

THE CULTURAL LIFE OF EXTINCTION

THE CULTURAL LIFE OF EXTINCTION IN POST-DARWINIAN PRINT CULTURE

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Requirements for the Degree Doctor of Philosophy

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LAY ABSTRACT

This study examines how Victorians absorbed and communicated ideas about extinction, especially as informed by evolutionary theory. Throughout Victorian newspapers, journals, and literature, extinction was adopted for disparate uses. A culturally, economically, and philosophically muddled topic, extinction provoked reconsiderations of the natural world and humankind's place within it. I begin by examining advertisements, articles, and illustrations from popular newsprint and periodical sources that communicated fears about the extinction of common animals and concerns about controlling or maintaining bird and game populations in everyday Victorian life. When I turn my attention to my literary case studies, H.G. Wells's *The Time Machine* and M.P. Shiel's *The Purple Cloud*, I analyze the period's preoccupation with the human's future forms, looking at both posthuman evolutionary outcomes and the experience of becoming-nonhuman itself. Significantly, this project recovers underappreciated Victorians and texts, filling important gaps in Victorian periodical studies and animal studies.

ABSTRACT

This thesis is an interdisciplinary study that traces colloquial engagements with extinction in Victorian print culture (1859-1901). Extinction's broad cultural life demonstrates the extent that scientific and cultural topics intricately entangled within Victorian print networks. Non-specialist Britons absorbed and transmitted evolutionary (particularly, Darwinian) knowledges within public discursive spaces instead of exclusively institutional settings. Class stratification did not bar non-specialists from absorbing and perpetuating cultural conversations about collapses, conservationism, and overconsumption. My project thus seeks to amend the critical discourse that assumes that Victorians passively accepted impending catastrophes or paid scant attention to extinction pressures. I recover multiple subjects formerly hidden in the vast Victorian archives: obscure non-specialists of the working and middle classes, obscurer animals cohabiting the Victorian's everyday spaces, and the popular (and in some cases, underappreciated) literary texts demonstrating how Victorians circulated extinction discourses. Chapters One and Two explore the non-literary side of print culture, recovering widely disseminated but now largely unknown periodical artifacts (the domain of *Punch*, *The Times*, or *Funny Folks*). Chapter One focuses on cultural reactions to collapses of England's domestic birds. Chapter Two traces the economized conservationism of the Brooke Brothers, popular game and meat traders. In both chapters, I determine how *experienced evolutionary knowledges* revealed the human-caused tenuousness of a trans-species milieu. Chapters Three and Four concentrate on scientific romances originally serialized in periodicals, including my key literary case studies, H.G. Wells's *The Time*

Machine (1895) and M.P. Shiel's *The Purple Cloud* (1901). Musing on extinction led to a mindset that acknowledged entanglement with nonhuman others as an ethical imperative. However, some case studies demonstrate a profound ambivalence toward the human's self-extinction, resulting in a complicated engagement with future forms that often re-privileges the human from within a radical ontology.

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LIST OF ABBREVIATIONS

- (a) Foot and Mouth Disease (FMD)
- (b) Royal Society for the Prevention of Cruelty to Animals (RSPCA)

DECLARATION OF ACADEMIC ACHIEVEMENT

This thesis is submitted to the School of Graduate Studies in partial fulfilment of the requirements for the degree Doctor of Philosophy.

Introduction

Illuminating the Evolutionary Imaginary: Extinction, Nonhumans, and the Ecological Consciousness

“. . . [T]he fauna of England shall have been reduced to the rat, the field mouse, and the squirrel. . .”—“Extinction of the British Fauna,” *The Northern Echo*, 13 Feb. 1885

“If you come to think, there is no reason why a degenerate humanity should not come at last to differentiate into as many species as the descendants of the mud fish who fathered all the land vertebrates.”—H.G. Wells, *The Time Machine*, published in *New Review*, 1895 (126)

“Extinction was a Victorian idea.”—Henry Cowles, “A Victorian extinction: Alfred Newton and the evolution of animal protection,” 2012 (695)

Of the many provocative topics in Charles Darwin’s *On the Origin of Species* (1859), one which still elicits attention in this contemporary period of ecological precarity is the extinction of familiar animals (Kolbert 2014; Sodikoff 2012). However, a thorough historicizing of how the topic of extinction was taken up by non-specialists and permeated Victorian print culture has yet to be undertaken. Thus, this thesis traces colloquial and literary engagements with extinction in post-Darwinian print culture (1859-1901) that reveal instances of, and more often fears about, everyday extinctions as informed by evolutionary thinking. From editorials bemoaning species collapses in England’s provincial regions, to serial fiction projecting humankind’s depletion in imagined posthuman futurities, period conversations about extinction anxieties or “exterminating forces” transformed attitudes about escalating overconsumption patterns and overturned progressivist expectations for the durability of *Homo sapiens* (“Extinction

of the British”).¹ I seek to reinterpret the role that Victorian popular culture and literature played in producing evolutionary and proto-ecological knowledges for the non-specialist public, by combining insights from periodical studies, literary and cultural studies, and history of science, together with contemporary philosophizing about becomingness and posthumanism that help to illuminate Victorian evolutionary knowledges.² An expanding and diversifying print market flooded with reports and narratives about collapses across England, making extinction an interclass and broadly contemplated period topic in the post-*Origin* cultural landscape.

This study is conceptually halved, showing extinction’s cultural uptake first in non-literary and then in literary ways. Chapters One and Two explore the non-literary side of Victorian print culture, recovering periodical and newspaper artifacts (the realm of *Punch*, *The Times*, or *Funny Folks*) that profoundly impacted non-specialist understandings of species collapses and the anti-anthropocentric nature of evolutionary dynamism. In many cases, I concentrate on the widely disseminated but now largely unknown documents that reveal the extent to which extinction anxieties proliferated within print culture. Chapters Three and Four concentrate on scientific romances originally serialized in periodicals (the domain of *The New Review* and *The Royal*

¹ Darwin expresses the prevalence of extinction discourses within a materialist worldview, noting, “Although extremely few of the most ancient species may now have living and modified descendants, at the most remote geological period, the earth may have been as well peopled with many species of many genera, families, orders, and classes, as at the present day” (*Origin* 104).

² Evolutionary knowledges existed, as Gowan Dawson (2007) remarks, within “a milieu of perpetually disputed boundaries (7). Bernard Lightman (2007) expands on periodical culture’s role in cultivating these non-specialist knowledges: “From the point of view of the periodical reader, scientific subjects were ‘omnipresent,’ so much so that some scholars have argued that general periodicals played a far greater role than books in molding the public understanding of new scientific discoveries, theories, and practices” (16-17).

Magazine), such as this project’s key literary case studies, H.G. Wells’s *The Time Machine* (1895) and M.P. Shiel’s *The Purple Cloud* (1901).

Collectively, my case studies demonstrate not only the prevalence of evolutionary discourses and ecological ideas across interclass cultural strata, but also the period’s deep ambivalence regarding extinction. At once anxious and hopeful, Victorians bemoaned (potential) losses and speculated about prospective recovery periods in the shared spaces of a post-extinction world. In my non-literary chapters, I determine how *experienced evolutionary knowledges* revealed the human-caused tenuousness of a trans-species milieu. In the second, literary section of the dissertation, I establish how the representable *experience of becoming* amplifies materialist visions of the human’s alternate ontological fit with the earth.³ Before homing in on extended close readings, I begin broadly, establishing the ubiquity of extinction discourses in everyday life by looking to particular case studies.⁴ Musing on extinction led, inevitably, to thinking about the human’s future forms—and viability.⁵ If, as Val Plumwood (1995) notes, “The idea of human prey threatens the dualistic vision of human mastery in which we humans manipulate nature from outside, as predators but never prey,” then I pursue those ideas and events that create impressions of the human as expendable or precarious (35).

³ This project was inspired by an excised passage from *The Time Machine*—it is featured as one of this chapter’s epigraphs. Wells does not foresee a return to an originary form as degeneration rhetoric suggests. Instead, he imagines our evolutionary trajectory as inherently divergent.

⁴ Ben Highmore (2002) explains the foci of everyday life that I appropriate for this project: “The attention to the details of everyday life (a form of sociological microscopy) means that the experiential, instead of being located in great events, is extended to the non-event-ness of the everyday.”

⁵ I am reminded about Elizabeth Grosz’s (2011) claim to the fragility of the human as categorical or cultural construction: “The animal is that from which the human tentatively and precariously emerges; the animal is that inhuman decantation to which the human always tends. The animal surrounds the human at both ends: it is the origin and the end of humanity” (*Becoming* 12).

These case studies are not intended to chart the exact conditions for an ecological consciousness to develop from extinction anxieties. Nor are they indicative of a coherent response to extinction. The non-specialist development of the topic was rife with conceptual contradictions and incompatibilities because of its repurposed and re-appropriated public uses; non-specialists found uses for extinction discourses including culling stratagems, protectionist initiatives, and marketplace takeovers. Moreover, not all of my examined wildlife became extinct; instead of exclusively tabulating vanished species, I primarily engage with anxieties about threatened fauna. These anxieties regarding the longevity of domestic wildlife sharpened Victorians' eco-minded insights into evolutionary dynamics and population pressures in proximate, familiar spaces. I concentrate on the erosion of England's zoological integrity to breaking points that caused non-specialists to take notice (and action) and popular writers to project the consequences of their society's contemporaneous actions, bringing into visibility formerly out-of-sight violences, disruptions, and catastrophes. As an understudied topic in Victorian studies that offers historical lessons in our own age of accelerated species loss, cultural responses to extinction demand further critical attention. What bearing did Victorian evolutionary knowledges have on extinction awareness and eco-centric thinking? What *experienceable* insights about kinship, primarily involving belongingness and interrelation, did these knowledges illuminate in everyday Victorian life? How did evolutionary knowledges and everyday responses to extinction anxieties co-constitute each other? Why did the topic of self-extinction in literary works encourage reimaginings of the human?

The increasing awareness of species collapses—and the human’s own insecurity in the natural world—gave rise to a prototypical ecological consciousness modeled in part on the principles of the biological sciences. These ideas included matters of interdependency, mutualism, and struggle, all of which influenced period preoccupations with extinction discourses. As Darwin emphasizes, “the mutual relations of all the beings which live around us” involve competition and relationality, an emphasis Social Darwinism largely overlooks (*Origin* 6). I initially examine animal/human relations, but I pan outward beyond Darwinism to broader human/nonhuman relations in the second half of this thesis, taking into account the relatability of animate and inanimate subjects. Period understandings of an all-encompassing materiality directed attention to embodiedness (and embeddedness) within one’s material conditions. This developing openness to expansive relations signaled a cultural shift in how Victorians thought about kinship with nonhuman others. The gradual, though decidedly unsteady, acceptance of the human-as-animal made zoological concerns into trans-species concerns, prompting cultural critiques of the era’s exterminating forces. Due to the nature of this topic, I deploy eco-critical readings that reveal deep-rooted cultural preoccupations with England’s ecological vitalities.⁶ I share with Cheryll Glotfelty (1996) the understanding “that human culture is connected to the physical world, affecting it and affected by it,”

⁶ Musing on Mary Shelley’s end-world visions in particular, McKusick describes “the conceptual core of modern ecological thought,” asking, “Does humankind possess the power to alter the Earth beyond recognition, to make it the ‘tomb’ of our dreams and desires?” He answers: “Only at the dawn of the Industrial Revolution, at the threshold of an unprecedented increase in Britain’s coal-fired production capacity, did such thoughts become thinkable. As the manufacturing cities of England disappeared into a thick haze of photochemical smog, it became possible to imagine that human activity might alter the climate and eventually destroy the Earth’s ability to sustain life” (109).

and that, “as a theoretical discourse, [an eco-critical approach] negotiates between the human and the nonhuman” (xix). During the post-*Origin* period, when a Darwinian materialism gelled with a still-present Romantic receptivity to the natural world, colloquial identifications with a broadened kinship synergized and strengthened.⁷

By examining the uses—and misuses, according to some concerned parties—of extinction as the topic took on a broad cultural life, we can appreciate the extent to which scientific and cultural topics intricately entangled within Victorian print networks.⁸ As part of the “ever-branching ramifications” that *Origin*’s publication and subsequent public uptake caused, extinction resonated well beyond Darwin’s profession, infiltrating all manners of public opinion (107).⁹ I draw Darwin into my readings as my primary

⁷ This deep cultural engagement with material existence certainly preceded and exceeded *Origin* in England; early ecological thinking had a deeper and wider impact than what I can present in this study. For more on eco-feminist approaches that pre-date the nineteenth century, see Syliva Bowerbank’s *Speaking for Nature: Women and Ecologies of Early Modern England* (2004). Some scholars have already documented the preoccupations with material conditions during the long eighteenth century. James C. McKusick (2010) traces through Romantic texts how the natural world was pictured as “a locus of imaginative energy and [. . .] a potent source of intellectual ideas.” Romantics revealed issues dear to ecological outlooks; “namely, the adaptation of species to their habitats, the interrelatedness of all life forms, and the potentially catastrophic effects of human intervention in natural systems” (28). Also, Andrew Smith and William Hughes (2013) have outlined how Gothic themes draw attention to nature’s reconstitution “as a space of crisis which conceptually creates a point of contact with the ecological” (3). Victorianists highlight the eco-critical considerations often posed in relation to Victorian consumption patterns. Allen MacDuffie’s (2014) inquiry into Victorian imaginings of mineral resources builds from Thomas Robert Malthus’s (1798) influential ideas on population dynamics, pointing out thermodynamic and entropic themata as corollaries of ecological thinking. For more on the role of women in developing materialist discourses during the period, see Barbara Gates’s *Kindred Nature: Victorian and Edwardian Women Embrace the Living World* (1998).

⁸ Carsten Meiner and Kristin Veel (2012) discuss the possible range of reactions to extinction as a broad cultural topic: “Both the immediate chaotic experience of the catastrophic event and the calm and composed retrospective comprehension thereof draw on our collective reservoir of cultural forms and patterns of understanding. It is in this way that one can talk about catastrophes and crises having a *cultural life* . . .” (3).

⁹ Although I reference Darwin’s other major works in this project—*The Descent of Man* (1871) and *The Expression of the Emotions in Man and Animals* (1872)—I primarily focus on *Origin* because of its value as an instructive text. *Origin* delineates a materialist (and speculative) worldview that allows for the comprehension of evolutionary dynamism. Incrementally, it taught, and still teaches, readers to accept the available evidence of evolution. *Origin*’s status as a interclass literary and scientific phenomenon also makes its reflections on the natural world more culturally pervasive.

specialist, but I am most interested in how ordinary Britons absorbed and transmitted evolutionary knowledges within a public rather than an institutional setting, and how these non-specialists contributed to the discursive production of the human-as-animal, itself a cultural construction informed by entangled (and often contradictory) discourses.

So, I align my work with recent studies (Cantor et al. 2004; Tattersdill 2016; Shattock et al. 2017) that analyze “the creation of non-specialist forms of scientific discourse” in periodical culture (Dawson et al. 2). Especially in my non-literary cases, I assess how non-specialist observations of extinction surfaced from (and operated within) a consumerist culture that both harboured and constricted ecological thinking. Many of my non-literary subjects actively worked against dominant consumption practices while being utterly entrenched within them. Their engagements in print focalized rural as much as urban distresses (Shattock 2). Thus, I recover multiple subjects formerly hidden in the vast Victorian archives: the obscure non-specialists of the Victorian working and middle classes (like mongers, hawkers, journalists) who witnessed or provided commentaries on species collapses; the obscurer nonhuman subjects (like woodcocks, egrets, hares) coinhabiting the everyday spaces of their human observers; as well as the popular (and in Shiel’s case, underappreciated) literary texts demonstrating how Victorians circulated ideas about collapses. History of Science’s recent focusing on underappreciated individuals and local sites as opposed to elite figures or homogenizing trends (Secord 2000; Lightman 2007; Cowles 2012) also offers lessons on looking past exclusive communities of specialists or professionals.

My focus extends *and* complicates what counted as knowledge and who

contributed to knowledge production during the period. Collectively, my case studies prove, firstly, that non-specialists participated in and, indeed, drove cultural debates about evolution and extinction, and secondly, that periodicals played a significant role in spreading extinction anxieties and moulding evolutionary ideas. Shaped by the interpretive approaches of New Historicism, I see my investigation as “skeptical, wary, demystifying, critical, and even adversarial” to standardizations of nineteenth-century cultural experiences (Gallagher and Greenblatt 9). By opening up my scholarly outlook to non-specialists who often inhabited the lower or middle classes but nonetheless grappled with topics like extinction, I supplement existing work on the relationships between class and intellectualism (Cannadine 1999; Rose 2002).¹⁰

Societal stratification did not bar non-specialists who absorbed (and perpetuated) cultural conversations about extinction, conservationism, or overconsumption. My project thus seeks to amend the critical discourse that assumes that Victorians passively accepted extinction events or paid little attention to impending catastrophes. For instance, Richard D. Altick (1960) argues that some Victorian poets showed “no shadow of physical dread” after Krakatoa’s 1883 eruption (260), and Bert Bender (2011) postulates that by 1910, extinction threats “were of little interest or merely unforeseeable” (109). More significantly, I deviate from Patrick Brantlinger’s (2003) work on Victorian extinction discourses. He writes of a proleptic type of mourning that concedes losses of life before such demises can be empirically verified (3). By contrast, my research uncovers multiple

¹⁰ David Cannadine (1999) discusses a trend in nineteenth-century scholarship that critiques flawed “master narratives” for being “too teleological, too anachronistic, . . . too reductionist, too masculinist, too all-encompassing, too over-determined, [or] too simplistic” (12).

instances of resistance to collapses in an England experiencing rampant industrialization and modernization, although the motivations for protectionism ranged from empathetic to selfish ones. While appreciative of Brantlinger's theorization concerning colonizers' responses to indigenous peoples of colonized regions, I find that a proleptic elegiac stance is not totally applicable to England's zoological subjects. Few communities were unaware of the zoological changes transpiring across England (Winter 8).

Even though post-Darwinians incorporated proto-conservationist or protectionist rhetoric into their everyday conversations, they were torn between preserving or profiting from species in decline. In many ways, our current conservationist initiatives resemble those of the Victorians, including their recurrent failures of vision and practice. They learned to perceive entanglement with nonhuman others, but not before sustaining widespread collapses. They developed methods for speculating about evolutionary pasts and futures, all the while encountering frequent representational conundrums that hampered how they communicated those speculations. I explore the various calls for human attentiveness to and intervention in species loss: such accounts paradoxically attempt to decentre humans while also making them accountable for ecological disruptions. In print or in person, readily absorbable evolutionary concepts provided opportunities to resee potential catastrophes or collapses as *regenerative* opportunities.

Before mapping the dissertation's four body chapters later in this Introduction, I will explain extinction's cultural life from a Darwinian outlook that many Victorians understood, leading to my explication of *experienced evolutionary knowledges*. From there, I draw out connections between evolutionary and ecological discourses, before

delineating extinction's economic impact in England. I look to Victorians' speculative capacities for envisioning a trans-species milieu that they both inhabited and debilitated. Speculative imaginings crucially facilitated the dissemination of extinction discourses. Then, I turn my attention to the roles that animals and scientific romance played in producing public evolutionary knowledges.

Cultural Matters and Shared Domains

“Extinction was a Victorian idea,” Henry Cowles (2012) claims, one that surfaced after the popularization of *Origin* and during the rise of animal advocacy programmes blaming massive zoological losses on irresponsible human indulgences (695). The topic's cultural presence spiked in a historical moment “in which the boundaries between science and sentiment, and between those who did and those who did not have the authority to speak for nature, were being redrawn” (696). The proliferation of public venues and discursive spaces to cultivate interest in the sciences made the production of these knowledges an interclass affair; diverse middle- and lower-class non-specialists absorbed natural history lessons as well as ideas about belongingness and relationality from their daily habits and reading practices. They joined the professionals in scrutinizing all matters natural; public authority on scientific topics was no longer contained by class or vocational barriers. The blending of the cultural and the scientific in discursive public spaces like periodicals points to slippage in the Two Cultures model that traditionally segregated scientific and

cultural practitioners.¹¹ As Mary Poovey (1995) shows, “emergent domains” were “mapped” onto former ones “in a process that entailed the negotiation and eventual redrawing of the boundaries between kinds of knowledge, kinds of practice, and kinds of institutions” (7).¹² Because Victorian publishers continually eroded the distinctions between types of knowledges by building non-specialist aptitudes for scientific topics like extinction, we can see cultural patterns emerge which verify one of the claims of the modern-day Darwinianist Gillian Beer (1996): “Ideas cannot survive long lodged within a single domain” (*Open* 1). The open-access evolutionary imaginary was a gateway to a prototypical eco-centrism.¹³ But, the liveliness of the topic makes it difficult to prescribe a definite cultural meaning; so, I ground my readings in a Darwinian outlook that emphasizes (however inconsistently) the human’s immersion in the natural world rather than its dominion over it.

