conceptual apparatus, and perhaps help us see its limitations.

Researching “unimportant” matters when there are so many urgent needs in the world might seem self-indulgent: a practice more appropriate to a world unaware of mass extinction, climate change, or its reliance on dwindling fossil fuels; or the horrifically uneven distribution of wealth and freedom amongst the living. We might not be so afraid, though, to tarry with the insignificant. We may learn something new, or find that we confirm many or most of our preconceptions. In the latter case, it would be easy to say that the research has failed: we are always meant to be producing something new, and those things that remain consistent are not considered valuable. Even when no transformative revelations emerge, *taking* time to think is not a “waste” of time—partly because this reproduces a task-oriented view of time designed to extract as much from us as possible, and partly because it exposes and counters the way standards of relevance and urgency discipline thought. Becoming sensitive to the impediments to our affects, intellectual and otherwise, is not a useless practice.

When I have first told people that I study insects through a cultural lens, far more often than not I am met with perplexity and varied amounts of scepticism and antagonism, especially when I include the temporal aspects of my research. Science and technology, or *perhaps* art, are the accepted ways of integrating insect affects into human life, but we do not generally value insects as intellectual resources. However, when my conversational partner and I have both had the time and energy to go beyond the most superficial discussion, I almost invariably find that even people who profess to hate insects have complicated and impassioned thoughts and feelings about them, and will often contact me later to share some insect

representation they find interesting and significant. Similarly, questioning time initially appears to most people as an esoteric, insular, and perhaps self-indulgent thing for a non-scientist to study—until they begin to reflect on the way time rules our everyday lives and affects the values we hold.

There comes a point in these conversations in which, having conceded that there may be something of interest in thinking about insects, people tend to decide that these matters are rather too complicated to keep thinking about: neither bugs nor time are objects of study that lead to easily accessible insights; however, I have found that over time, insects and temporal frames end up being too complicated for people *not* to keep thinking about. Of course I speak only from the personal experience of someone who has taken a long-lasting interest in bugs, but from what I have seen, insects and their odd temporalities get under people's skin. They infest thought. They appear unexpectedly, in unexpected places. I have witnessed this tendency at work over time, in many people. Insects cause surprising insights to pop up, and provoke itchy questions. They unsettle assumptions, and suggest that the world is still strange and unknown. Sometimes that awareness is too uncomfortable, and we suppress it. Other times, these thoughts don't fit the "big picture" we have of the world, and so they flutter out of mind.

Considering how insects are absent from or misrepresented by that big picture can lead us to look for other things that it leaves out or distorts. We may then ask why the picture looks the way it does, and to whose benefit. Importantly, we are reminded that much of the world is left out of frame. Rather than adding to our knowledge, one of the most important things insect figures can do for us is eat

away at it. In thought, as in life, that which is no longer vital needs to be pruned away and disintegrated for the benefit of intellectual new growth. Without material and conceptual deconstruction, digested and dead matter can overwhelm and poison us. Though we might find it unnerving, we depend on others who nourish us—and also those others who decompose us.

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