Charlotte Sleight’s commentary on representation as part of the manufacturing of scientific knowledge is fitting here: “Only when [scientific topics] have words and images attached to them are they meaningful to us – and these words and images bring along a whole host of allusions, history and connotations that themselves become part of the representation as the science is further developed” (5). The dissemination of evolutionary

¹¹ Will Tattersdill (2016) writes about the “end goal” in the field of Literature and Science: “. . . capturing the complexity of the cultural interchanges between literature and science and resisting the straightforward binary opposition which springs so easily to most of us” (2).

¹² Poovey elaborates on her thesis of cultural “disaggregation” (6): “The complex process by which the boundaries of domains are negotiated through the uneven relationship between language and institutional practice introduces fissures that undermine the coherence of what otherwise seem to be self-consistent, even totalizing domains” (7).

¹³ As Grosz astutely remarks, Darwin “has left as a question, a gift, to philosophy”; for culture, he models “the immersion of consciousness in life, and the immersion of life in time and materiality” (*Time Travels* 116).

discourses depended on such representations since “no fact is real (or real to us, which is all we can know) independent of its representation” (16). Analyzing non-specialist representations of collapses in Victorian print culture will fill the gaps in the public histories of evolutionary and ecological knowledges. Furthermore, as Tattersdill says about the “complexity of the cultural interchanges between literature and science” in print culture (2), the critic often “reads not a dry, philosophical encounter between literature and science but rather sees them both as active agents within popular culture” (4).

I share with contemporary theorists such as Elizabeth Grosz (2011) and Jane Bennett (2010) along with Victorian critics like Beer (2009) and Erin O’Connor (2000) a radical view of ontology that positions material reconstitutions and bodily becomings as a primary form of meaning-making. Culture impacts matter but matter produces meaning, too: materiality and culture prove mutually constitutive. Matter even elicits and solicits human creativity, as Grosz shows, claiming, “bodies, and the forces of space, time, and materiality, that is, nature, have enabled rather than inhibited cultural and political production” (*Chaos* 2). In post-Darwinian print culture, Victorians were increasingly responsive to a world that pre-exists and informs the human. A Darwinian materialism even destabilizes the uniqueness of the human’s cultural capabilities—think of Darwin’s claim in *The Descent of Man* (1871) that, ultimately, “there is no fundamental difference between man and the higher mammals in their mental faculties” (110). By extension, the human—inclusive of its diverse cultures and social organizations—is never separate from the natural world, an eco-critical stance braced by, as Glotfelty relates, “the fundamental premise that human culture is connected to the physical world, affecting it and affected by

it” (xix). Joseph Carroll (2011) goes further, advocating for a form of Literary Darwinism wherein “all things human are contained within the scope of biological evolution” (x). Moreover, scientific accounts of the world cannot come into being without the aid of language or culture. As Grosz argues, these accounts must be “embedded in, surrounded by, and associatively connected with other kinds of (“humanist”) knowledge, framing the world in terms of its lived possibilities, [and] in terms of its possibilities of becoming-other” (*Becoming* 16). The task is something conventional scientific practice is often unable to accomplish on its own. To prove this reciprocity between professional and non-specialist knowledges, I turn now to the Darwinian ideas that shaped the public’s critical and imaginative expressions of extinction.

Darwinian Views on Extinction and Speciation

Early in his theory’s decades-long gestation, Darwin understood the precarious nature of any species’ bodily or taxonomic stability. Cross-referencing extant biota with fossilized remains, Darwin recognized an ever-yielding passage of forms. For instance, he once wrote about Galápagos “land birds” to the esteemed geologist Sir Charles Lyell in July 1837: “I have been attending a very little to species of birds, [and] the passages [or extinctions] of forms, do appear frightful—every thing is arbitrary” (“Letter no. 367”).¹⁴ Regardless of these “frightful” ramifications, he underscored in future writings the unceasing changes and transformations of the natural world, remaining committed to

¹⁴ By 1844, Darwin’s unease over the mutability of life forms hardened. In a letter to an ally botanist, Joseph Hooker, Darwin admitted that the realization felt “like confessing a murder” (“Letter no. 729”).

explaining the formation of diverse species and speculating ongoing developments.

Future cultural producers would contend with the quelling anxieties associated with his theorizing.

Extinction as a cultural topic was not novel to Darwin or other Victorians. As Beer reminds us, Darwin's view of the matter derives from much older sources: these include ancients such as Heraclitus and Ecclesiastes, and his own grandfather, Erasmus Darwin (Beer, *Darwin's* 16-17).¹⁵ The nineteenth century alone offered Darwin substantial works from which to build his theory. French naturalist Georges Cuvier's brand of catastrophism was widely influential in the pre-Darwin era. His popular "Preliminary Discourse" from *Recherches sur les ossements fossiles* (1812) attempted to reconcile geographic formations and fauna depletions with a series of catastrophic floods, episodes with obvious natural theological undertones. Robert Chambers's hugely popular *Vestiges of the Natural History of Creation* (1844) suggested that not all creatures would live forever or were perfectly designed. Darwin recognized the flawed extrapolations of these notions of catastrophism, leading him to rely on uniformitarian principles to outline a material world and natural processes that involved humans, too. Following Lyell, Darwin advocated a uniform or all-encompassing process wherein the laws and forces governing the physical world unceasingly persist in shaping it and its inhabitants, past,

¹⁵ Erasmus Darwin undoubtedly influenced his grandson's capacity for imagining cycles of loss and regeneration that imply extinction as much as speciation. In Canto IV of "The Economy of Vegetation" from *The Botanic Garden* (1791), Erasmus articulates the procreant possibilities in extinction: ". . . ye, too, to age must yield. / Frail as your silken sisters of the field! / Star after star from heaven's high arch shall rush, / Suns sink on suns, and systems crush, / Headlong, extinct, to one dark centre fall, / And death, and night, and chaos mingle all! / Till o'er the wreck, emerging from the storm, / Immortal nature lifts her changeful form, / Mounts from her funeral pyre on wings of flame, / And soars and shines, another and the same!" (371-380).

present, and future.¹⁶ By divorcing natural history from natural theology, Darwin provocatively suggests that humans cannot escape evolution's shaping and exterminating forces, heightening the threat of our possible self-extinction (a topic profoundly realized in scientific romances).¹⁷

I turn to Darwin to qualify my understanding of the concept of “species,” an important part of evaluating (non)human identity. In *Origin*, he considers “species” as a term “arbitrarily given for the sake of convenience to a set of individuals closely resembling each other . . . [that] does not essentially differ from the term variety” (45). Taxonomical designations do not imply immutability; instead, over innumerable generations, species transform as subtly as the tectonic drift of continents. Darwin understands that “over the whole world, the land and the water has been peopled by hosts of living forms.” He discerns an impression of “an infinite number of generations, which the mind cannot grasp,” and which have “succeeded each other in the long roll of years!” He concludes: “Now turn to our richest geological museums, and what a paltry display we behold!” (233). His effort to grasp the vast possibilities of biotic forms and geomorphological changes indicates the imaginative or speculative labour needed to depict the becomings of incipient varieties or the collapses of entrenched species. Darwin

¹⁶ Lyell discusses the profound effect of adopting uniformitarian principles: “The senses had for ages declared the earth to be at rest, until the astronomer taught that it was carried through space with inconceivable rapidity. In like manner was the surface of this planet regarded as having remained unaltered since its creation, until the geologist proved that it had been the theatre of reiterated change, and was still the subject of slow but never ending fluctuations” (24).

¹⁷ Darwinian theory was antithetical to natural theology, which rationalized the existence of God based on experiential events instead of scripture-based arguments. Thus, Darwin also contended with the cultural afterlives of figures like William Paley (the creator of the watchmaker analogy) who recognized divine design rather than haphazard development in surrounding nature.

transferred to the realm of culture the sensations of unknowingness, contingency, and precarity discerned in the possible, variable configurations of earthly matter.¹⁸

Darwin's view of extinction held that species-specific longevity cannot be assured within a biological continuum. *Origin* stresses how "intimately connected" are extinction and natural selection (90). Because organisms overproduce progeny, and since the ensuing struggle for existence is often severe, there must inevitably be some who are disadvantaged considering "the number of places in the polity of nature is not indefinitely great" (90-91).¹⁹ Even without calamitous events, some species quietly become one of many among "the dead and broken branches" of Darwin's diagrammatic tree of life metaphor (107).²⁰ Darwin naturalizes irreversible losses of life by postulating that "the appearance of new forms and the disappearance of old forms, both natural and artificial, are bound together" in processes of decline and generation, and in populations transformed and collapsed (258). "[W]hich groups will ultimately prevail, no man can predict," Darwin observes against the grain of progressivist logic (104). He adds, "No fixed law seems to determine the length of time during which any single species or any

¹⁸ The available Victorian scholarship on the relationships between Victorian cultures and evolutionary discourses is extensive (Arata 1996; Hurley 1996; Smith 2006; Denenholz Morse and Danahay, Eds. 2007; Schmitt 2009; Richter 2011; Lightman and Zon, Eds 2014; Voigts, Schaff, and Pietrzak-Franger, Eds. 2014). My most profound insights are drawn from George Levine (1988) and Beer. Levine explains Darwinism's popularity as due, in part, to "its preoccupation with multiple and complex social relations, with growth and change, with uniform and minute and inexorable sequences" (21). Like Beer, I "track the difficult flux of excitement, rebuttal, disconfirmation, pursuit, forgetfulness, and analogy-making, which together make up something of the process of assimilation" of evolutionary discourses into public thinking (*Darwin's* 4).

¹⁹ I purposefully use "struggle for existence" in order to contrast prevailing uses of "survival of the fittest" (Spencer 444). The latter slogan of social Darwinism was coined by Herbert Spencer, although Darwin adopted the term in future *Origin* editions.

²⁰ Darwin's diagram of divergence virtually transports viewers into a material reality that reconceives history and promotes speculative thinking. No plan orders the proliferation of species or the progression of genealogy. Darwin privileges difference and divergence instead of hierarchy or perfectibility.

single genus endures,” an assertion that implicitly includes humans even when many commentators at the time felt that they were a different order of creation (256). While, as I demonstrate, post-Darwinian periodicals regularly attended to threatened animals, scientific romance also looked to threats to the human animal.

Yet, extinction does not always involve gloomy prospects. Beer qualifies Darwin’s attitude toward extinction as “optimistic” because the biosphere is “always full, even over-full with beings jostling for resources.” In the end, “hyperproductivity” balances extreme losses (“Darwin” 324), thus making extinction something “ordinary and . . . necessary to evolutionary change” (321). When Darwin propounds a “methodology of life” according to the ceaseless and insensible forces of natural selection, he imagines how “production, growth and decay are all equally needed for the continuance of life on earth” (*Darwin’s* 116). The positive possibilities of extinction should not devalue the unfortunate decline in England’s biodiversity during the period; we can instead think of it in less negative terms as “the outcome of losing one element in a complex interdependent grouping” (“Darwin” 323). What fascinates me most about these positive possibilities are the imagined future recovery periods wherein the evolutionary trajectories of holdover taxa (those “which outlive the majority” of their kind) and progenitor taxa (those that “appear during [the] . . . survival phase and rapidly radiate during . . . recovery”) adapt and adjust in unexpected ways (Hallam and Wignall 13). These possibilities obviously fascinated the Victorian, as well.

Even though Darwin predicated evolutionary theory on geological time and the long work of adaptation and change, period literature and media frequently highlighted

immediate fears and tangible, visible change (Beer; Bulfin 2013; Link 2013; Lanone 2013). Through representations that compress the slow movement of evolution into observable physical and environmental changes, Victorian writers and illustrators imagined a future not dictated by humanity: a posthuman future in which all biota—humans or their descendants—remain subject to uniform shaping forces and impacted by the lingering consequences of Victorian overconsumption. In my non-literary case studies, evolutionary outcomes and extinction pressures are observable within a single human generation. In my literary case studies, inventive plot devices shrink spatiotemporal distances between widely separated generations (as in *The Time Machine*), and a lineage's worth of evolutionary development is embodied by the protagonist (as in *The Purple Cloud*). Together, my case studies bring the out-of-reach future into the scrutinizable present.

Familiar Fauna and Experienced Evolutionary Knowledges

Like the Victorian periodicals reporting on domestic species collapses, Darwin's writings are filled with references to familiar creatures, often residing on the same pages as zoological exotica. Some early career examples stand out as ways of making evolutionary observations relatable and understandable via (to British eyes) a familiar creature. During his time aboard the HMS *Beagle* from 1831 to 1836, Darwin felt awestruck upon encountering South American exotica. He felt the force of extinction pressing upon his intellect, producing evolutionary insights that would embolden his beliefs in transmutation. Take "Notebook B" (1838) as evidence of this growing realization,

wherein Darwin speculates that humankind's dominant position in the world is precarious. He foresees "a period, though long distant, when of the present men (of all races) not more than a few will have successors" (147).

In his published accounts of his expedition, *Journal of Researches* (1839), Darwin even more radically observes nonhuman subjects in one's immediate milieu. While the unearthed fossils of long-extinct Toxodon, Mastodon, Megatherium, Megalonyx, and Mylodon sharpened his geological and evolutionary imagination, a more familiar creature stimulated his speculative facilities (184). "Certainly it is a marvelous fact in the history of Mammalia," Darwin writes, "that in South America a native horse should have lived and disappeared, to be succeeded in after-ages by the countless herds descended from the few introduced with the Spanish colonists!" (183). This realization of evolutionary pressures (natural and anthropogenic) applied to familiar specimens honed Darwin's understandings of geographic distribution, bioregional idiosyncrasies, and trans-species interactivity. It was a creature familiar to British sensibilities that clarified in this moment the ways that species fluctuate, transform, or disappear.²¹ As an example of this affective absorption of knowledge from the natural world, this moment analogizes one of my project's main claims: ordinary animals encountered in the Briton's everyday life conveyed lessons and insights about evolutionary dynamism. Importantly, Victorians did not always not require depictable disasters to arrive at these conclusions, meaning that the literary half of this dissertation is less concerned with the mechanisms of disaster (such as

²¹ The Galápagos finches are another famous example of epiphanies provoked by natural encounters with familiar fauna. For more on how Darwin's encounter with multiple finch species broadened his outlook on the contingencies of geographic distribution, see Robert Montgomerie's "Charles Darwin's Fancy" from *The Auk*, vol. 126, no. 3, 2009, pp. 477-484.

Shiel’s poison-cloud wipeout of all terrestrial clades), and more interested in articulating how Victorians imagined post-extinction recoveries.

Associative encounters with evolutionism in print built a kind of materialist or “ecological literacy” in which evolutionary dynamism and population pressures could be read or interpreted from animal/human encounters or from surrounding, depleted landscapes and (Magntorn 59).²² I term these moments *experienced evolutionary knowledges*: evolutionary forces, selection pressures, and extinction intensities presented themselves in ordinary situations, perceivable without specialized training or extensive schooling. Print media spread materialist understandings of England’s shifting animal demographics and also portrayed the human as susceptible to mounting ecological imbalances. Print culture provided conceptual frameworks for what people were already experiencing in their everyday lives, however much materialist discourses disturbed Victorian socio-cultural mores. The frequent focusing on dynamic public spaces pushed audiences to scrutinize the human shaping of the natural world in everyday locales: lecture sites, killing fields, hunting grounds, and, chiefly, urban marketplaces.²³

By focusing on experienced evolutionary knowledges, I call attention to the affective epistemes evident in print culture, taking a page from Cannon Schmitt’s (2007) work on the links “between passion (and affect, feeling, emotion) and knowledge” as

²² Contemporary educators still use Darwinian thinking to cultivate an “ecological literacy” (Magntorn 59) in which “species are the point of departure for learning to read nature,” thereby allowing non-specialists to better “relate” to the “material cycling and energy flow” within one’s surroundings (60).

²³ I am reminded here of Mary Favret’s (2010) assertion that distant violence could be affectively transmitted to those removed from the immediate scenes of violence, helping me to theorize a space of collapse “as a zone of affect” wherein the carnage of the British meat trade “invades and becomes implicated in the most familiar forms of the everyday” (12).

informed by biological sciences and natural history (“Victorian” 35). Heeding the “affective registers of knowing the natural world in the nineteenth century,” I present experienced evolutionary knowledges as part of the same process of knowledge production that ties “amateur [pursuits]” in collecting to the larger “apparatus of rational and institutional knowledge production” (36). Living specimens or “extant biota” (*Darwin 1*)—like Darwin’s beloved beetles, Schmitt points out—enable “a way of knowing” those specimens “and by extension the natural world in its entirety” (37). In other words, living specimens rather than dead ones (or their pieces) concretize “evolutionary theory and its ramifications,” making affective encounters and first-hand experience part of the production of non-specialist knowledges (*Darwin 1*).²⁴ These encounters prominently surfaced in travel writings, but I recognize a larger trend of impassioned responses to extinction across diverse print media (“Victorian” 47-48).²⁵

Bioeconomic Considerations of Collapse

In my non-literary chapters, extinction anxieties draw attention to England’s declining zoological resources. For this project, these resources refer to harvestable and marketable

²⁴ While I deal with speculation instead of memory in this study, Schmitt’s use of Pierre Nora’s *lieu de mémoire*, “an immense site of memory” or a “living archive,” sheds light on ways to “to materialize the immaterial” (*Darwin 1*). The site of an encounter becomes “a place for . . . materializing, a place that memorialized the past in such a way as to make it available in the present” or “a space encoding the passage of evolutionary time—a rich assemblage of living beings that, despite continuing to thrive in the present, nonetheless recalled the history of life on the planet” (*Darwin 2*). I instead pursue Victorian visions of the future of life on the planet.

²⁵ My thinking has also been coloured by contemporary ecologists Carla Hustak and Natasha Myers (2012). They hold that ecological relations are articulable “without senses attuned to stories told in otherwise muted registers” (78). One must think “athwart the reductive, mechanistic, and adaptationist logics that ground the ecological sciences” while acclimating to “the creative, improvisational, and fleeting practices through which plants and [fauna] involve themselves in one another’s lives” (78).

English fauna like bustards, egrets, or hares identifiable in their living or harvestable configurations as animal capital: expended and inert commodities instead of lively and dynamic agents. The cultural potency and extensive dispersion of extinction anxieties affected multiple classes and vocations since England's zoological welfare was intrinsic to thinking about the welfare of Victorian society across classes. Much like the widely noted vulnerability of the human body to cholera or illnesses caused industrialization, the overconsumption of zoological resources was taken up with similarly pathologized connotations in print culture (O'Connor 1). Cultural crises made room for zoological life by representing it as integral to England's continued bioeconomic functioning.

Since Malthus's *An Essay on the Principle of Population*, domestic sustenance and the possibilities of resource shortages had been a significant social issue. The Malthusian notion that "the power of population is indefinitely greater than the power in the earth to provide subsistence for man" (13) indicates how deeply the welfare of the human population was linked with the durability of its zoological resources. The "biologization of economic thought" across the century made ideas about resource longevity and population checks everyday concerns (Gallagher 164). I attend to the public's bioeconomic speculations—those percepts that, according to Catherine Gallagher (2006), reveal "interconnections among populations, the food supply, modes of production and exchange, and their impact on life forms" (3). Particularly, an intensifying Victorian consumerism served as a gateway to ecological insights, producing a gestational conservatism that depended on the sustained flow of ever-more animals into mass production. I build on Sarah Amato's (2015) claim that humans and animals

were “intertwined at the very heart of British consumer culture” (5). I determine what the mass production and consumption of domestic resources in England’s urban marketplaces revealed about the traders and consumers who faced worsening collapses.²⁶

Although Victorians frequently reinforced binaries between nonhumans and humans, they increasingly discerned what I refer to as zoological exigencies: moments when nonhumans signal their own agentive needs, forces, and meanings outside anthropocentric registers or human-oriented experiences. These moments led to a proliferation of ideas about interdependence and protectionism across Victorian print networks, regardless that those ideas arose in a consumerist society. The latter point should not be a surprising development, particularly since those ideas had been associated with an *economy of nature* since the eighteenth century. The concept portrays the human as one part of a larger, natural totality, where environmental interconnectivity and trans-species relationality give rise to fresh percepts of the natural world’s inner workings. But its figurative potency may be *too* strong since “the common point of view suggested by an ‘economy of nature’ fragments into *many* views, sometimes leading in thoroughly incompatible directions” (Worster x).

Speculative Ecology and Reconstituting Kinship

In everyday reading habits and consumption practices, evolutionary discourses vitalized

²⁶ Amato describes how consumerism’s development in the nineteenth century “entailed more than shopping for goods or moments of purchase and became a means to solidify or transform identities and relationships” (9). See also Regenia Gagnier’s *The Instability of Human Wants: Economics and Aesthetics in Market Society* (2000) for an account of the Victorian shift from production to consumption that made consumption ones of modernity’s chief traits (91).

Victorian perceptions of the world and kinship with nonhuman others. Considering that the term *ecology* derives from the Greek term *oikos* (“house” or “dwelling”), it seems appropriate to pay attention to commonplace surroundings in this thesis, as did Victorians themselves according to my unearthed artifacts (“Ecology”). The term *ecology* was coined by Ernst Haeckel in 1866, but it was at least partially animated in the popular imagination by Darwinism’s gradual propagation (Worster x). A prototypical methodology for developing an ecological awareness is scattered throughout Darwin’s oeuvre, though no one work is any sort of ecological manifesto or manual. Darwin astutely senses the reciprocities between physical environment and organic subject, as well as between subjects themselves. He brings to light the interconnected relationships between all beings within the earth’s finite spaces without surrendering the idea of the individual, observable subject. Darwin’s “entangled bank” metaphor from *Origin* recapitulates this awareness of individuality emerging from profuseness:

It is interesting to contemplate an entangled bank, clothed with many plants of many kinds, with birds singing on the bushes, with various insects flitting about, and with worms crawling through the damp earth, and to reflect that these elaborately constructed forms, so different from each other and dependent on each other in so complex a manner, have all been produced by laws acting around us. (395)

This outlook remained sensitive to the bioeconomic disruptions that were becoming increasingly familiar to Victorians. Like Darwin’s keen observations of entanglement, public evolutionary knowledges and materialist discourses capably illuminated the niches,

contours, and vicinities of a shared milieu. Ordinary Victorians projected future absences in common public spaces, while scientific romance writers highlighted human absence in imagined future spaces.

At times, I know that I am flirting with counterfactual conditionals, the limitations of which could outweigh their scholarly use. However, I follow other scholars in negotiating between the observable and the speculative (Beer; Krasner 1992; Flint 2000). After all, a speculative mode of attention enabled Darwin to develop his theory of natural selection, playing an important role in the evolutionary imaginary and providing Victorians with opportunities to re-see potential catastrophes as regenerative opportunities. Many readings here are inspired by “the imaginative reordering of experience” that evolutionary thinking induces (Beer, *Darwin's* 95). I think of this concentration on forthcoming recovery phases as a form of speculative ecology. Considerations for future ecological cohesiveness increased as the period's ecological stressors deepened. Speculative thinking facilitated the widespread comprehension of the links relating humans to nonhumans and their surroundings, becoming a factor in projecting upcoming extinction events and articulating the human-as-animal, with both topics becoming keystones for the period's writings on posthuman futures.

Darwin's claim in *Origin* that “we invoke cataclysms to desolate the world” (61) anticipated the period's speculative responses to extinction anxieties but also the trickiness of outright speculation. In Darwin's age, the catalyst of extinction (like inheritance) was still a “most[ly] gratuitous mystery” (257). But he did ascertain from fossil remains that “as new species in the course of time are formed through natural

selection, others will become rarer and rarer, and finally extinct” (258). Darwin admits that the absence of conclusive evidence promotes conjecture. In his thoughts on the geological record’s imperfection, he outlines the conceptual and representational difficulties facing the geologist or evolutionist:

For my part, following out Lyell’s metaphor, I look at the natural geological record, as a history of the world imperfectly kept, and written in a changing dialect; of this history we possess the last volume alone, relating only to two or three countries. Of this volume, only here and there a short chapter has been preserved; and of each page, only here and there a few lines. (251)

Darwin strategically relies on metaphor to aid his interpretation and dissemination of evolutionary knowledges when causality is obscured. But because human “ignorance” is so “profound,” Darwin suggests that, in light of absent or insufficient evidence, speculation often spreads unchecked, a topic of whose dangers he went to great lengths to warn others (61).²⁷

Careful of the speculative tendencies in his profession (and beyond) that he still unavoidably utilized across his career, Darwin counsels that observers “need not marvel at extinction.” Instead, he says,

. . . if we must marvel, let it be at our presumption in imagining for a moment that we understand the many complex contingencies, on which

²⁷ Darwin proposes an alternate analogy in *Origin*, comparing the misunderstanding of evolution’s outcomes with an individual’s misinterpreted cause of death. In his view, it is akin to feeling “no surprise at sickness, but when that sick man dies, to wonder and to suspect that he died by some unknown deed of violence” (258).

the existence of each species depends. If we forget for an instant, that each species tends to increase inordinately, and that some check is always in action, yet seldom perceived by us, the whole economy of nature will be utterly obscured. (260)

Here, Darwin models a depiction of the natural world where figuration or speculation must augment first-hand observation because the natural world exceeds human understanding, even for the keenest observers. Darwin experiments with a kind of projective vision that is not restricted to literal vision. This type of speculation also requires a panoramic viewpoint—focusing too intently on one specific subject may not adequately relay that subject’s enmeshment within its material environment or its kinships with other earthly agents.²⁸ The development of an ecological consciousness fuelled by projectable evolutionary outcomes eventually eroded some of the ideological obstructions to expressing kinship and relationality that, at times, Darwin himself struggled to convey. Enmeshed evolutionary and proto-ecological discourses became the collective cartilage connecting Victorian visions of the future. Across print culture, non-specialists displayed a similar speculative labour that brought to light inferable agents and events “seldom perceived by us.”

A Brief Note on Definitions

Before proceeding further, I need to provide a better explanation for what I perceive as an

²⁸ Thomas S. Kuhn’s admission in *The Structure of Scientific Revolutions* (1962) that Darwin catalyzed the investigation of “nature in a detail and depth that would otherwise be unimaginable” (24) verifies the imaginative and speculative faculties involved in projecting the natural world’s fluctuations.

ecological consciousness in Victorian times. I try to avoid anachronism while discussing proto-ecological ideas in the period. James Winter's (1999) in-depth accounting of England's transitioning "geomorphology" as well as the complex relationship between conservation and despoliation, shows how modern-day conceptions of environmentalism or ecologism do not quite equate with what Victorians thought of those topics (6). Winter explains the sense of environmental situatedness in the period as "closer to the etymological roots of environment: the country around, the neighbourhood, the environs, the stretch of topography that gave definition to a place, one's own surroundings" (19). I pursue how extinction anxieties encouraged the reassessment of common Victorian "surroundings," an act that involved the reconsideration of another species' particular, fitted experience with its own surroundings. While ideas of ecological interconnection, environmental dependency, or nonhuman welfare were latent in the Victorian consciousness, I am careful to avoid overbuilding my arguments with anachronistic knowledges. So, I promote the period's budding ecological consciousness as incipient, its conservationism as intersecting with capitalism, and, as Lightman suggests, its popular understandings of evolution—inclusive of extinction discourses—as conceptually slippery (9).

Victorians cared about their land and local fauna, but they also maintained methods to extract, consume, or otherwise exhaust their zoological resources for consumerist reasons. In their literature, too, visions of extinction could not completely avoid falling back on anthropocentric conceits. In many cases, conceptual or representational tensions persist, stubbornly irresolvable. I make my claims knowing that

this conceptual terrain is fraught with complications. It is difficult to think otherwise in a society sustained—and indeed, progressed—through the pursuit of capital and the self-extinguishing drives of industry. Then, as now, people struggled to find ways of living in—and representing—a world in which material forces far greater than the individual complicated the advancement of human agendas. Materialist knowledges broadened Victorians’ ways of understanding the world but those knowledges also troubled notions of their authority or control of the world.

Recovering Victorian Animality

From my corpus of print artifacts surfaces a natural link to Victorian animal studies. A veritable menagerie waits in the largely untapped recesses of Victorian print archives. My research extends scholarship already accomplished in a field catalyzed by Harriet Ritvo’s ground-breaking *The Animal Estate: The English and Other Creatures in the Victorian Age* (1987). Ritvo argues that animals “became significant primarily as the objects of human manipulation” that reproduced the values of those who possessed them (2-3). Indeed, animals emptied of their own subjective agency indicated, for example, the owner’s social standing (87). But my recovered artifacts also suggest an important revision to Ritvo’s claims that “Nonspecialist interest was . . . evanescent” and that “once over, even a catastrophic visitation left few traces in public consciousness” (168). At times, non-specialists ably connected their habits of overconsumption with species collapses and recognized their detrimental consequences. Looming catastrophes were not always overlooked in public discourses since they weakened depictions of England’s

national and imperial hegemony, foretelling of an imminent—or, to some keen observers, a *present*—age of devastation.²⁹ Thus, I join recent critics who, looking retrospectively, include Victorians in the age of the Anthropocene (MacDuffie 2014; Eliassen 2012; Malm 2016), a period characterized by human-induced ecological or geomorphological perturbations. Broad period preoccupations with “exterminating forces” provided more than an inkling of anthropogenic effects—Victorians consciously recognized the scale and irreversibility of damages to their environment and resources. Affectively or physically, threats to the biosphere were not separable from everyday life.

Dwelling on destruction caused by humans inevitably led to thoughts of what could pursue such destruction, so non-specialist speculations also extended to what we have come to call the posthuman (a key focus of my literary chapters). Anticipating recent discussions of the posthuman that inform my own readings, Victorian discourses on the posthuman developed as a corollary of technological innovations and the rise of natural sciences during the period. Ralph Pordzik (2012) explains how Victorian science fiction like *The Time Machine* acknowledges “the imperfectability and disunity within humans and their collective struggle to take remedial action with the help of evolutionary biology” (144), outlining a critically speculative mode of attention which imagines the posthuman as a solution to perceived social or bodily limitations. Herbert Sussman and Gerhard Joseph (2004) have also demonstrated how the Victorian reading public capably envisioned alternate configurations of human identity. Focusing on prosthesis, they

²⁹ Paul Crutzen and Eugene F. Stoermer (2000) originally coined the term “Anthropocene” but the history of anthropogenic damage to the natural world has a much deeper cultural history. Cultural symptoms of the Anthropocene were nascent in the late eighteenth century and picked up considerable steam throughout the nineteenth century (“Anthropocene”).

outline “a Victorian discursive practice wherein the boundary between the machine and the human tends to dissolve” (617). In *The Time Machine* and *The Purple Cloud*, boundaries dissolve between humans and nonhumans, as well as between humans and their future forms, including Wells’s Eloi, Morlocks, and end-times fauna in addition to Shiel’s protagonist, Adam Jeffson, on the verge of becoming posthuman.

Posthumanist thinking involves not just future bodily forms, but it also inspires “an ontological reorientation” that can “[conceive] of matter itself as lively or as exhibiting agency” (Coole and Frost 6-7). In this way, posthumanist thinking images both the figures that genealogically follow the human as well as the ways in which bodies, environments, and matter inform and reconstitute each other, destabilizing multiple ideological and classificatory biases that had formerly precluded the human from such a drastic reappraisal. Matthew A. Taylor (2013) discusses such posthuman conceits in action in the nineteenth century, noting how Edgar Allan Poe imagined humankind’s integration with “non-human processes,” a union wherein “the result is the erosion, not the augmentation, of our priority” (11). Earth’s collective matter, inclusive of humanity, becomes in this view “an *emergent, provisional* network of ontologically flattened human and nonhuman agencies linked—across dizzying temporal phases and spatial scales—in a common activity, performance, alliance, controversy, or event” (172). The untethering of the species from a confining ontological status caused visions of unexpected bodies, encroaching forces, and lively matter. Posthuman discourses surfaced in unexpected ways when Victorians thought about how future evolutionary outcomes would unfurl. The general public was becoming increasingly open to—though still widely pessimistic

about—projections of the world without the human. Both *The Time Machine* and *The Purple Cloud* draw attention to human defects that evolution produces *and* fixes, yet, significantly, both retreat to anthropocentrism when the natural world becomes too threatening for their ideal percept of a mouldable human.

New Materialism's recent concerns with the impact of a vital (yet encroaching) materiality on understandings of body, agency, and subjectivity (Bennett 2010; Morton 2010; Grosz 2011) inform my literary readings. I am particularly interested in the strategies employed by Wells and Shiel to depict divergent evolutionary outcomes. By paying attention to how their texts portray the ongoing production of new traits, new kinds, and eventually new organisms (even when lineage leads astray of expectations), I outline how print culture continually referenced ongoing environmental or bodily (re)formations transpiring regardless of human attempts at control. Together, divergence and becoming enforce gradual deviations from original forms. These kinds of changes demonstrate that “[o]riginating is an activity, not an authority,” just as “deviation, not truth to type, is the creative principle” of evolutionary process (Beer, *Darwin's* 59). Many scientific romances (to which I next turn) popularized these divergent forms.

Understanding Extinction in Scientific Romance

Victorian print culture's rapid expansion and diversification by the 1890s produced the forebear of science fiction: scientific romance. The genre fleshed out the scientific fantasies and anxieties of its readership. It imagined the equal measures of terror preceding extinction events and of horror pursuing disastrous outcomes, as well as the

new technological methods of examining the world, points already seized upon by earlier critics (Fayter 1997; Hurley; Arata). Brian Stableford (1985) defines the genre as narratives “built around something glimpsed through a window of possibility from which scientific discovery has drawn back the curtain” (8). Writers extrapolated from latent scientific discourses but due to the literary marketplace’s economic makeup, many evolutionary foci were not up-front in popular literature until the swing away from multi-volume works in the last decades of the century (29).³⁰ A niche species of literature that carved out its existence between multi-volume tomes and popular penny dreadfuls, scientific romance established itself as a viable genre in the literary marketplace because middle-class interest in periodicals exploded and publishers were more amenable to shorter, innovative, or provocative works—what Stableford describes as the “closing of the middlebrow gap” (15). The 1870 Education Act had also increased literacy, generating higher demand for more diverse print selections (16). Meeting such demands, the genre propagated imaginary voyages (18), utopian fantasies (23), and inter-galactic wars (30). Two types of narratives most pertinent to my investigation stand out: eschatological fantasies (34) and evolutionary fantasies (27). As others have shown (Hurley; Arata; Glendening 2007; Richter 2011), evolutionary discourses—in addition to the pervasiveness of criminal anthropology or degeneration anxieties—had a profound

³⁰ Stableford explains the peculiar absence of evolutionism before the marketplace shift: “Despite the extensive influence on literary [productions concerning] evolutionist ideas, . . . there really was no tradition of evolutionary fantasy for scientific romance to absorb; instead, scientific romance quickly came to compensate for a remarkable absence” (29).

effect on the solidification of the genre.³¹

My own analysis of extinction's representations in the genre begins with one of its important popularizers, Wells, whose narratives about humankind's future forms (like *The Time Machine*) helped catalyze the genre while providing sharp social readings of his present (and its imagined alternatives). Then, I turn to another popular author at the turn of the century, Shiel, whose phantasmagoric treatment of a world devoid of humans in *The Purple Cloud* illuminates the scale and depth of our material entanglements with a living planet. Their texts represent the culmination of a generation's worth of serious contemplation of *Origin's* provocations as their authors were coming to terms with evolution's plans without them.³²

The Time Machine and *The Purple Cloud* occupy a sub-genre of scientific romance that I label extinction narratives. They project extinction events but also the recovery periods following catastrophe, and they increased in scope and availability around the late 1870s. For instance, extinction was represented as catastrophe in Richard Jefferies's *After London* (1885), as colonial genocide (and cosmic erasure) in Robert Cromie's *The Crack of Doom* (1895), and as materialist entropy in *The Time Machine*.³³

³¹ Stableford appreciates the impact of evolutionary discourses, noting, "Scientific romance is the romance of the disenchanting universe: a universe in which new things can and must appear . . . [and] a universe where alien places are populated according to the logic of the theory of evolution" (9).

³² Of course, in addition to the writers of scientific romance, nineteenth-century literature widely noted the vulnerability of the human body. As examples of this vulnerability, see Walter Pater's conclusion to *The Renaissance* (1873), Robert Louis Stevenson's *The Strange Case of Dr. Jekyll and Mr. Hyde* (1886), or Gerard Manley Hopkins's "That Nature is a Heraclitean Fire and of the Comfort of the Resurrection" (1888).

³³ In *After London*, Jefferies's depiction of a destroyed, toxic, and overgrown London typifies the catastrophic depictions that Victorians avidly consumed. What the protagonist, Felix, witnesses signals a catastrophe of vast proportions: "The extreme desolation of the dark and barren ground repelled him; there was not a tree, bush, or living creature, not so much as a buzzing fly" (155). In *The Crack of Doom*, Cromie presents the indigenous occupants of an unidentified island in the Malay Archipelago only for them to be

The sub-genre also began secularizing eschatological apocalyptic narratives, as culturally pervasive as they were (Wagar 1982; Paley 1986; Mills 2007). Extinction narratives steadily shed anthropocentric or theological undertones, though they could not purge them completely (as my highlighted scientific romances will demonstrate). Post-Darwinian visions of material entanglement rebuked expectations of progress and undercut a human-oriented epistemology that accepted the apocalyptic and the eschatological—or those revelatory insights wherein the end of humankind would coincide with the world’s end, so the world would die *with us* since it had existed, solely and longingly, alone *for us*. Even Darwin retained, as Beer notes, (sometimes purposefully) theological or biblical diction when he laboured “in precipitating his theory as language” (*Darwin’s* 3). Beer explains that he “recast inherited mythologies, discourses, and narrative orders” while he was spinning “a new story, set against the grain of the language available to tell it in” (*Darwin’s* 3).

Furthermore, extinction narratives successfully popularized evolutionary themes and thermodynamic ideas, imbued as they were with impressions of a threatening, inescapable materiality. These secularized depictions of extinction overtook apocalyptically charged depictions in the popular literary market by scientific romance’s rise in the late 1880s, presenting ideas about future forms and future natures for public intake and critique. By representing future ecologies evacuated of humankind, extinction

wiped out by the antagonist’s proto-atomic bomb. The protagonist hears the “fearful chorus of the damned” before their destruction (195), but ultimately decides to not “dwell upon the scene,” affirming the space as returnable to *terra incognita* (196). The event affirms the antagonist’s determination to “reduce this planet to the ether of which it is composed” (50). It also becomes an obscured tragedy because of an imperialist mindset that naturalizes such genocidal behaviour.

narratives offered convincing portrayals of the human as another precarious creature while they tested the representational limits of period fiction. To convincingly depict that sense of precarity, writers approached—and met—the formal and representational limits of their medium. They worked at the limits of the imaginable. Not an anomalous cultural trend, then, extinction narratives climaxed during the *fin de siècle*, substantiating through fantastical scenarios “the decidedly eschatological impulse pervading so much late-Victorian fiction” (Arata, *Fictions* 1).³⁴ Arata points out that the flooding of the market with end-times writings involved fixations on “three forms of decline: national, biological, aesthetic” (*Fictions* 2). As I will show, each of those categories are impacted by evolutionary discourses in extinction narratives.

Though my project is not chiefly concerned with mass disasters themselves, it is worthwhile to reflect on the ubiquity of catastrophes in the reading public’s imagination. Numerous literary and non-literary examples of Victorian catastrophism “suggest the limitations of human powers and the inevitable frustration of [humanist] schemes and hopes” (Daly 17). Transnational accounts of destructive earthquakes like Heinrich von Kleist’s novella “Earthquake in Chile” (1807) impacted readers deep into the century. Krakatoa’s 1883 eruption focused public attention on volcanic power, yet so did Edward Bulwer Lytton’s popular novel *The Last Days of Pompeii* (1834). Bolide impacts were enough of a concern to produce George Griffith’s *Olga Romanoff: or, The Syren of the Skies* (1894) and Jules Verne’s *Hector Servadac: or, Off on a Comet* (1878). Anoxia

³⁴ For a comparative analysis of “End-Times” as presented by theological and secular writers, see Edward James’s “Rewriting the Christian Apocalypse as a Science-Fictional Event” from *Imagining Apocalypse: Studies in Cultural Crisis*, edited by David Seed, Macmillan, 2000, pp. 45-61.

turned up in legitimate fears over urban air pollution in William Delisle Hay's killer fog yarn *The Doom of the Great City: Being the Narrative of a Survivor Written A.D. 1942* (1880). Speculations of the deep future included major global climate fluctuations in Henry Crocker Marriott Watson's *The Decline and Fall of the British Empire; or, The Witch's Cavern* (1890). Alike events seeped into everyday accounts. According to *The Morning Post* in 1852, Londoners faced "the fearful extent" of the Thames's "overflowing," suggesting worries about sea-level changes ("Another Thames Flood"). The cultural values of collapses and disasters were linked with warnings or premonitions of impending catastrophes. For *The Time Machine* and *The Purple Cloud*, catastrophic thinking manifested opportunities for reimagining material circumstances, though such thinking often fell back on anthropocentric beliefs typical of the period. Still, Wells and Shiel imagined divergent lineages and degradation's possibilities. Like Hurley's positing of the Gothic as "a productive genre," I frame extinction narratives as similarly productive because they offered "new representational strategies" (*Gothic* 6) in which to re-evaluate the human's sense of bodily or ontological sovereignty. My case studies unflinchingly scrutinize a materiality that resists genealogical closure, bringing into question the viability of individuals, nations, and species.

Mapping the Project

Chapter One ("Communicative Collapses: Extinction Anxieties and Ecologies of the Everyday in Post-Darwinian Periodicals") proves that extinction anxieties tangibly impacted everyday Victorian life. I reconstruct cultural conversations about collapses in

England from wide-ranging print artifacts like *The Northern Echo*, *The Graphic*, or *Punch*, establishing that non-specialist Victorians sensed collapses in relatable consumerist experiences and economic terms. I outline the widespread presence of experienced evolutionary knowledges in print culture by drawing on representations of British birds, those ubiquitous creatures dear to Darwin's theorizing. Many periodicals broadcasted the widespread economic damages of overconsumption that altered the everyday market for Victorians of all classes, but especially the working classes. Disruption was revealed by routine. Being both affective and experiential, scarcity required little theoretical explication or specialist knowledge for colloquial comprehension. Losing commonplace creatures crystallized evolutionary competition and the driving forces behind nature's morphing biota by performing or embodying the outcome of the struggle for existence with recognizable subjects in relatable environments.

The documented production, flow, and consumption of England's zoological resources was frequently undertaken by non-specialist observers, distinct from the scientific elite. Hunters, traders, and consumers across regions brought domestic bird collapses to the public's attention and channelled that attentiveness toward the impending bioeconomic consequences of overconsumption. I read England's zoological vitality as a marker of its national and worldly reputation in ways similar to Gallagher's positing that, bioeconomically, "the organic lives of the poor [in England, and] their miseries and enjoyments, [served] as indices of the commonweal's vitality, as forces propelling its movements" (13). Sensing a threat to England's welfare, some observers offered ethically

charged rejoinders grounded in economic imperatives to mounting collapses. Resistances were regularly more grassroots than professional in origin. While these cultural conversations about precarious resources often critiqued entrenched consumption practices, the consistency of those critiques varied.

Victorians were not so quick to ignore collapses, attempting many times to mitigate their destructive behaviours even if the incentive was mainly economic. Chapter Two (“Meat and Media: Zoological Recycling in Victorian Extinction Economies”) looks to the necessarily compromised conditions out of which ecological concerns arose. I turn to game and animal traders for unique perspectives on collapses. As consumer demands swelled, these trades passed along their non-specialist interpretations of England’s altering zoological resources. I focus on the Brooke Brothers, a popular game and meat trading company, presenting their published quarrels, evolving advertisements, and public editorials in addition to the public’s accounts of the business. Existing from 1811-1901, the business proves a rich case study.

Like game hawkers, carriage drivers, or pest exterminators, the Brooke Brothers relied on the commodification of vanishing creatures in order to sustain their livelihoods. They maintained what I call *extinction economies*. In their case, the loss of potential profit was more lamentable than the loss of animal life. Thus, I investigate the capitalist drives and consumerist habits that drove conservationist impulses, a trend distinct from the period’s more common responses to violence against animals, like that of the Royal Society for the Prevention of Cruelty to Animals (RSPCA). I focus on a particular strategy of the Brooke Brothers that I call *zoological recycling*: it involves transforming

waste from sporting outings or detritus from meat traders into crucially accessible animal capital so that less zoological resources would be wasted. Crises of wastefulness and scarcity surfaced throughout the period. The natural world came into view in relation to capitalist production, thereby creating justifiable grounds for the widespread destruction of natural life *alongside* defensible grounds for protectionist measures. The intertwining of consumerist and conservationist drives also meant that early conservationist rhetoric was to a large extent co-opted by the very industries and trades responsible for intensifying extinction anxieties. The Brothers' business strategies raise pressing questions that still haunt our present moment: can the natural world remain autonomous when relied upon as an economized resource? Will consumerist demands perpetuate overconsumption even as resource exhaustion nears?

This project's latter half concerns the future forms of humankind. As my literary studies demonstrate, extinction anxieties evolved beyond reflections on our capacity for destruction—they became reflections on the human's capacity for self-extinction. Unfazed by the discomfort of contemplating the posthuman, scientific romance writers imagined spectacular futures with the human as anachronistic or absent altogether. Hominid extinction could very well come from catastrophe; however, period fiction also envisioned the gradual elimination of human-specific traits as, generation by generation, a species fades away from its former cognizable form. The depiction of recovery periods in scientific romance guided the public's imaginings of divergent human lineage. No matter how unevenly, *The Time Machine* and *The Purple Cloud* severely troubled the period's preoccupation with gradualism (or developmentalism), the notion of steady progression

across successive stages of development toward an ideal terminus. For these works, I turn to the interpretive strategies of literary and cultural studies (Levine; Arata; Hurley; Beer) for deciphering the complex literary depictions of evolution and extinction.³⁵

Chapter Three (“H.G. Wells’s *The Time Machine*: A Guide to Representing Future Forms”) tracks Wells’s formal solutions to representational conundrums involving the novella’s depiction of a world characterized by metamorphosis in directions nearly unfathomable in human terms. *The Time Machine* imagines humankind as equally prone to transformation as other earth forms—the text needed to convey the sustained ambiguity and indistinctness inherent to ongoing speciation. Formally, such a task results in a crisis of representation that requires innovative strategies in order to overcome the restrictions of language and the limitations of the period’s prevailing scientific discourses.

I treat the text as a “material technology” in which the objective interpretation and dissemination of evolutionary knowledges is at stake (Shapin 491). In this way, the novella’s scientist narrators—the protagonist, the Time Traveller, and the frame narrator, Mr. Hillyer—analyze the difficulties (and attendant anxieties) that scientific popularizers of the time experienced while distributing novel insights about the human’s evolutionary future and place in nature. By investigating the novella’s narrative structure

³⁵ Levine shows that a Darwinian outlook stresses an “open-ended nature” where time (as much as a species) “never ultimately resolves into permanence” (97). Stephen Arata (1996) notes the profundity of late-period narratives of loss that spread “anxieties concerning the collapse of culture, the weakening of national might, the possibly fatal decay—physical, moral, spiritual, creative—of the Anglo-Saxon ‘race’ as a whole” (1). Hurley’s interrogation of resurgent Gothic tropes at the end of the nineteenth century reveals that evolutionary discourses “articulated new models of the human as abhuman, as bodily ambiguated or otherwise discontinuous in identity” (*Gothic* 5). Beer’s 2009 edition of *Darwin’s Plots* plays an indelible role in my critical framework. Beer explains how Darwinian theory prefigures constant transformations amongst life forms, and how bodily transformation “. . . excludes or suppresses certain orderings of experience. It has no place for stasis. It debars return” (8).

in addition to its symbolic and thematic contents, I show how an underlying, radical ontology arises from the narrative's explicit degeneration plot. But Wells's representational strategies retain a significant amount of ambivalence; while the text largely communicates the inevitability of divergence, the Traveller cannot resist reifying the human as the privileged reference point for evolutionary transformation. Even so, the portrayal of humans as *incomplete* (a species *in media res*) or *incipient* (the primitive form of a future evolved form) haunted Victorian assumptions about human exceptionalism.

As I point out in Chapter Four ("Interlocution with the Elements: Belongingness and Self-Extinction in M.P. Shiel's *The Purple Cloud*"), Shiel's phantasmagoric depiction of the earth recovering from catastrophe goes a step beyond any Victorian text, making it an important (though problematic) case study in the cultural life of extinction.³⁶ Instead of solely analyzing far-off evolutionary outcomes (as *The Time Machine* accomplishes), I explore how *The Purple Cloud* depicts the *immediate experience of becoming* from detailed, first-person accounts of the rattled, globe-trotting protagonist, Adam Jeffson. The unreliability of Jeffson as a narrator makes it difficult to coherently parse his often-incoherent responses to a human-less world after a massive cloud of poisonous gas emitted by a volcanic eruption wiped out all terrestrial life. Faced with countless corpses and civilization's end, Jeffson decides to travel the earth, setting fire to each city he

³⁶ Shiel's works are not exempt from moral considerations. After all, he is responsible for bringing racialized terms into public circulation through popular (though, in hindsight, distastefully racist) works like *The Yellow Danger* (1898). *The Purple Cloud* has its share of racialized and misogynist moments that mark Shiel as a problematic author to address in these times. However, I recognize the work's cultural value because no other period text so spectacularly (or intimately) actuated actual processes of becoming or the body's amalgamation with elemental shaping forces.

reaches, finding solace from mental anguish in the flames. Fleetingly yet repeatedly, Jeffson taps into an outlook in which matter and bodies forge intimacies, recognizing kinship, implicitly and sometimes explicitly, in the widest evolutionary sense.

When Jeffson clarifies these moments of seemingly boundless kinship, he presents gateways into the period's materialist understandings. Jeffson projects—and seemingly embodies—a posthuman figure that thrives after humankind's disappearance, but his focus broadens from there. More particularly, this chapter works through the paradox of the subject who reflects on a world no longer oriented toward human subjects. He envisions the human's expendability, and further, the deeper, darker affinities and relations between humans and nonhuman agents (inclusive of earthly matter) as he reconsiders his material existence and ontological stability. By documenting his becoming-other, Jeffson provides weighty insights on the ontological indeterminacy and trans-corporeality of a staunch materiality. Jeffson presents twists on theological archetypes, but his anthropocentric outlook and theological references nonetheless fold under the weight of the narrative's dominant evolutionary outlook.

Concerned with fleshing out the details of an unknowable future, extinction narratives like *The Time Machine* or *The Purple Cloud* presented audiences with myriad ontological, somatic, and representational quandaries. They foresaw a future world ungovernable by anthropocentrism but they nonetheless struggled to embrace it. My Coda reflects on the continuities between the Victorian era and our own modern moment, summarizing Victorian engagements with future forms which emerged from period extinction anxieties. I spotlight an ethics of relationality that implicitly arose during the

period. Ultimately, this project's non-literary and literary artifacts recapitulate the post-Darwin period's most existentially distressing—yet culturally productive—insight about evolutionary dynamism: the human is an organic unit as vulnerable to selection pressures as other beings.

Chapter One

Communicative Collapses: Extinction Anxieties and Ecologies of the Everyday in Post-Darwinian Periodicals

“[The] country is being robbed of half its charm by this devastation among our wild birds.”—“The Extinction of Wild Birds,” *Bristol Mercury and Daily Post*, 29 Nov. 1885

“Many things are tending to the rapid extermination of well-known species, but yet there is no stranger sign of the times in which we live.”—“Extinction of the British Fauna,” *The Northern Echo*, 13 Feb. 1885

In the waning days of summer in 1876, when England’s zoological abundances had peaked before their seasonal thinning, a *Sporting Gazette* article bemoaned the depletion of England’s native songbirds. It captured the increasingly common attitude that England risked losing its wildlife from overconsumption, a sign of the historical moment’s nascent ecological concerns and endemic extinction anxieties. The *Gazette* called out its own readers, noting how the failure to meet the sustenance and sporting demands of a growing population “should awaken us to a little more *active* realisation of the process of extinction which is *going on around us*, and for which . . . we are ourselves principally to blame” (“Process,” emphasizes mine). The writer hoped that proximate and observable collapses would “touch the heart of the most careless Briton.” Looking to ubiquitous creatures in everyday English environs rather than in the British colonies (more obvious candidates for wanton destruction of animal life), the *Gazette* sketched the declining states of other domestic stocks like “oysters, red mullet, and . . . highly-prized piscatorial delicacies” before cataloguing a litany of failures: commissions into the matter seemed out of touch with the magnitude of England’s ecological disturbances; gun

licensing had not “thinned [the] numbers” of hunters or dealers involved in the game and meat trades; and protective Acts “to restrain . . . wholesale massacres” endured mockery, with one Act likened to a “policy of shutting the stable door after the horse is stolen.” Falling back on romanticized conceptions of nature by pining for an abundant past, the writer worried that “we may soon expect to hear the last of our singing birds” (“Process”).³⁷

As I show in this chapter, the *Gazette*'s distress concerning the potential loss of common animals brings into focus a widespread period of inquiry into extinction as another “stranger sign of the times,” as regretted by a Darlington daily, *The Northern Echo* (“Extinction of the British”). Extinction anxieties aligned the precariousness of English fauna with the alienating and disruptive experiences of modernity itself. Just as Thomas Carlyle “diagnosed a social body incapable of surviving the advent of consumer culture” in 1829, post-Darwinian print media frequently identified England's zoological order and national vitality as threatened by “a state consumed by mass production” (O'Connor 2).³⁸ These anxieties borne of overconsumption fears point to the development of a proto-ecological sensibility honed by public evolutionary knowledges and coinciding

³⁷ As Raymond Williams notes in *The Country and the City* (1975), due to spreading consumerism, commercial farming, and enforced enclosures, England possessed few untouched spaces by the Victorian period. Williams relates, “Against sentimental and intellectualized accounts of an unlocalized ‘Old England,’ we need, evidently, the sharpest scepticism” (10).

³⁸ As a result of living through “the Age of Machinery,” the zoological became integrated into an increasingly mechanized and industrialized society. “There is no end to machinery,” Thomas Carlyle observes in “Signs of the Times” (1829). “Even the horse is stripped of his harness, and finds a fleet fire-horse invoked in his stead. Nay, we have an artist that hatches chickens by steam; the very brood-hen is to be superseded! For all earthly, and for some unearthly purposes, we have machines and mechanic furtherances; for mincing our cabbages; for casting us into magnetic sleep. We remove mountains, and make seas our smooth highways; nothing can resist us. We war with rude Nature; and, by our resistless engines, come off always victorious, and loaded with spoils” (34).

with the depletion of creatures upon which myriad lives and vocations depended. Domestic species collapses helped Victorians to trace, project, and communicate England's transition from zoological abundance to scarcity in familiar, close-at-hand localities. In countryside or city, overconsumption directed attention to the finitude of England's zoological resources as well as the extent to which Victorians' were bioeconomically entangled with the fates of their nonhuman co-inhabitants. No longer did observers require lengthy outings to secluded locales or preserved patches to appreciate active selection forces and the core traits of Darwin's brand of evolutionism—namely, the interrelatedness of organisms within their shared milieu.

From dailies to weeklies, from *The Times* to *Punch*, print media highlighting animal agents (and the practices that threatened them) frequently facilitated visions of a fundamentally interconnected materiality wherein humans and animals struggled for biotic balance and co-dependence within a closed system of finite resources. The topic's repeated surfacing in print culture via articles, editorials, and illustrations demonstrates how trans-species relations impacted diverse readers and foregrounded a colloquial eco-centrism in print culture that fanned protectionist spirits. I aim to blur the divisions between specialist and non-specialist knowledges of collapse in much the same way that previous scholarship acknowledges the blurred boundaries between science and culture (Bernstein 2006; Cantor et al. 2004; Sleight 2011; Tattersdill).³⁹ After all, “literary and scientific knowledges are mutually defined, revised, married and divorced, all in the

³⁹ For instance, Tattersdill demonstrates the periodical's importance “in a distinctly public space” (20). He models a successful method for investigating “the cultural currency of scientific ideas” (21) as they were “portrayed and shaped in the popular arena” (20).

pages of periodicals” (Bernstein 387). This print culture dispersed extinction anxieties that had been exposed by the harvesting and consumerist practices of Britain’s game and meat trades, thereby bringing extinction discourses into everyday discursive spaces. Conspicuous and communicative, interclass cultural narratives surfaced, focalizing zoological loss as a threat to England’s biotic vitality and national symbolism.

The Cultural Liveliness of Birds

I bring to light public insights about ecological interdependency and evolutionary mutualism by showcasing avian subjects specifically, regardless if my examples reinforced human exceptionalism or publicized protectionist practices. I attend to birds both because they played a significant role in Darwin’s conception of evolution and because they proved a recurrent concern in print media, from the Victorian era up to and including recent studies of Darwin (Secord 1981; Bartley 1992; Smith 2006; Alter 2007). For example, Galápagos finches vivified Darwin’s early theorizations, and the common British rock-pigeons importantly spearheaded *Origin*.⁴⁰ Ornithological topics also shaped the evolutionary imaginary because they highlighted active natural and sexual selection forces while also serving as prime illustrators of competition in common locales.⁴¹ Their

⁴⁰ For more on the connections between Darwin’s theorizations and his encounters with birds, see: Stephen G. Alter’s “Darwin’s Artificial Selection Analogy and the Generic Character of ‘Phyletic’ Evolution” from *History and Philosophy of the Life Sciences*, vol. 29, no. 1, 2007, pp. 57-81, and Mary M. Bartley’s “Darwin and Domestication: Studies on Inheritance” from *Journal of the History of Biology*, vol. 25, no. 2, 1992, pp. 307-333.

⁴¹ In *Origin*, Darwin declares that “the number and diversity of inheritable deviations of structure, both those of slight and those of considerable physiological importance, is endless” (12). Moreover, in *Journal of Researches* (1839), Darwin also uses birds to sharpen his observations on evolutionary dynamism. “Seeing this gradation and diversity of structure in one small, intimately related group of birds,” Darwin notes, “one might really fancy that from an original paucity of birds . . . one species had been taken and modified for different ends” (380).

population fluctuations clearly illuminated for ordinary observers “the mutual relations of all the beings which live around us” (*Origin* 6).

In a Victorian context, birds indisputably beget significance because of their statuses as “objects of human manipulation” that assigned them normative values as zoological resources or emblematic figures, undoubtedly connecting them to representations of a properly functioning or a vitally healthy England (Ritvo 2). However, defenders of threatened British birds began countering the conventional representation of birds (and nonhumans generally), increasingly treating them as agentive rather than purely passive or emblematic. As well, British birds demonstrated a cultural liveliness that offset the impression of their classificatory stability as associated with Linnaean taxonomy or pre-Darwinian naturalists like Comte de Buffon, Jean-Baptiste Lamarck or Cuvier (Smith 100).⁴² Physical attributes did not solely clarify the birds’ relations and interactions with other entities with which they shared the biosphere. I am most interested in moments when print media used birds to counter anthropocentric understandings of the natural world—those occasional but significant flashes of awareness that illuminated the intrinsic value of the animal as it materialized from an anthropocentric system of meaning-making.

⁴² Smith shows that in some ornithological illustrations, a “primary emphasis on external appearance, on structure and plumage, reflected the concerns of Linnaean taxonomy,” and “the inclusion of landscape . . . reflected the insistence of the French naturalist Buffon on the classificatory importance of an animal’s surroundings” (100). For more on Darwin’s use of (and impact on) “complicated, controversial, [and] sometimes contradictory” avian representations and illustrations, especially in dialogue with John Ruskin’s brand of morally charged aesthetic values, see Smith’s chapter “Darwin’s birds” from *Charles Darwin and Victorian Visual Culture*. Cambridge UP, 2006, pp. 92-136.

Extinction Anxieties and Cultural Crises

The cultural liveliness of extinction anxieties reveals the tension-ridden relationship Victorian consumers had with the zoological resources that they simultaneously endangered through overconsumption and stressed over protecting. Sometimes they promoted the development of eco-centric perspectives, while at other times they endorsed socially competitive notions of fitness or survival. Inconsistently and unevenly, extinction anxieties developed into documentable crises in print culture, which I begin to map out here. This cultural liveliness also indicates the ease with which early materialist discourses were adopted for wide-ranging purposes and disparate agendas.⁴³

For example, the birds' depictions could simultaneously serve romanticized notions of nature, the interests of specific industries or vocations, or the needs of the consumer over the environment. Still, the pervasiveness of threatened birds in print media marks the extensive efforts of writers and illustrators to make animal/human relations into an everyday cultural concern: a call to reflection, at least, and action, at times. Fresh meanings arose because Victorians paid attention to latent ecological relations, reinforcing the notion of matter as a form of meaning-making: humans used collapse as a cultural topic for their own needs, but collapse also produced its own meanings.

Consuming animals in both symbolic (print) and material (foodstuffs) ways propelled reconsiderations of the natural world's limitations, the human's role within it, and the

⁴³ For instance, Lightman outlines the diverse uses of evolutionary theory in the period, stressing that groups yearning to shape the public scientific imagination included "North British physicists, neo-Hegelians, socialists, secularists, women, spiritualists, and occultists" who denied, re-appropriated, or misinterpreted the ideas of professional figures like Darwin, Spencer, Thomas H. Huxley, Richard Owen, or John Tyndall (9).

ecological precarity ensuing from overconsumption. Reconsiderations of mutualism promoted Darwinian ideas of interdependency and struggle, but also the social strife associated with Social Darwinism’s application of evolutionary theory to human social structures. These Victorian experiences of collapse signaled the linked precarity of humans and animals as well as the onset of a cultural crisis that began destabilizing the conventional dualisms of nature/society or wilderness/home.

Before turning to specific avian case studies for the rest of this chapter, I next discuss in detail experienced evolutionary knowledges as informed by Darwinian thinking. In expanding the subtext of evolutionary struggle to include mutualism alongside competition, I convey a colloquially transmitted model of obligation to threatened species yielded from Victorians’ lived experiences and animal/human encounters in everyday life.⁴⁴ Then I turn my attention to birds. I present their depictions in ascending order of their engagement with proto-ecological ideas in order to convey a range of possible ways that Victorians responded to collapses in spite of their recursions to anthropocentric ideals. Incrementally (though rarely consistently), non-specialists came to prioritize zoological harmonization over consumerist drives. My initial case studies only implicitly suggest the negative consequences of straining England’s zoological resources. Even instances of collapse that seemed to strengthen agricultural or industrial mastery over domestic wildlife—as in cases of mass culling or pest liquidations—still provided discernable clues about the human’s interconnections with nonhumans. Case in

⁴⁴ “Mutualism” is defined as “An interaction between two or more species that benefits each species” (Rose and Mueller 673).

point, colloquial reports on the overzealous culling of sparrows and partridges hinted at the forthcoming imbalances or destabilizations of England's zoological order. At other times, my selected media sounds an anxious note, deploring excessive culling, hunting, or harvesting practices. As I move through diverse print media, my sequencing gradually shows that many non-specialist voices and grassroots concerns undercut consumerist treatments of animals and nature as wholly expendable. Accounts of woodcocks and golden eagles, for instance, directed attention to the conflation of human and nonhuman spaces. Moreover, the disappearances of great bustards along with the "feathered denizens of the hedgerow and the field" provoked increasingly critical attitudes toward unsustainable consumption practices ("Extinction of Wild Birds"). I conclude by focusing on susceptible gold-finch, lark, linnet, and egret colonies that engendered outright condemnation from non-specialist observers concerned about domestic wildlife. Accumulatively, these portrayals of exterminating forces within public life convey a broad non-specialist understanding of trans-species connections and co-dependent kinships.

Ecologies of the Everyday

This chapter is inspired by Darwin's grounding of natural processes in everyday life, a starting point for depicting struggle that results in "beautiful adaptations everywhere and in every part of the organic world," and which are "most plainly" observable in local

populations (*Origin* 51).⁴⁵ Reflecting on the *Gazette*'s use of one of the dwindling English "natives" as a "practical illustration" of endemic extinction pressures, I emphasize how Victorians recognized occurrences of struggle and strife in everyday situations, too ("Process"). Examples of detectable, active selection pressures permeated print media, a preoccupation traceable to the growing explanatory authority vested in evolutionary (and early ecological) discourses.⁴⁶

To illuminate active selection forces in non-alienating ways in *Origin*, Darwin repeatedly highlights well-known creatures like birds "constantly destroying life" (53) or domestic animals "annually slaughtered for food" (55). He calls these everyday instances his "imaginary illustrations" (90).⁴⁷ In one exegesis of competition and mutualism he sees in daily scenes, Darwin turns a birdwatching pastime into an experience more panoramically linked to broader struggles for existence occurring across familiar locales, even out of sight. "We behold the face of nature bright with gladness," he admits,

[and] we often see superabundance of food; we do not see, or we forget

⁴⁵ In *Origin*, Darwin makes clear the ordinariness of many of his subjects: "How have all those exquisite adaptations of one part of the organisation to another part, and to the conditions of life, and of one distinct organic being to another being, been perfected? We see those beautiful co-adaptations *most plainly* in the woodpecker and mistletoe; and only a little less plainly in the humblest parasite which clings to the hairs of a quadruped or feathers of a bird; in the structure of the beetle which dives through the water; in the plumed seed which is wafted by the gentlest breeze" (51, emphasis mine).

⁴⁶ In an adjacent column, an agricultural report on short-horned cattle sheds light on widespread understandings of heredity and descent (though definite laws of heredity remained unformed). The report discusses Mr. John Thornton's intentions to sell his cattle, which had descended from one 1835 pair, Moonbeam and Dorcas. The surviving descendants of that original pair, "Mr. Grant-Buff's Louise and Mr. Stewart's Buttercup" could still "be found" and identified by phenotypic traits decades later ("Process").

⁴⁷ The following "imaginary illustration" by Darwin ably transmits the kind of evolutionary outlook that diminished the glorification of extreme competition as influenced by Social Darwinism. Instead, it favours the interknit relations between earthly subjects. He explains: "Two canine animals in a time of dearth, may be truly said to struggle with each other which shall get food and live. But a plant on the edge of a desert is said to struggle for life against the drought, though more properly it should be said to be dependent on the moisture" (53).

that the birds which are idly singing round us mostly live on insects or seeds, and are thus constantly destroying life; or we forget how largely these songsters, or their eggs, or their nestlings, are destroyed by birds and beasts of prey; we do not always bear in mind that though food may be now superabundant, it is not so at all seasons of each recurring year. (53)

The hyper-competition associated with Social Darwinism does not dominate the view for long. After all, struggle also encompasses “dependence of one being on another.”

Violence and loss exist alongside mutualism and interdependence in the proximate subjects of shared environs. Hence, the destructive birds also produce positive effects. Mistletoe, for instance, “depends on birds” for distribution, and some “fruit-bearing plants” thrive when birds devour the seeds of rival flora (53). Without being theoretically overbearing, Darwin routinizes competition alongside mutualism, all the while imparting the pervasiveness of evolutionary lessons in ordinary situations.

Although Darwin made reference to many species in his writings—resilient cacti (53), parasitic cirripedes (121), slave-driving ants (178), and blind cave-rats (113) inhabit *Origin* alone—some of his important points were more readily transmitted and comprehended through ordinary English creatures rather than unfamiliar zoological exotica. Distinguishable by all walks of life ranging from naturalists to hobbyists to mongers, common creatures like pigeons (19), rabbits (17), field-mice (62), short-horned cows (13), and earthworms (395) stressed the importance of recognizable creatures as demonstrators of selection forces and evolutionary dynamism. Darwin’s later major works, *The Descent of Man* and *The Expression of the Emotions in Man and Animal*, also

disseminated evolutionary insights drawn from encounters with ordinary animals. In *Descent*, he utilizes rabbits in analogies about cranium sizes (94), discusses the emotional spectrum of canines to show that “complex emotions are common to the higher animals and ourselves” (117), and illustrates the “law of battle” in sexual selection via a “fierce aerial [*sic*] encounter” between male hummingbirds (308). *Expression* used similar examples to show behavioural commonalties between species.⁴⁸ The peculiar habits of “[k]ittens, puppies, young pigs and probably many other young animals” (54), the inclinations of hares and horses to suffer in silence (84), as well as facially expressed terror in pets all play into his argumentation (136).

Collectively, Darwin’s major works weave ideas of evolutionary dynamism into experienceable contexts. Take his treatment of extinction, for instance. Working purposefully (and practically) from local subjects, he claims that most readers can “see the same process of extermination amongst . . . domesticated productions, through the selection of improved forms by [humans],” then lists examples ranging from native cattle to sheep to flowers to establish how emergent varieties naturally “take the place of older and inferior kinds” (*Origin* 91). Presented as the most ordinary of creatures in the most unexotic of circumstances, these examples of “affective, visceral, animal, and familial modalities of knowing” brought Darwin’s readers into close contact with evolutionary discourses and materialist epistemes (Schmitt, “Victorian” 48). Familiar fauna in familiar terrain made Darwin’s insights palatable for non-specialists and thus suitable for cultural

⁴⁸ The materials on everyday creatures were seemingly inexhaustible. Darwin’s son, Francis, had to cram additional observations into a posthumous edition of *Expression* in order to accommodate (according to his Preface) “a mass of letters, extracts from and references to books, pamphlets and reviews” that his father had been unable to incorporate (3).

consumption (and adaptation).

With animals featured *within* the human's everyday, the sensing of collapses (elapsed or imminent) caused by (and apparent within) daily activities—shopping, selling, eating—crystallized colloquial understandings of competition and co-dependency. Thus, widely recognized animals in everyday settings alleviated the difficulties in imagining oft-invisible evolutionary pressures or selection stressors, allowing untrained observers to witness in person or experience through print evolutionary dynamism in *praxis*. It mattered that extinction anxieties were *enacted* in person or in everyday media. Encompassing human and nonhuman exigencies alike, ecologies of the everyday materialized from these experienced evolutionary knowledges.

However much these knowledges were partially subdued by consumerism and a Victorian material culture that demanded a product's symbolic subservience to the possessor's needs, they still presented fleeting epiphanies about the treatment and durability of England's wildlife within an anthropocentric cultural system. Birds were not the only subjects capable of suggesting the precariousness of domestic wildlife based on in-person encounters or visceral experiences. For example, non-specialists who determined competition stressors and unexpected co-dependencies ranged from costermongers sold-out of everyday fare,⁴⁹ to milliners contemplating feral feline pelts because of flagging rabbit populations,⁵⁰ to common anglers losing patience as they

⁴⁹ On 22 February 1898, *The Standard* reported how Essex "oyster-growers" had derailed a proposal to re-route sewage. "The opinion was expressed by practical men," *The Standard* observed, "that this obnoxious proposal would, if carried out, practically annihilate oyster culture in South Essex." ("Essex Natives"). The potential for future loss of capital drove the conservation effort. The proposal failed to materialize.

⁵⁰ In one case, a seller passed off skinned cat carcasses as decorticated rabbits. *The Weekly Standard* described the situation: "Some time ago I remember hearing a story of how a poultry man wreaked his

waited for migrating salmon upriver from industrial netting.⁵¹ As signs of the human's waning symbolic management of (and authority over) the natural world, ordinary animals were increasingly bestowed divergent metonymic associations highlighting not exchange value exclusively, but instead the commoditized animal's "own properties and history . . . refigured alongside and athwart . . . dominant [narratives]." In an affective register that privileges feeling and experience over formalized or institutionalized knowledges, the animal's significance relies not on "soft" metonymy, wherein "the object (as in metaphor) is indentured to the subject," but instead on "a strong, literalizing, or materializing, metonymic reading" (Freedgood 12). Elaine Freedgood (2006) explains that, unlike the stabilized meaning of metaphors, metonymy "keeps on going, in any and all directions," while simultaneously threatening "to disrupt categories, to open up too many possibilities, to expose things hidden" (14). Such accounts offer metonymic "resonances" (51), or "the fugitive meanings of apparently nonsymbolic objects" (4). British birds particularly provoked strong associations of kinship and interconnection within human living, but since their cultural meanings were so fugitively divergent, such obligations to preserving any kinship remained inconsistent.

vengeance on a cat, which he killed, and after skinning it, sold [it] to its owner as a rabbit. Had the poultry man been able to keep his own counsel, no one would have known what had become of puss, but, unfortunately, he thought the 'joke' was too good to keep out of circulation, and after the lady had converted the cat into a pie, he 'made a few remarks.' These led to the lady being informed of how she had been victimized, and the result was the prosecution and conviction of the poultry-man on the charge of stealing a cat" ("Passing").

⁵¹ In 1898, *The Morning Post* connected the welfare of Irish salmon to English tourism, reporting on repeated calls to curb the loss of Irish Salmon. Blame was placed on "the indiscriminate netting rights by the powerful persons or Corporations who possess them." While the salmon had been traditionally recognized as "a valuable national asset," this particular correspondent instead recognized the stock as "ruined by neglect and selfishness." The writer lamented: "The evil is a real one, and should have been remedied long ago" (*Morning*, "Extinction of Irish").

Recovering an Aviary in the Archive

Birds in print served as microcosmic examples of tangible depredation and competition pressures, becoming entry points into discussions on human-caused ecological imbalances. However unevenly, Victorian media raised and returned to the problem of overconsumption through birds, endorsing (often veiled) ideas about mutualism that clashed with the period's dominant modes of production. Some of the following bird depletions spotlighted the public's submission to consumerist tendencies and unimpeded extractivist mindsets that sustained British imperialism at home and abroad. However, after perceiving the depleted or malfunctioning ecologies of everyday life, multiple print outlets also publicly decried widespread colony collapses. Even with destruction foregrounded, circulated accounts of collapse developed the public's awareness of mutuality and interrelatedness between all regional inhabitants, thereby carving out a discursive space which promoted the responsible consumption of zoological resources.

Partridges. The depiction of some birds like partridges or sparrows reinforced (and flaunted, at times) a sense of human exceptionalism rooted in period beliefs in human dominion over nature. In many cases, the targeted population existed solely as an opportunity for slaughter, according to print media that equated human fitness with the ability to consume at will. In other words, destruction was encouraged (and expected) in these cases. For instance, in the 1888 column "Notes for Naturalists," *The Newcastle Weekly Courant* reported on a public lecture on bird migrations delivered by a naturalist, Henry Seebohm. Attended by multiple groups with varying degrees of interests or

specialities in the matter, these lectures brought natural history into a more popular setting.⁵² The *Courant* correspondent transcribed some of the lecture:

As an illustration of the ratio of increase, [Seebohm] said that if a pair of partridges were liberated on the Town Moor, and there were to be eighteen eggs each year for sixteen years—and sixteen years was not an extravagantly long life provided they did not get shot—at the end of that time the produce of a single pair would be so great that there would not be room for them on the whole surface of the earth, sea space included, unless they stood upon each [others'] shoulders. (Laughter). (“Notes for Naturalists”)

Seebohm’s observations promoted a sense of human exceptionalism by subjecting animals to human needs. Amused by the macabre implication of overpopulation within finite occupiable spaces, the audience understood both the necessity of violence against nonhumans (to maintain the habitat’s carrying capacity) and the normalization of such violence (as indicated by the laughter directed toward the partridges’ implied, forthcoming destruction).⁵³ The moment also mirrors Darwin’s Malthusian reflections on the transition from abundance to scarcity.⁵⁴ “A struggle for existence inevitably follows

⁵² For further information on various mediums for the popularization of Victorian science, as well as a detailed explication of “popular science” itself, see Lightman’s chapter “Historians, Popularizers, and the Victorian Scene” from *Victorian Popularizers of Science: Designing Nature for New Audiences*. Chicago UP, 2007, pp.1-38.

⁵³ “Carrying capacity” refers to “the equilibrium number of individuals that can be supported by the environment” (Rose and Mueller 670).

⁵⁴ Seebohm later referred to the annual destruction of skylarks on the Heligoland archipelago by locals, sailors, and ornithologists, showing the prevalence of these destructive habits. He relayed an entry from an ornithologist’s diary: “At one time, when on the island, there was an enormous flight of skylarks, which, settling down in the middle of the night, were caught by the natives with lanterns and nets literally by hundreds. He himself caught three hundred in a few hours that had been attracted by the lighthouse lantern.

from the high rate at which all organic beings tend to increase,” Darwin says in *Origin*.

He explains,

Every being, which during its natural lifetime produces several eggs or seeds, must suffer destruction during some period of its life, and during some season or occasional year, otherwise, on the principle of geometrical increase, its numbers would quickly become so inordinately great that no country could support the product. Hence, as more individuals are produced than can possibly survive, there must in every case be a struggle for existence, either one individual with another of the same species, or with the individuals of distinct species, or with the physical conditions of life. It is the doctrine of Malthus applied with manifold force to the whole animal and vegetable kingdoms . . . Although some species may now be increasing, more or less rapidly, in numbers, all cannot do so, for the world would not hold them. (53-54)

A Darwinian outlook depends on Malthusian ideas about universal competition, the struggle for finite resources, and the limitations of restricted space.⁵⁵ Alike insights became public knowledge after their absorption from commonly shared experiences. As

For the next two or three days everybody was feeding on larks, cooked in every conceivable way. (Laughter)” (“Notes for Naturalists”).

⁵⁵ Malthus also recognized the accessibility of his claims outside the scientific domain. With an eye toward the broader population in *An Essay on the Principles of Population*, he claims, “The great and unlooked for discoveries that have taken place of late years in natural philosophy; the increasing diffusion of general knowledge from the extension of the art of printing; the ardent and unshackled spirit of inquiry that prevails throughout the lettered, and *even unlettered world* . . . have all concurred to lead many able men into the opinion that we were touching on a period big with the most important changes, changes that would in some measure be decisive of the future fate of mankind” (9, emphasis mine).

agriculture industrialized and marketplaces expanded, and as developing tastes aggressed depletion rates and produced rarity from former profusion, the concept of anthropogenic damage to England's wildlife could not escape cultural conversations, even ones like Seebohm's that attempted to naturalize consumerist and industrialist inclinations towards resource depletion. The evolutionary imaginary foregrounds zoological vulnerability, keeping associations of collapse or extinction fresh and pertinent.

Sparrows. As apt examples of the public's misappropriation of the struggle for existence for human benefit, print representations of birds as pests encouraged their prolonged destruction. The depicted culling of sparrows, for instance, shows the organization and commoditization of extermination attempts for human benefit. Yet, even within an economized model of liquidation, understandings of belongingness and dependency still surfaced. When human sustenance came under threat by sparrows, the deleterious effects of the sparrows' ensuing culling focalized the human's negative impact on the region's bioeconomic functioning. Suggestions of ecological imbalances abounded when nonhuman existence was completely subjected to the human's appetitive desires and agricultural needs.

Publications such as *The Sheffield Daily Telegraph* covered attempts to eradicate sparrows in the area, eventually indicating that England's economic fate was tied to its zoological vitality. The *Telegraph's* 1890 article "The Extermination of Sparrows" identified the common sparrow in malignant and impersonal economic terms, leaving little room for the creature's autonomous dwelling. However, it still transmitted the threat of impending ecological imbalance. In Dorsetshire, farmers claimed that "the ravages of

sparrows” had destroyed “nearly half the crops,” with the damages averaging approximately £30 per farmland. After they invaded the human domain with force, sparrows were depicted as terrorizing villagers by stripping thatching from rooftops. By most accounts, they were a collective force of nature requiring pacification (“Extermination of Sparrows”). The *Telegraph*’s portrayals match other printed observations of the sparrow, like *John Bull*’s claim that it “is as bellicose and pugnacious in his attitude towards all strangers as is the London street-boy” (“Rare Birds”). In the sparrow’s case, collapse was quantifiable because impacted locals bureaucratized the extermination procedures. They formed “[c]ommittees” to tackle the matter, offered monetary compensation for any volume of culled bodies, and organized raids on unsuspecting broods. Authorities extended regional constituents culling rates ranging from “fourpence per dozen” for mature sparrows, “two-pence for younger ones,” and even “threehalfpence a dozen for eggs” (“Extermination of Sparrows”). An 1888 Newcastle report accounted for agriculturists in Cheshire offering “6d per dozen” for culled sparrows, a rate which resulted in approximately 7,192 compensated bodies (“Notes for Naturalists”). The sparrow’s value was linked with the agricultural resources upon which their killers depended. The threat of interrupting the region’s agricultural output also pointed to underlying flaws in Victorian society in need of rectification. In the case of sparrows, disruptions to the prevailing bioeconomic models engendered an awakening to the precarity of domestic foodstuffs production.

While they reinforced notions of human authority over nature, Victorian depictions of pest control and culling practices nevertheless alluded to a malfunctioning

ecology, as shown by an 1894 issue of *The Bristol Mercury*. “It is almost impossible to find any but the most common [birds],” the *Mercury* laments, noting how in “large towns the ubiquitous sparrow is almost all that is left to us, and even blackbirds and thrushes are growing well-nigh unfamiliar.” It points out how the rampant destruction of sparrows or partridges (in addition to grouse, owls, or kestrels, among others) prompted an increase in “swarms of insects and creeping things,” and a decrease in prey for other raptors which naturally controlled bird populations. “[P]lagues of rats and mice” would then infiltrate any vacated niches. From common extermination methods materialized proto-ecological insights clarifying the interdependent relations of all living creatures in England’s co-habited spaces. In particular, the decrease of one creature could offset complex relations between all proximate creatures in unexpected and potentially detrimental ways. Such an evolutionary point of view could capably articulate a nature brimming with organisms often overlooked, a *bios* imbricated within ordinary circumstances, and a materiality imbued by a nebulous interconnectivity silently informing the micro-practices of everyday life.

The article for the *Mercury* diagnosed humans as the root cause of this imbalance problem. It noted that their “short-sighted [policies]” had “destroyed a beneficent balance of nature” and placed domestic foodstuffs production at risk, outcomes discernible to farmers, mongers, and consumers impacted by the interrupted availability of common products. The article poses an exasperated question that frames the issue as a wider social malady: “where is the remedy?” Thus, extermination practices against perceived pests simultaneously reflected a quotidian fear of dwindling resources and a declining sense of

national zoological robustness. Evidently, alongside acts of enforced destruction, protectionist voices still emerged since the writer endorses the 1869 Wild Birds' Protection Act, promoting ideas of entanglement, co-dependency, and mutualism in the wake of these mass-produced avian victims ("Extinction of Wild Birds"). An openness to the animal's exigencies and experiences could emerge once the animal was imagined as a vital component of England's bioeconomic functioning.

It is no coincidence that there was a rise in protective wild bird legislation in this period that situated the human as, paradoxically, responsible for both endangering and protecting nonhumans. While legislated Acts acknowledged animals as profitable and subject to human industries, they also created room in British law for "securing the right to live to those wild birds still left," a concession of animal life as valuable unto itself ("Extinction of Wild Birds").⁵⁶ For example, the Sea Bird Preservation Act of 1869—the world's first piece of protective legislation for wild animals—acknowledged the presence of conservationist attitudes and aided the dissemination of public concepts like habitat protection, seasonal hunting, or harvesting restrictions. But the powers of the Act were limited; with human interests and industries prioritized, circumventing the Act's checks was still possible. Lapses in enforcement and protection also occurred; game and poultry, for example, did not qualify as wild enough to warrant protection. Other groups like the Royal Society for the Protection of Birds surfaced by 1889, but colloquial voices like

⁵⁶ Early wildlife conservation brought protectionist attitudes into everyday conversations, like the Night Poaching Act of 1828 that forbade nocturnal hunting, the Game Act of 1831 that demanded hunting licenses and gamekeepers to overlook stocks, and the Ground Game Act of 1880 that gave landowners the ability to cull pests for the sake of crops. There is little doubt that these (and alike) Acts gave concerned citizens the vocabulary and motivation to pursue conservationist initiatives in the public realm.

those in the *Telegraph* or *Mercury* still profoundly impacted non-specialist perceptions of collapses and overconsumption. Depictions of slaughtered avian subjects piled high in marketplace displays or farmers' fields at least indicated existence beyond a purely human one. When Victorians attempted to extract certain animals from an ecological equation, negative and unexpected consequences dampened progressivist expectations of controlling or ordering the natural world.

In the preceding case studies, birds that once evoked grace or vigour, and whose habitats once signified the unspoiled pastoralism of a separate nature outside the human realm, eventually became markers of impending zoological precarity. As an article in *Mercury* testified in 1894: the “country is being robbed of half its charm by this devastation among our wild birds” (“Extinction of Wild Birds”). Yet, in many other cases (as the following case studies attest), depictions of bird depletions took on subversive tones by criticizing England's zoological vitality (and by extension, its national fitness), eventually driving the public toward a sense of responsibility for these birds. As I move through my remaining case studies, the public's ability to sense ecological disruptions strengthens. Many of the following media offer insights into a dynamic and altering natural world that had previously been elided or abused. By unveiling formerly obscured ecologies of the everyday, writers and illustrators alike qualified trans-species responsibilities instead of calcifying consumerist drives, bringing animals and their distinct needs and experiences into focus instead of evicting them from daily life.

Woodcocks. By 1885, the woodcock was “almost everywhere a rare bird,” *John Bull* reported in the article “Rare Birds in London.” Yet, however “shy in its habits” or

“extremely wary and suspicious” it became of others, woodcocks made appearances across London. In fact, *John Bull* claimed, London was “alive with birds”: in its parks, upon its waterways “attractive” to migratory species, and within the enclosed patches of “shrubberies and trees” populated with occupants thus far “unmolested.” The article indexed recent woodcock sightings, all the while collapsing culturally constructed understandings of home or environment as separable from nature. Individualizing specific woodcocks by focusing on the causes of their demises, *John Bull* described a plethora of encounters that would have been entirely relatable to many Victorians:

The bird, it seems, has been seen at Clapham, at Holloway, in St. James’s-park, in the Regent’s-park, in St. John’s-wood, on the banks of the Serpentine, in Eaton-place, in Portland-place, in Kensington Park-gardens, and in Kensington-gardens. It has been found in the Strand, where it was killed by flying against a telegraph-wire; in the Junction-road, Holloway, where it was shot; in the South Kensington Museum, and in Upper Clapton, where in each case it dashed itself to death against a window; in the St. John’s wood-road and upon Ludgate-hill, where it was taken up in an exhausted condition. Now, for every woodcock that is either seen or captured *there clearly must be dozens that escape notice altogether . . .* (“Rare Birds,” emphasis mine)

Two key ideas stand out here. Firstly, urbanites gleaned insights about anthropogenic pressures against local animals from everyday experiences in addition to absorbing

information from the presses.⁵⁷ Multiple causes of death brought into focus modernizing challenges to nonhuman fitness and the rampant human pressures threatening regional animals. The close scrutiny of impacted populations required hands-on surveillance. In some ways, woodcocks mediated a colloquial form of urban natural history, making naturalists out of amateur observers without the need for specialist training or education. *John Bull* encouraged such forays into natural history by admitting that, by 1885, natural history accounts of certain parts of London, Windsor Forest, and surrounding areas had “never yet been written” (“Rare Birds”).

Secondly, *John Bull* openly encouraged the public’s imagining of a nonhuman milieu superimposed upon their own domain. The article recognizes woodcocks as existing without any corroboration (the ones that “escape notice altogether”), prompting readers who were “not in the habit of looking out for strange birds” to conjecture the avian presences in speculative and affective (rather than observable or verifiable) ways. Like Schmitt, I do not contend that these “moments *are* knowledge.” Instead, I see them as “part of the process of the production of knowledge” (“Victorian” 47). *John Bull*’s admission that birds “escape notice” as well as its inability to cogently relate the woodcocks’ whereabouts when healthy and vigorous (recall that the woodcock predominantly surfaces deceased or nearing expiry) creates discursive room for contemplating the nonhuman as independently and non-conformingly agentic. The piece materializes a method of understanding the natural world from a position alien to the

⁵⁷ However, many of the experiences outlined in *John Bull* required privilege or “fortunate” circumstances to experience (“Rare Birds”). For instance, not all Londoners would frequent the Regent’s Park’s Botanical Gardens or Chelsea College.

human's traditional perspectival relationship with nature, encouraging the application of such a method in day-to-day living. The very thought of the woodcocks demanded speculative capacities to remap and reimagine shared living spaces and trans-species reciprocities that grew out of lived experiences. At times in this example, knowledge was produced by absence, by deduction and inference, instead of via producible artifacts or specimens. Thus, observers extracted from the city's bustle nonhuman needs unamenable to their own, even when the nonhuman is presented as intimately bound to the human's needs.

Golden Eagles. Outside the city, as well, human activity influenced threatened birds. Darlington's *The Northern Echo* (the same publication that signalled zoological depletion as a malignant "sign of the times") centralized for its readers a symbol of nature's glory and might in decline, and a sign of pre-industrialized times: a golden eagle. By 1885, *Echo* presumed the creature's total elimination, substantiating the average person's wide, panoramic vision of natural spaces evacuated of formerly familiar inhabitants. But, astonishment spread when reports of the revenant arrived from Scotland. *Echo* recounted the event:

It was stated some weeks ago that a golden eagle had been seen in Scotland to swoop down on the head of a buck leading its herd of does, to flap its wings, and worry the poor thing to death . . . [T]he most wonderful part of the story is that a golden eagle should be seen in Scotland at all, since the belief of naturalists is that the golden eagle is extinct in these islands. ("Extinction of the British")

At first glance, the eagle's threatening actions allude to a naturalized state of struggle and strife wherein precarity persists across all environments. *Echo* blamed both an "increasing population" and "the game-keeper's gun" for the eagle's dire situation, situating humans within that struggle and strife, too, albeit as a dominant predator. The publication predicted similar fates for other creatures, and asked of its audience, when they had last witnessed other previously plentiful creatures like grebes, spoonbills, or jays (it later counted wolves, otters, and wild cats among the disappeared). Without changes to their culling or hunting practices, *Echo* warned that the formerly abundant and diverse "fauna of England [will be] reduced to the rat, the field mouse, and the squirrel" ("Extinction of the British"). No longer could the natural world be exclusively depicted as pristine or untouched.⁵⁸

More importantly, encountering golden eagles connotes an affective way of knowing the natural world that makes room for the often-mysterious circumstances and lives of its nonhuman inhabitants. As the first hints of animals existing outside of a human temporality, refrains of "There was a time" throughout the *Echo* piece directs attention to creatures that had inhabited folk tales and natural history tomes and not *Echo*'s own circumstances. The piece taps into the audience's nostalgia for a fabled time of zoological abundances and preserved environments, demonstrating the Victorians' shifting focus from local birds to the wider gamut of British fauna disappearing before their eyes. Furthermore, the eagle's predatory behaviour exhibits a form of vitality not yet

⁵⁸ Though the History of Nature exceeds the scope of this project, it is helpful to peruse Williams' "Ideas of Nature" chapter in *Problems in Materialism and Culture* (1980), wherein he affirms the term's "complicated and changing" meaning over time (67).

drained by humans. Its imposition on another's creature's life—the buck, in this case—transmits ideas about trans-species links, and more so, the nonhuman's capable intrusions into another being's existence. “[A] powerful and peculiar emotional charge” may originate from an animal/human encounter (Schmitt, “Victorian” 37). In this case, a positive hopefulness for recovery stemmed from experiential rather than formalized ways of knowing the natural world. *Echo*'s optimism for recovery and its promotion of nonhuman resilience suggests that Victorians were learning to look beyond their own material circumstances and physical reality, a notion which contrasts with the period's positivist norm of requiring physical proof of existence. For instance, Lyell explains in *Principles of Geology* that after the dodo's announced extinction, and after scant evidence of its existence could be reclaimed, some parties had “gone so far as to pretend that it never existed” (273). As the century progressed, Victorians continually adjusted to the idea that after the occurrence of extinction events, forever lost were not only bodies but also the affective connections linking their interspecific involvements. Upon extinction, the animal's phenomenological experiences disappear, unrecoverable—that last point makes the wonderment associated with the eagle's return all the more memorable.

When *Echo* related that “the most wonderful part of the story is that a golden eagle should be seen in Scotland at all, since the belief of naturalists is that the golden eagle is extinct in these islands,” it endorsed ineffable and spontaneous feeling—a belief, a conviction, or a sentiment of a specific subject rather than formalized or institutionalized knowledge—as a driving force in non-specialist observations of the natural world. As a result, *Echo* forecasted optimism for the region's faunal durability.

Additionally, the passage astutely conveys the “wonderful” spectacle of the event, evoking feelings of unexpected or inexplicable awe (“Extinction of the British”). The eagle’s return implies that natural history’s habit of categorically organizing the world based on available evidence and visual markers primarily does not adequately illuminate the *entirety* of the natural world. In other words, the nonhuman realm endures in light of anthropogenic depletions. There is an intensity in the description of the eagle’s return that proves the fragility of complete human knowledge without affective insights to reference what natural history cannot. Therefore, a latent suggestion permeates *Echo*’s report: the ongoing impoverishment of earthly kin depletes the human’s awareness of the natural world. *Echo* implied that losing these trans-species connections at startling rates would numb public responses to collapse.

Great Bustards. Associative correlations between declining national pride and England’s weakening zoological robustness recurred throughout Victorian media. For example, in 1859, *Bell’s Life in London and Sporting Chronicle* labelled the great bustard, “[o]ne of the most interesting, largest, and rarest of [. . .] British birds.” It had once been “a common species in many parts of England,” *Bell’s Life* explained, “where extensive open tracts, untouched by cultivation, afforded suitable breeding ground.” But the evocation of a former life “untouched” and as-yet unexploited by consumerist or sporting demands did not last. *Bell’s Life* highlighted the “spread of agriculture” in its grievance that, “together with other minor causes, . . . combined to render the bird almost extinct with us.” One of these “minor causes” had profound effects. *Bell’s Life* pinpointed the cause in everyday practices: in its previous high numbers, the great bustard

had frequently occupied a “place of honour on the banqueting table.” Intentional or not, culinary customs evidently coerced collapses. The bustard’s absence had a twofold effect. Economically, the missing bustard in local marketplaces symbolized the worsening disruptions to bioeconomic sequences that connected hunters or producers to merchants and consumers. Moreover, the period’s expanding middle class and population upsurges made the customary meat choice too well-sought in a *laissez-faire* marketplace. Socially, the disruption to tradition spoiled the narratives of national fitness that the bustard’s former inclusion in festivities had suggested.

Bell’s Life adamantly pointed out a budding point of national shame: England’s depleted stocks stood out in comparison to Continental game populations.⁵⁹ It hoped that the potential of improved worldly standing would motivate recovery rates, especially since Continental countries with equally pronounced sporting cultures successfully deployed protectionist measures. For instance, capercaillies were previously thought annihilated in Saxony, but after reintroductions and the passing of protective legislation, their numbers swelled. “Why should not the same be done with the great bustard?” *Bell’s Life* posed. It then imaged a future England restored to its former “untouched” condition before despoliation, if similar plans could be adopted in England to grant its fauna time and space to recuperate. However, *Bell’s Life*’s memory seems short-sighted, since capercaillies were extinct in England before the start of the nineteenth century, and later

⁵⁹ The following description of German hunting practices provided by *Bell’s Life* sheds light on period hunting practices. During prime game season in Saxony, especially around Leipzig, “the amount of fur and feathers destroyed is something prodigious—deer, hares, rabbits, squirrels, and [. . .] foxes, play a prominent part in the list of the slaughtered, [along with] capercaillies, black grouse, partridges, quails, wild ducks, aye, [. . .] owls and hawks” (“Great Bustard”).

reintroductions never returned the species to its former numbers. Additionally, the desire to replace loss with profusion hinged on economic considerations; if dependencies on imports could slacken, then “thus would be restored to [England’s] fauna the most magnificent species of which it ever boasted.” But game traders also salivated at the chance to revivify bustard colonies—at the time, bustards were worth between 30s and 36s, and only rose in value as their rarity also increased (“Great Bustard”). Regardless of this public attention and future reintroductions, great bustards never recovered in England.

“*Feathered Denizens.*” In 1894, *Bristol Mercury* reported an increase in emptied, noiseless settings formerly lively with local birds, implying the extent to which depredation increasingly involved non-customary game birds. *Mercury* also openly subverted cultural narratives depicting England as zoologically rich. Attacking the hunting and culling practices only partially restrained by protective legislation, *Mercury* called for continued “preservation” and enforced “non-interference” in order to curb “the wanton destruction of the feathered denizens of the hedgerow and the field.” This protectionist attitude relied on projecting a future where abundance and paucity balanced, unpunctuated by disruption. *Mercury* insisted that particular trades were responsible for “doing their best to stamp out every flying creature,” faulting “fanciers, farmers, and gamekeepers,” as well as milliners, collectors, and taxidermists for endangering the likes of kingfishers, cranes, and woodpeckers. Those interested in catching glimpses of increasingly rare creatures were advised to “make special excursions to outlandish corners in search of them” (“Extinction of Wild Birds”). The emptying of wildlife from

English lands also suggested contagion, a spreading of excessive consumption habits that further exacerbated extinction anxieties and habitat losses. Accepting an emergent ecological sensibility meant acknowledging the extent to which English industriousness and consumerism haunted English bird colonies, a point unsettling to common observers and unavoidable across Victorian print networks.

Gold-Finches, Larks, and Linnets. In 1874, *The Times* informed its readership about the disappearances of common birds; the significance of this moment lies in its proof of an open print channel between classes and regions that publicized the dire conditions of England's zoological welfare. An anonymous Brighton woman brought to the attention of *The Times* a type of violence committed against domestic birds that was intensifying across England. Upon closer inspection, the testimony also affirms the links between spreading ecological disruptions and latent degeneration anxieties. The Brighton woman's account typifies the period's unrestrained hunting practices and routines:

The . . . question which troubles me sorely is with regard to the bird-trappers who infest these hills. Gold-finches, larks, and linnets have abounded here, but they are rapidly decreasing—swept away in the most wanton and barbarous manner by the nets of these evil men, worthless fellows who will not work, but prefer to lie basking in the sunshine on the breezy slopes, smoking and laying snares; and there they are, week-days and Sundays. No one seems to interfere with them. Personal remonstrance is in vain; but, I would ask, is there no power to prevent this evil-doing, not even on the Sabbath? Have the police no power to interfere in the

matter if applied to? (Morris, “Sale of Small Birds”)

The frustrated tone of her attack, her demand for justice for nonhumans, and her condemnation of authority figures for not intervening on behalf of birds depicted as vulnerable all demonstrate her doubts about the validity of human dominion. Her demands for restraint undercut assumptions of England’s national resources as freely available for plundering. Furthermore, diminutions in bird populations offset societal balances as well, as suggested by the allusion to an encroaching “barbarous” primitivism, a sign that depleted birds could be framed as gateway topics into cultural discussions about broader degeneration fears, some of which materialized in these emptied natural spaces. Thus, from observed violence surfaced a protectionist outlook predicated on non-interference with England’s remaining wild populations for the sake, equally, of biotic integrity and societal preservation.

Egrets. This chapter’s final case study illustrates the victims of overconsumption as well as the human’s disruptive intrusion into a nonhuman realm. In a photographically reproduced Large Cut titled “The ‘Extinction’ of Species; or, the Fashion-Plate Lady Without Mercy and the Egrets” from an 1899 issue of *Punch* (one of the period’s most popular weeklies) by popular illustrator Edward Linley Sambourne, strife co-habits the visual space alongside mutualism (see fig. 1). It encapsulates the period’s perceived tensions between consumerism and protectionism. In *Punch*’s world, the Large Cut was “not only physically but symbolically at the centre of the magazine’s public identity.”⁶⁰

⁶⁰ *Punch*’s Large Cuts were carefully constructed and culturally revered, so they deserve close scrutiny. Patrick Leary (2010) illuminates “the ways in which the staff discussion tailored the cartoons for the expectations and sensibilities of *Punch*’s imagined readers, how the process was shaped by the demands of topicality, the care with which accompanying texts were created to shape readers’ understanding of the

Thus, Large Cuts “represented *Punch*’s claim to a kind of serious influence, rooted in allegory and addressing prominent public issues and events” (Leary 35). In this Large Cut, an invasive species—the human—infiltrates the egrets’ sovereign space. To non-specialist readers, human and nonhuman realities reveal themselves as interstitial, overlapping. Because of this inseparability, *Punch* cast empathy alongside catastrophe as dual markers of the public’s developing ecological consciousness, and further, a trans-species conscience which placed humane treatment above commodity status.



Fig. 1. A photographic reproduction of Edward Linley Sambourne’s “The ‘Extinction’ of Species: or, the Fashion-Plate Lady Without Mercy and the Egrets,” from *Punch*; 6 September 1899.

cartoon, and the role of the conflict and competition in its creation” (7-8). He also recognizes the images’ deep public impact. Some Large Cuts “struck the public mind with such force that the events or issues they depicted remained associated or framed by those cartoons for years, or even decades, afterward” (36).

Multiple visual details allude to the egrets' forthcoming collapse.⁶¹ At the centre of the image stands an ornately attired woman, ornamented with a popular parasol, feathered headpiece, and stylish dress. She embodies the Victorian fashion industry. A hint of a smile lures the viewer's gaze to her face and away from the peripheral symbols of destruction around her. Limp upon her unfurled parasol (like meat upon a serving-plate or a butcher's block) lays a dead egret. Its plumage blends into the fabric, hinting at the accessory's provenance.⁶² Visually inferable are the dire results of unimpeded culling. Reeds fallen prostrate by the fashionable figure's feet resemble egrets in repose, necks twisted and tissue depreciated. They are bodies made imprecise by decay, melding into overgrowth, reminding viewers about the normalization of the associated violences empowering the widespread exploitation of England's finite avian resources. Broken eggs beneath the icon's feet suggest the crushing force of her intrusion into the animal's everyday reality, and further symbolize egret futurities and lineages ruined. Sharing the foreground with the fashion icon, an understandably upset egret examines its fallen kin,

⁶¹ Victorian visual culture contained diverse evolutionary imagery loaded with cultural ramifications, compelling viewers to question engrained ideological assumptions. "Images are not just a particular kind of sign," W.J.T. Mitchell (1986) espouses, "but something like an actor on the historical stage, a presence or character endowed with legendary status, a history that parallels and participates in the stories we tell ourselves about our own evolution from creatures 'made in the image' of a creator, to creatures who make themselves and their world in their own image" (9).

⁶² *Punch's* insights were anomalous. Other reports highlighted the merging of animal exploitation with fashionable trends. For instance, *Isle of Wight Observer* reported on an 1880 "grand fancy dress ball," opining it as the "the most brilliant and successful affair" in the area. Animal ornamentations signalled cultivated taste, a heightened sense of self-worth, and acquiescence to trends of self-improvement. Even the domestic cat appeared when the *Observer* catalogued the most fashionable guests. Along with her "white satin skirt trimmed with swansdown," Miss Eliza Barry wore a "Red satin game-bag and bugle horn" replete with a "Cap of white cat's skin, with cat's head complete." Nicknamed "Puss in boots" for the festivities, she had "One of the prettiest costumes in the room." Miss Barry had competition: Miss Beech and Miss Mary Denison wore "ostrich feathers" and Miss Halkett fashioned a "Glengarry of black velvet with eagle's feather and gold thistle" ("Grand Fancy").

while other egrets in the background flee by flight, abandoning nestlings to starve or become possessions of the intruder whose presence in this ecology disrupts its normal functioning. Viewed in conjunction with real-life reports of collapses like those already outlined in this chapter, this Large Cut no longer appears hyperbolic or satirical. By isolating the watershed moment of a natural space's shift toward decline, it gestures to the sureness of the colony's forthcoming collapse. After all, Sambourne's title triggers uneasy associations with Malthus's projection of inevitable losses of life due to strengthening competition for limited resources as well as with the title of *Origin*, itself a illuminating yet threatening allusion.

Reckoning with collapse pushed Victorians to think about what was transpiring beyond their immediate perceptions, though clues were left in their everyday settings. The Large Cut accomplished more than a scathing critique of the expendability of zoological resources for the sake of fashion trends or female vanity. Sambourne crucially illuminated for his wide audience the background existences visually inferable from plundered egret populations, and often overlooked without a sharpened ecological sensibility. The affective power of the piece rests in its nonhuman entities and energies formerly unaccountable within purely anthropocentric modes of perception.⁶³ The image also

⁶³ Sambourne's image predates modern theories about nonhuman agency, like those espoused by Estonian-born biologist Jakob von Uexküll. Uexküll was not a strict Darwinian, and his eventual theorization of *Umwelt*—the modeling or experiencing of the world according to nonhumans—clashed with some Darwinian principles. However, Uexküll's *A Foray into the Worlds of Animals and Humans* (1934) retrospectively offers nuanced understandings that had been incubating in the nineteenth century. The nebulous bordering of "The Extinction of Species" was likely the product of technological restriction, yet that obscuring of the human world beyond, and the concentration on a nonhuman place (until the human intrudes) suggests the possibility of lived experiences independent of human ones. As Uexküll distinguishes about nonhuman spaces, it is "only a piece cut-out of its surroundings, which we see stretching out on all sides around the animal" (52). Jason Wallin (2004) describes this outlook as a "vehement anti-humanism in

corroborates how, from breeders to cullers to traders to consumers, no position within the economic sequences that produced animal capital was exempt from overconsumption concerns. It presented *Punch* readers lessons about no longer obscuring disruptions for the sake of production, all the while encouraging improved interactions between species. Rather than overlook destructive and exploitive actions in the industry, Sambourne derided England's entrenched ways of producing and maintaining its zoological resources and therefore weakened the cultural egotism surrounding national might, unregulated extractivism, and worldly superiority which had hardened England's sense of hegemony over the natural world. Overall, "The Extinction of Species" evidences the concurrent development of Victorian conservationist impulses athwart consumerist ones all the while demonstrating how nonhumans underscored culturally influential messages about the ills of overconsumption.

Conclusions on Zoological Expendability

While depicting threatened English birds in feral or commoditized states, diverse Victorian media mediated cultural understandings of belongingness, competition, and mutualism, making reports, testimonies, and illustrations about collapses difficult to avoid. While overzealous depredation remained omnipresent in the period, my accumulated evidence points to a populace generally galvanized by domestic species collapses for detrimentally impacting their everyday habits and practices. Increasingly intolerant of outright zoological expendability, interclass media actively participated in

which the human world is apprehended from an alien vantage, palpating an ecosophical dissensus against the image of a single human world" (152).

the construction of nature as interconnected and belonging to all of England's inhabitants. Sometimes portrayed alive (like the *Punch* egrets escaping the human) but often depicted as deceased, the often-grotesque cultural life of England's declining birds forced the topics of collapse, recovery, or extinction into the quotidian consciousness. Victorian print culture came alive to trans-species relations and to the possibilities of an ethics for England's future zoological demography. Victorian Britain's sprawling print networks opened cultural conduits between classes and professions, making collapses broadly communicative. The affective responses to a zoological mass extinction spreading across England's rural and urban spaces impacted observers from all walks of life and roused those onlookers to disseminate messages about the need for restraint and responsibility in an era of escalating overconsumption. As I interpret the situation, ecological and evolutionary discourses created a levelling effect in the public consciousness—everyone was imbricated within the same closed network in such an interrelated way that a threat to one subject could believably have unexpected repercussions for another. Out of interactions with familiar yet jeopardized fauna, extinction as a cultural topic ascended to a level of broad critical and public attention.

Chapter Two

Meat and Media: Zoological Recycling in Victorian Extinction Economies

“For they must surely know that the result of the policy of extermination, so gaily and thoughtlessly pursued for the last sixty years, can only be the utter extinction of the species on the existence of which they depend for their profits.”—“The Process of Extinction,” *The Sporting Gazette*, 23 Sept. 1876

“To get your fortunes quickly made / Try the second-hand salt-meat trade.”—“Buy, Buy, Buy!” *Funny Folks*, 14 Apr. 1877

As early as 1825, meat overconsumption troubled some marketplace observers to the point that one letter writer to *John Bull* (dubbed “A Lover of Bacon”) proclaimed meat a “drug in the market” (197). By 1865, the evening newspaper *The Pall Mall Gazette* envisioned massive amounts of wasted meat products as a “crisis” in need of resolution. Manufactured at all stages of production by Victorian meat industries and game trades, animal waste—undesirable cuts, spoilt transportees, over-hunted victims—grew during a historical moment when swelling urban populaces (especially a growing middle class with increasingly expendable incomes) and increased industrial efficiencies exacerbated fears of species collapses.⁶⁴ The *Gazette* determined, “No people consume so much flesh-meat as the English; no people consume it so wastefully” (“Butcher’s Bill”). By this time, forty-nine percent of Londoners ate meat transported into the city—as opposed to livestock killed there. That figure would only grow (Perren 44). The *Gazette* targeted its own readership by pointing out the wasteful habits of the leisure class in relation to labourers: “It is painful to think that those who work faithfully and hardly for

⁶⁴ Richard Perren (1978) lists other reasons for escalating consumption, including: rising incomes, increased employment in the meat industries, and technological developments (216).

one's family are insufficiently fed; but still there is a limit to indulgence, beyond which it is absurd and wrong to transgress." The *Gazette* worried that food prices would rise and "squandered" scraps would lead to food shortages or waste crises among society's most vulnerable ("Butcher's Bill"). At the time, domestic wildlife was disappearing and Foot and Mouth Disease (FMD) had wasted England's livestock. Businesses needed to adapt or they risked outpricing a significant amount of their customer base: the working and middle classes. Minimizing unsustainable meat consumption necessitated innovative solutions that, at times, approached—though never fully embraced—proto-conservationist ideas.

The surviving print traces of the Brooke Brothers, popular game and poultry dealers in London, provide compelling illustrations of marketplace leaders incorporating extinction anxieties within their business plans.⁶⁵ Species collapses manifested in tangible economic terms, making perceptible a trend wherein disappearing profits coincided with declining zoological resources. Further, class relations and national symbolism were inferable from ordinary products and marketplace minutiae. Navigating tricky economic and protectionist discourses fraught with conceptual contradictions, the Brothers worked both sides of the conservationist line by economizing extinction anxieties. Faced with rising wastefulness, they utilized rhetorics of scarcity that carried proto-conservationist associations in order to mask the powerful operations of the consumerist marketplace; engaging with extinction anxieties reinforced the business's credibility and reinscribed Victorian social hierarchies. Indeed, under the conjoined banners of conservationism and

⁶⁵ From this point forward, the Brooke Brothers will be named by their colloquial moniker, "the Brothers."

public duty, the Brothers marshalled and shaped London's game trade in such a way that the reduction of wastefulness would protect their business interests. This case study grounds Victorian responses to collapses in the consumerist conditions that created them, stirring pressing questions: should loss be obscured and elided by economic value? Could loss be mitigated based on the potential of future gains? If production and consumption were metrics for measuring the vitality of the nation, then did wastefulness imply a squandering of national pride or a dearth of English conscience in an age of immoderations? As Victorian print media suggests, extinction discourses that emerged from Victorian consumerist practices both maintained and critiqued consumption practices.

One of this chapter's main goals concerns tracing the discursive entanglements of a consumerist conservationism that formed because of the linked crises of scarcity and wastefulness. "All animals consume, reproduce and excrete," Kate Soper (2003) points out, "but only human beings create waste" (129). From the perspective of Critical Discard Studies, the concept of wastefulness opens up conceptual possibilities since waste "is always material (first) and figurative and metaphoric (second)," or in other words, waste "is literal *and* literary," and interpretable as a "*site of narrativity*" (Morrison). As Mary Douglas (1966) famously argued, waste, dirt, or excess attracts a glut of metaphorical meanings, which are never absolute and always subject to contestation (5). Wastefulness had complex connotations to Victorians and, more obviously, offended depictions of England as zoologically robust. Upon further inquiry, these crises also had deeper ideological purposes. As Douglas avows, "Dirt offends against order" and the attempts to

deal with waste or detritus become attempts to “organize the environment” (2). Inevitably, as the Brothers’ business tactics reveal, those attempts took on the will or viewpoint of those in charge of eliminating waste.⁶⁶ Representations of scarcity and wastefulness in England became key points of the Brothers’ marketing stratagems. While they profited from a conservationist stance and popularized themselves as eliminators of excesses produced by meat markets, they never fully extricated themselves from a capitalist mindset. The Brothers’ proto-conservationist concerns emerged from conditions always-already compromised by consumerist needs or nationalist rhetorics. As I will demonstrate, the *regeneration* of profit conditions involved the complex mingling of conservationism and consumerism, both of which attempted to transform waste or detritus into new, practical, and ultimately profitable configurations.

The Brothers’ business also modeled a consciousness about class placement and social mobility. They cleverly intervened in the wastefulness of the leisure classes without alienating or affronting their suppliers of surplus game. Further, while serving the call for public good, the Brothers implicitly refused the categorization of the poor—a notable portion of their clientele—as unproductive members of society precisely because they aided in the recovery of “waste” as nourishment. Notably, these developments came about through the innovative trading process of zoological recycling, a way of lessening the negative impacts of sporting’s oft-wasted excesses by commoditizing them. Waste production from English meat industries motivated second-hand meat trading to offset

⁶⁶ Amato notes, “In moments of exchange, commodities circulate the beliefs and values that have accrued to them through production, ownership, and use” (22).

high zoological losses. In this chapter, I trace the surplus products of the meat and game trades, recovering the detritus of human activities: animals caught and then discarded by upper-class sportsmen or overzealous hunters as well as expendable animal bodies in meat markets more generally. The Brothers' plan to profit from a stable supply of re-sellable products depended on sustaining a stratified capitalist society. They secured a status as benefactors of disadvantaged peoples while using them in an economic scheme that benefitted their bottom line. In turn, their revenue streams were preserved and their social status was elevated by marketing themselves as providers of affordable foodstuffs who, if supported, would continue to protect local resources and national interests.

My focus on the economic *uses* of extinction anxieties in Victorian marketplaces rounds out a critical trend rooted in Ritvo's work on the figurative potency of Victorian animals. Her work steered later studies (Prasch 2008; Young 2008; Amato 2015) on the relationship between consumable animals and their symbolic commodity statuses.⁶⁷ Like my predecessors, I trace how circulating zoological resources unveiled "the ways that animal life gets culturally and carnally rendered as capital" (Shukin 7). Throughout this chapter, I bear in mind how proto-conservationism fell in line with capitalist attitudes (or even imperialist attitudes toward resource durability). This outlook triggers important questions about Victorian consumption: In what ways were animals manipulated in physical *and* figurative ways to enforce consumerist habits? How significantly did

⁶⁷ Multiple scholars have influenced my thinking here, including: Thomas Prasch's (2008) exploration of the deeper meanings of "exhibitionary" edibles in London's "foreign foodways" during the 1851 Great Exhibition (588); Paul Young's (2008) treatment of the consumable animal body as an "emblem" indicating how "the production and consumption of food would become a crucial motif" in portrayals of "globalisation" (569); and Amato's work on animals advertised "alongside other second-hand goods" (34).

animals figure into class-based stratification?

In this chapter, I discuss the Brothers' brand-building stratagems before contextualizing extinction economies. While cracks appeared in *laissez-faire* capitalism and waste issues opened domestic disruptions to public scrutiny, it was difficult to extricate these early conservationist efforts from capitalist drives (a point clarified by the next section concerning an 1875 dispute between the Brothers and an industry outsider). Then, I discuss in detail zoological recycling, a processing scheme that distanced the Brothers' public reputation from sites of collapse by transforming the detritus of upper-class sport into accessible and affordable sustenance for the masses. By focusing on animals and practices typically excluded from critical attention, I show how zoological recycling, in Rebecca J.H. Woods's (2015) terms, created "distance" between the animal capital that the Brothers advertised for consumption and the agentive beings whose slaughtering sustained their business, manufacturing an "ellipsis" which resulted in, at least partially, "the removal of slaughter from the public domain, particularly from city streets and butchers' storefronts" (118).⁶⁸ Finally, I attend to threatened hares that communicated the mounting urgency of England's domestic resources; but the Brothers positioned hares within an inherently *regenerative* idea of an imperialist nature in which protectionism always aligned with future profitability.

⁶⁸ The Brothers' obscuring of the means of urban food production did not represent the entire experience of the poor. For example, the placement of pigsties, abattoirs, or tanneries in working-class slums meant that the very poor were always faced with—and literally immersed in—the entire process of food production. The Brothers' privileged ranking in local marketplaces meant that they could obscure violences from their storefront and advertisements, though they could not prevent the affective violences of the meat industry at large from spreading into the everyday lives of England's most vulnerable citizens.

“We Must Take Their Word for It”

In early April 1875, F.O. Morris, a village parson from Nunburnholme Rectory outside York, read a rather neutral account of a visit to Leadenhall market penned by a Hoddesden correspondent for *The Times*. The original report documented the market’s lively bustle: clerks pushed through the masses with fresh products, consumers jostled for bargaining positions, and sellers cried and waved at the peripheries of their boothed territories. The account also distressed Morris by cataloguing the diverse animal offerings available in London’s meat markets. Dismembered, quartered, skinned, or otherwise carcassed (though sometimes alive and encaged), animals were displayed both in meticulous arrangements and dumped piles. He fixated on the sale of “certain birds ‘protected’” by the Wild Birds’ Protection Act “despite the presence of police-men in the immediate vicinity,” leading him to the conclusion that even small amounts of illicit trading would weaken England’s zoological resources (“Wild Birds’ Protection”). The act first focused on sea-fowl when it came into being in 1869, but later amendments incrementally added wild species to protected lists (“Bird Law”). One of London’s popular and long-standing meat supply specialists advertised those supposedly protected birds: the Brooke Brothers.

From stalls 149 and 152 in Leadenhall Metropolitan Market (“Important”), and stalls 206, 207, 307, and 308 in the Metropolitan Meat Market, formerly Smithfield Central Market (“Messrs.”), the Brooke family ran an intergenerational and successful game-trading enterprise under the banner “Brooke Brothers,” but for a time they also promoted themselves as “Charles E. Brooke and Sons” at stall 39 in Leadenhall

(“Notice”). The patriarch, Charles, established the company in 1811. The Brothers grew large, standing out amongst meat-trading brethren and enlisting multiple employees.⁶⁹ They self-advertised as “Salesmen” (“Important”) who also served the needs of “[g]ame dealers, keepers, and wholesale buyers” (“BOMBAY Direct”). In 1901, the surviving Brooke generation, including Charles’ sons Charles Cottrell and Percy Arthur, dissolved the family business to pursue alternative business interests (“Notice”).

Though Morris’s proof of the Brothers’ infractions was dubious, I draw on this incident to call attention to the imbrication of conservationist impulses and consumerist drives. Morris’s plea to uphold conservation laws confirms that species collapses and ecological disruptions were experienceable at the end of a sequence of production extending from producers to consumers (and deeply ingrained in the individual consumer’s shopping experience). This industry outsider capably imagined the outlawed passage (transportation *and* transformation) of protected birds from provincial lands to urban spaces. In fact, he was known to readers of *The Times* for exposing the ineffectiveness of existent legislation and “the nefarious practices of . . . birdcatchers.” As early as 1873, Morris complained of the Wild Birds’ Protection Act’s short-sightedness, noting that “several birds are given as distinct birds, when, in fact, they are all the time one and the same species,” thereby proving the classificatory difficulties facing catchers and traders. He also criticized the Act for its omission of birds “of which there are only too few left already,” demonstrating the uneven usefulness of protective legislation (“To

⁶⁹ An 1885 blurb from *The Illustrated Police News* validates the last point. A money-collector for the Brothers, Siebe C. Ontshorn, worked for the business for eight years but pleaded guilty to embezzlement. The report also affirms the difficulty of tracking the flow of capital in these marketplaces (“A Perilous”).

the Editor”). Evidently, threatened English fauna populated cultural narratives that reflected a mounting sense of ecological awareness. As will be shown, however, those narratives were inexorably shaped by economic exigencies surrounding the maintenance and durability of zoological resources rendered valuable for monetary and nationalistic reasons.

The Brothers, predictably, refuted Morris’s accusations. “Well known” as suppliers of game and poultry in London marketplaces, they upheld the integrity of their trade, as their scathing response to Morris reveals (“Mice”). Using *The Times*, they remedied the “erroneous impressions” that, as dealers, they circumvented existing conservation measures or associated with animal smugglers. The response reassured their customer base as much as it derided their critic. The Brothers mocked Morris by contemptuously addressing him as “A Village Parson” rather than by name, a denigrative attitude suggesting that the countryside dweller knew less about Protection Acts than their urbanite selves, the ones who solicited for animals from beyond the city. Moreover, the Brothers evoked an obligation to the marketplace that simultaneously reinforced national pride and their class positioning—they used *The Times* as a public forum, after all. Shifting seamlessly between sarcasm and sincerity, the Brothers declared,

It becomes on our part a duty to vindicate the honour of those who pursue our calling, and to assure the rev. gentleman (and your readers) that . . . the most casual inquiries would have proved to his unenlightened mind that the birds in question, having been consigned from Holland, do not in any degree come within the influence of our Legislature’s desire to preserve

English specimens of the same description. (“Wild Birds’ Protection”)

Their defence of English trades stamped out prospects for transgressions, which in turn highlighted their status as law-abiding community leaders who upheld “English specimens” as nationally valued. They further highlighted this message: “Evasion of the law is not countenanced by poultry and game salesmen in any one respect, and Acts of Parliament are certainly not regarded as being composed of the elastic material many of the clerical profession consider them” (“Wild Birds’ Protection”). The public dispute established the Brothers’ familiarity with conservation laws and their understanding that ecological disturbances, clandestine poaching, or otherwise unlawful practices also impacted their public image and bottom line. While their speculative capacity to distinguish economic and ecological interconnections positioned them as both prophets of economic trauma and defenders of England’s overall vitality, they did not consider their trades’ impact on Holland’s stocks. Their strategies, then, can be construed as nationalist or paternalistic, too, as akin to policing their protectionist demands of the meat market, especially since they advertised their actions as related to the public’s welfare and as beneficial to the general British subject. The boldness of the Brothers’ refutations, their willingness to issue public insults to protect their interests, and their suggestion that critiquing the industry’s motivations implies the accuser’s dearth of national pride all point to an ecological awareness inextricably bound up with preserving the nation’s economic vitalities.

Soon after the Brothers’ response, Morris yet again implored *The Times* for “space for a very few lines” to refine his condemnation. He acknowledged the Brothers’ public

influence but groaned about their seemingly insurmountable authority over meat market matters. He complained: “We must take their word for it.”⁷⁰ Then he fuelled the dispute by projecting the nation’s potential trajectory toward zoological exhaustion, declaring, “I think the facts of the case ought to be known, and they will account only too well for the diminution in the number of some of our migratory birds so often commented on by many of your correspondents” (“Sale of Small Birds”). Morris pressed for an open, public conversation instead of confining dialogue to an enclosed group of traders, a telling sign that non-specialists took advantage of available print outlets in order to act against perceived societal problems catalyzed by extinction anxieties.⁷¹ Overall, the dispute confirms that resistances to collapses also radiated from grassroots and non-specialist origins (though motives varied).

Marketing the Brooke Brothers

Popular accounts of costermongers, game traders, animal dealers, and related trades have often portrayed participants as unconcerned with future stock declines. For instance, Henry Mayhew explains in *London Labour and the London Poor* (1851), “The provident costermonger, who has thus ‘got on in the world,’ is rarely speculative” because the

⁷⁰ De Certeau explains that “when a subject of will and power (a proprietor, an enterprise, a city, a scientific institution) . . . assumes a place that can be circumscribed as *proper*” (xix), they may eventually “conceal beneath objective calculations their connection with the power that sustains them from within the stronghold of [their] own ‘proper’ place or institution” (xx).

⁷¹ To further corroborate his projections, Morris equated England’s situation with “the wholesale massacre of small birds in Belgium.” Marketplaces brimmed there with stuffed displays “300 or 400” deep, “[p]oulterers’ shops” from Antwerp to Brussels “piled” high their local avian products, and basketfuls of “small birds ready picked” (also “beautifully arranged in trays”) tempted casual shoppers. Visits to the quieted countryside chilled observers; one lamented “the dearth of small birds,” and further speculated, “if they are consumed wholesale as they now are, I think they must soon cease to exist altogether” (“Sale of Small Birds”).

livelihood “distrusts any remote or contingent profit” (57). Although the Brothers at times sold similar game as street hawkers, they distanced their public image from that of the “ignorant costermonger” who possessed hardly enough foresight to endure the next winter (56). Indeed, as meat marketplaces expanded, businesses like the Brothers’ pushed out humble costermongers and individual traders from the economic picture, especially since those businesses could efficiently serve more of the costermonger’s clientele.

<p>August, 1869. JOHN H. M'LAUREN, Manager. JOHN B. JOHNSTON, Secretary in London. July 24, 1869. IMPERIAL FIRE INSURANCE COMPANY, 1, Old Broad-street, and 16 and 17, Pall-mall, London. Established 1803. Subscribed and Invested Capital, £1,600,000. Insurances due at Midsummer should be renewed within 15 days thereafter (last day, 9th July), or the same will become void. JAMES HOLLAND, Superintendent.</p>	<p>German Spa, Brighton. Price lists on application to their only establishment, 22, Henrietta-street, Cavendish-square, London, W. STRAWBERRIES and CREAM.—Devonshire CLOTTED CREAM is the best to use with strawberries. RECEIVED DAILY, 1s. 6d. a jar, at TUCKER and SONS', Devonshire Provision Dealers, 237, Strand, W.C.</p>	<p>RIMMEL'S IHLANG-IHLANG, or the Flower of Flowers, the finest perfume ever produced, from 2s. 6d. RIMMEL'S TOILET VINEGAR, superior to any Eau de Cologne, 1s. 2s. 6d., 5s. RIMMEL'S LIME JUICE and Glycerine, the best for the hair, 1s. 6d., 2s. 6d., 5s. —RIMMEL, Perfumer, 96, Strand, 24, Cornhill, and 128, Regent-street.</p>
<p>DIVIDENDS 10 to 20 PER CENT. For SAFE and PROFITABLE INVESTMENTS Read SHARP'S INVESTMENT CIRCULAR (post free). The JULY NUMBER now ready. It contains the best and safest stock and share investments. CAPITALISTS, SHAREHOLDERS, TRUSTEES, will find the above Circular a safe, valuable, and reliable guide. Messrs. SHARP and CO., Sharebrokers, 22, Poultry, London. First Published 1852. Baskets, 10d. and Westminister, 6d. each.</p>	<p>POULTRY, GAME, &c.—G. CLARK (late Harris), Purveyor to her Majesty and H.R.H. the Prince of Wales, &c., begs to inform the nobility and gentry that the very best fed Poultry and Game of all descriptions, however scarce, can always be had of him—49, Duke-street, Manchester-square, London.</p>	<p>HAY FEVER.—SUMMER CATARRH. HANTHONXANTHUM is the successful remedy for this distressing affection: its effect in removing the most trying symptoms is immediate. Prepared solely by JAMES EPPS and CO., Homeopathic Chemists, 179, Piccadilly, 112, Great Russell-street, and 48, Threadneedle-street.</p>
	<p>GAME.—QUAILS ALIVE.—The last Quails this season have just arrived, which are suitable for turning out or breeding: 7s. 6d., 9s., and (fat for table), 14s. 6d. per dozen, baskets included.—BROOKE BROTHERS, Game and Poultry Salesmen, 149 and 152, Metropolitan Market.</p>	<p>DINNEFORD'S FLUID MAGNESIA. The best REMEDY for ACIDITY of the STOMACH, Heartburn, Headache, Gout, and indigestion; and the best mild aperient for delicate constitutions, especially adapted for ladies, children, and infants. DINNEFORD and CO., 172, New Bond st., and all chemists.</p>

Fig. 2. A Brooke Brothers advertisement entitled “Game—Quails Alive,” from *The Morning Post*; no. 29817, London, 2 July 1869, p. 1.

The Brothers made increasingly sophisticated advertising decisions as their own operations expanded. Importantly, brand success gave the Brothers a high quality of marketplace authority in London and surrounding areas, effectively making them stewards of the meat market. They studied local market pressures and published industry figures in a role increasingly constrained by trade restrictions and legislated regulations (“Mice”).⁷² They also self-promoted as “representatives of our market and the general

⁷² The Brothers provided marketplace figures in various print outlets. For example, according to tabulations that appeared in *The County Gentleman*, during one week in October 1889, 3120 “beasts” were transacted

trade” and spoke often about their “duty” to speak on behalf of “poultry and game salesmen” (“Wild Birds’ Protection”). This promotional activity evidencing “co-operative action” among tradesfolk “was not uncommon in Victorian Britain” (Brown 275).

Ulster House,
 CONDUIT STREET, W.
SHOOTING GARMENTS ARE NOW IN HAND

IN ADDITION TO THESE,
 GARMENTS FOR TRAVELLING, YACHTING, FISHING, RIDING, DEER-STALKING, TOWN, COUNTRY, SPORTING, AND OTHER USEFUL PURPOSES.

MESSRS. BENJAMIN'S
 CONTINUED ATTENTION.

See Illustrated Price List on Application.

MACKINTOSH DEPARTMENT NOW OPEN.

GAME SEASON.

Brooke Brothers,
 GAME DEALERS,
 208, 207, 307, 308, CENTRAL MARKET, LONDON.
 ESTABLISHED 1811,
 HAMPERS AND LABELS, &C., FREE.
 CORRESPONDENCE AND CONSIGNMENTS SOLICITED.

THE OLD STYLE.
 ADVANTAGES:—STRAIGHT SEAT, COMFORTABLE THE STIRRUP
SPONGE-LINED PATENT
 FOR THE PREVENTION OF
SORE BACK
 PRICE FOR SIDE OR CROSS SADDLERY
 In ordering, the length of the saddle from the front of the seat to the back, and the width of the seat from edge to edge, should be sent. The length of the stirrup leathers should also be indicated.
Saddlery & Harness Manufactory, 457 & 459, N. BROADWAY.

"WHAT" A STICK!
 WHERE "DID" YOU GET IT?
BEN CO.
 AT 411, OXFORD STREET,
 Adjoining Squire's, corner of D'ARCY STREET.

HEALTH, STRENGTH & ENERGY
DR. LALOR'S PHOSPHODYNE

For TWENTY-FIVE YEARS has maintained its world-wide reputation as the most reliable and most effective PHOSPHORIC REMEDY ever discovered for the Purpose of Cure of Brain Weakness, Paralysis, Stupor, Hysteria, Debility, Premature Decay of Vital Power, and all Functional and Disordered Conditions of the System dependent upon the deficiency of the Vital Forces.

It Cures Dyspepsia, Lung and Heart Disease, Curves Kidney and Liver Complaints, Cures all Disorders of the Blood, Cures Consumption and General Debility, Checks all Wasting of the Vital Forces, From Whatever Cause arising.

THE EFFECT of this Standard Phosphoric Remedy in Nervous Debility and its kindred Brils is Immediate and Permanent, all the Miserable Feelings and Distressing Symptoms disappearing with a rapidity that is REALLY MARVELLOUS.

DR. LALOR'S PHOSPHODYNE actually creates New Nervous Fluid and Brain Matter by supplying the Blood with its Electric Life element, Phosphorus. "The very Core and Centre of the Brain itself," and, whilst pleasant to the Taste and agreeable to the Stomach, never fails to Purify and Enrich the Blood, and thoroughly invigorates the Brain, Nerves, and Muscles. Its energizing effects are shown from the first day of its administration by a remarkable increase of nerve and intellectual power, with a feeling of courage, strength, and content to which the patient has long been unaccustomed. Digestion is invigorated. The appetite increases wonderfully. The bowels become regular. Sleep becomes calm.

Fig. 3. A Brooke Brothers advertisement entitled “Game Season,” from *The County Gentleman: Sporting Gazette, Agricultural Journal, and 'The Man about Town'*; no. 1433, London, 26 Oct. 1889, p. 1475.

Often, their public appeals hinged on sincerity rather than salesmanship, as when

in the cattle market. Tabulations from previous years also appear: “[1888,] 4290; 1887, 5130; 1886, 3630; 1885, 4420; 1884, 3160; 1883, 3610; 1882, 3370; 1881, 3990; 1880, 4760; 1879, 4990” (“Markets”).

the Brothers spoke about their attempts to mitigate fish prices. “We write with no ideas of getting a cheap advertisement,” they declared, “but, having been in the markets for a long series of years, [we write] to disabuse the public mind of stereotyped notions, and to appeal for a fair trial” (“New Fish Market”). By mid-century, the Brothers’ intensified their presence in advertisements, indicating that their commercial credibility and marketplace authority evolved alongside their public celebrity. By the 1870s, their brand took on increasingly prominent displays as their name became a fixture in English classifieds.

To demonstrate the Brothers’ marketing developments, let us compare two advertisements. In 1869, the Brothers advertised in *The Morning Post* live quails “fat for table” (see fig. 2). The advertisement’s small size, unexceptional typeface, and indistinguishable style among other similarly designed ads all *seem* to suggest that the Brothers had not yet made a strong correlation between business success and advertising (“Game Season”). At the time they posted for quails, however, other reports verified the Brothers’ high-volume trading, even if their advertisements did not yet visually convey a grand scale of operations. For instance, in 1869 *The Morpeth Herald* described a “large cargo of ptarmigan and other game arrived in the docks . . . from Norway, consigned to Messrs. Brooke Brothers.” The *Herald* also described the scale of the labour involved in procuring them:

At this season of the year the birds are driven by the severity of the weather into the valleys, where they procure a plentiful supply of the juniper berry. They are carefully packed, pieces of ice being inserted under

each wing, and by this means are brought to this country in a perfect state of preservation. A large number of quails are also expected by way of Marseilles from Egypt and Italy, and it is expected that 200,000 of these birds will arrive this season, being double the number of those imported last year. (“News”)

Elaborate shipping methods and schedules meant investing significant capital, labour, and time in careful preservation methods, but their wide logistical operations also detail a business already prosperous enough to benefit from others’ labours. It is no surprise, then, that they advertised in the *Post*, a conservative outlet that challenged *The Times* for readers. But as will become apparent, the business also crucially relied on active networking with lower- and middle-class consumers, too.

By 1889, the Brothers’ public image evolved into a more conspicuous and sophisticated form (see fig. 3). In addition to publications with large circulations like the *Post*, the Brothers targeted print outlets that appealed to leisure-seekers and sporting types, occupiers of a significant station in their business model that linked social classes and geographic regions. The title of their *County Gentleman*’s ad draws the eye toward their branded name, with enough spacing between them to emphasize, definitively, “Game Season.” No tagline gimmicks or visual devices distract viewers, unlike the engraved dogs in the above shooting garments advertisement, a difference suggesting the uncomplicated and earnest nature of the Brothers’ endeavours. The simple, capitalized title also encapsulates the seriousness of sporting rituals. Note the visual connotations of adjacent advertisements. For example, the Brothers’ euphemistic heading offers less

traumatic associations than Ulster House's bolded and eye-catching sub-title "Shooting"—the garment ad's attempted enjambment fails when the reader's eye lingers on the pronouncement (and encouragement) of violence. Furthermore, the Brothers' sober invitations for "correspondence and consignments" pinpoint them as professionals in the second-hand trade. Gone are the hard-to-read blocks of print—the Brothers could afford to place their ads in pricier, personalized sales columns ("Game Season").⁷³

While they targeted an affluent clientele in the *Gentleman*, their marketing choices suggest tension between their affluent and ordinary customers; on reflection, however, the Brothers did not openly treat their labouring or middle-class customers as inferior. Conversely, their business depended on sustaining both ends of the social spectrum. While their advertisements often directly targeted wealthier clientele, they also addressed the wider public, as demonstrated in the following example. Support for competitive (though fair) pricing, and accessible products informed the Brothers' relationship to the public throughout the rest of their career, sustaining their unique business model and means of production.

For example, in 1883 the Brothers wrote *The Morning Post* to declare that some sellers deliberately raised fish prices, all the while framing their own enterprise as

⁷³ The Brothers' brand involved market forces similar to those that drove the sale of exotic pets. Many of their advertisements ran alongside listings for pets, suggesting a class-based symbolism governing animal ownership. In 1852, A notice in *The Times* nearby the Brothers' advertisement promoted "an extraordinarily fine REGIMENTAL MACAW, . . . a beautiful Maltese Terrier, a female, and a very fine young Persian Cat, both of snowy whiteness and matchless beauty" ("Notice to Shippers"). By 1869, their advertisements were associated with increasingly exotic creatures. *The Times* ran the Brothers' ads beside notices for livestock (rams and cart-horses), pets (retrievers, mastiffs), and exotic animals. The latter included wares from animal dealer R. Green: "JUST imported, a great quantity of GREEN TREE FROGS, Lizards, Salamanders, all 1s. 6d. each. Land tortoises, all sizes, 1s. Each" ("BOMABY Direct").

forthright in a competitive market. They apologized on behalf of other suppliers who refused to lower prices, noting how “difficult” it would be “to secure a good supply, and full prices have to be guaranteed.” Discrediting their participation in manipulative tactics, they shared sales figures “showing no extortion gain,” and boasted that their “prices have been low enough to satisfy all” (“New Fish Market”). The Brothers always claimed to have the interests of common consumers in mind and they refrained from alienating potential customers by some of the more profitable strategies associated with free-market capitalism.

In another example, the Brothers supported the meat markets’ logistical innovations by rallying support for “cheap rate by rail,” which would serve more customers and enrich more businesses. The quick flow of animal capital between producers and dealers decreased unhygienic livestock runs through urban corridors and increased the freshness of incoming products (Rambler).⁷⁴ A railway network linking busy ports, provincial producers, and urban consumers expanded the Brothers’ customer base and marketplace power, serving as both the means of, and a metaphor for, linking disparate classes and vocations for profit’s sake. Cognizant of the Malthusian consequences of feeding a continually expanding customer base, the Brothers innovated strategies to overcome some of those pressures while remaining profitable, fusing conservationist strategies with business savvy.

⁷⁴ In 1868, *The Sunday Times* published “Going A-Marketing” (penned by a persona listed as the “Rambler” who describes the “cosmopolitan” marketing experiences of London in relation to other major hubs like Paris or Milan), shedding light on the haggling, logistics, and transportation involved in the meat trades. The article directly linked evolving transportation methods to the increasing popularity of the Brothers, whom the Rambler called “great London salesmen” and “great poultry and game dealers” (Rambler). Smooth operations best served public needs.

This progressive (and assertive) canvassing partially derived from an ancillary effect of FMD (the so-called “cattle plague”) that ravaged English stocks starting in 1865.⁷⁵ Perren recounts, “the cessation of the live cattle trade from February 1866 and its severe curtailment from April of that year until 1867 forced traders to devote greater attention to alternative methods of supplying the great urban markets” (100). Brokering deals outside traditional agricultural sources, the Brothers used the threat of looming hardship to their advantage by targeting market inefficiencies that did not imperil vulnerable cattle or sheep stocks. Recycling what meat was available would prove beneficial to their business.

Meeting the “Middleman” in the Second-Hand Game Trade

Appearing frequently in *The County Gentleman*, the Brothers advertised their business as always “open to receive any quantity of surplus Game from the Noblemen, [and] Gentlemen.” They promised to “remit highest market prices” for carcasses that would otherwise contribute to England’s waste crises (“Messrs.”). The Brothers targeted advertisements at prosperous demographics in provincial communities, soliciting excess game that could be resold to less-privileged consumers, and seeking to transform animal discards into profitable commodities. Once purchased, the spoils of exclusive sporting rituals thus started their journey of trickling down into public circulation. But zoological recycling was not an innovation of the Brothers alone. Other businesses operating out of the

⁷⁵ For an overview of the contagion threat, see Abigail Woods’s “The Construction of an Animal Plague: Foot and Mouth Disease in Nineteenth-century Britain” from *Social History of Medicine*, vol. 17, no. 1, 2004, pp. 23-39.

Smithfield Central Poultry Market similarly solicited for surplus game. Chas D. Fernf, a poultry salesman, claimed to have already served “many of the nobility and gentry for whom [Fernf] has had the honour of disposing of game” (“Multiple Classified”). Jennings and Company repeatedly announced in advertisements that they were “prepared to correspond with gentlemen with a view to receiving consignments of surplus game, either large or small,” and in any “[quality]” (“Game Season—Jennings”). Zoological recycling mitigated England’s dependency on imported foodstuffs and publicly addressed some of the urgencies surrounding the Victorian’s wasteful habits, but only superficially: zoological recycling did not solve wastefulness or the dietary challenges facing the lower classes.⁷⁶ This realization prompts a closer look at the Brothers’ underlying motivations for joining the second-hand meat trade.

At first glance, surviving media about second-hand foodstuffs suggests that the Brothers tackled an issue pertinent to the meat and game trades’ collective viability: the alarming volume of wasted animal capital. The common yet under-studied second-hand meat trade thrived alongside traditional modes of animal capital production. An 1877 ballad “Buy, Buy, Buy!” from *Funny Folks* puts into context the public’s understanding that rampant wastefulness created threats to England’s national image and public health:

Buy, buy, buy! Who buys to day?

Shiploads of meat to be given away!

⁷⁶ As a sign of this failure, one may look to future media for the dietary problems still facing the lower classes. A 1905 *Devon and Exeter Daily Gazette* article discussed horse meat as a viable food option for the lower classes and admitted that “catsmeat” still turned up in London’s East End (often unlabelled in market displays). “The British working man,” after all, was, “in spite of all temptations, a meat eater,” and rejected a diet, if finances allowed, of “cabbages and patent foods” (“Meat of the Poor”).

Beef and pork for the Queen’s ships found,
Bought at sixpence and more the pound,
Going, going (*aside*) I might say ‘gone.’
Who bids for our reeking car-ri-on?

.....

Thousands of pounds of rotten meat,
Too bad for our dainty lads to eat,
But just for the Merchant Service prime.
Look alive ‘ship knackers,’ now’s your time!
A penny a pound—if you’ll give no more—
From the Royal dockyards’ rotten store.

.....

Fine salted flesh of putrid hogs.
Good enough that for sailors and dogs;
Junk alive and kicking, my boys,
That’s the stuff the seaman enjoys:
To get your fortunes quickly made.
Try the second-hand salt-meat trade. (“Buy, Buy, Buy!”)

Two major insights dominate this ditty intended for a popular audience. Firstly, satirizing the putrid state of meat for the lower classes points to the threat of pervasive wastefulness. More significantly for this discussion, a “second-hand” or auxiliary meat trade that utilized the primary meat trade’s detritus and “junk” evidently thrived in

England, though not without reproach from observers outside the trade. From the zoological recycling process, we can surmise the Brothers' understanding that producing copious waste would damage business as much as would over-relying on imported foodstuffs.

Zoological recycling also partially alleviated the lower-class dependency on offal, what *The Daily News* claimed in 1868 as “a most important feature of the metropolitan dead-meat trade.” The offal trade itself models well the functioning of a second-hand foodstuffs trade. Comprising “the head, tail, kidneys, heart, tongue, liver, skirt, and similar portions of the animal” not suitable to upper-class palettes, offal provided additional sources of profit for butchers and traders, attesting to “the important position occupied by [this auxiliary trade] in the domestic economy of the poor” (“Poor Man’s Meat”).⁷⁷ Offal trading had a direct impact on the lower classes, since “inferior parts that were not purchased directly from the retailer found their way into working-class consumption via the makers of sausages, pies and cooked meats” (Perren 25). These second-hand economies put products “within reach of the poor,” bringing them into the meat and game trades’ figurative class negotiations. For example, the purchase and preparation of oxen or sheep hearts for a working-class Sunday meal ritualized an attempt at social mobility. “Stuffed with a pennyworth of herbs,” *The Daily News* described, “and

⁷⁷ According to *The Daily News*, offal from an entire bull averaged 50s. and approximately 10-13s. for sheep. Milts (“the cheapest kind of animal food within reach of the poor, and . . . eagerly sought after”) were a penny each, oxtails were priced between 1-2s., as were kidneys, “trotters” and “cowheels,” which were popular public house snacks and sold for as little as a halfpenny. Livers were available for less than 2s., about the same as cattle hearts. Quantified, offal consumption was staggering. For example, in 1867 alone, “no less than 265,754 head of oxen, and 1,472,000 sheep, forming a total of 1,737,754 animals, exclusive of calves and swine were disposed of in the Metropolitan Market” (“Poor Man’s Meat”).

baked with a few potatoes, [the hearts] afford a cheap substitute for the rib of beef or shoulder of mutton which the poor so often find themselves, from want of means, unable to purchase.” The publication disclosed the greater-than-expected frequency that the working classes consumed meat, explaining that while “large numbers of the poor have been flesh-eaters for years, without once enjoying, unless at rare intervals, the luxury of a bit of beef or mutton,” they did widely consume offal, scraps, and leftovers (“Poor Man’s Meat”).⁷⁸ The more that meat was consumed, the more that the need to preserve (or invent) sources of sustenance intensified. Herein lies the Brothers’ importance to the urban marketplace’s inner-workings: at least partially, they lessened consumers’ dependencies on substandard food sources and supplemented lower-class diets with previously out-of-reach foodstuffs.

Within the Brothers’ business scheme, culled, commoditized, then recycled animals linked separate classes. They also may have established a commercial niche that, if it did not rectify the wastefulness tied to sporting traditions and consumer culture, then it at least disturbed the symbolic integrity of aristocratic rituals. In a twist of economic fate, they made social relations tangible and edible as the commonest member of society could consume products hunted for them by those occupying more privileged classes. However, presented as a solution to endemic wastefulness that concealed the Brothers’ personal economic interests, zoological recycling actively hardened Victorian England’s

⁷⁸ *The Daily News* corroborates available meat trade data: annual domestic yields of meat grew from approximately 1,078,000 tons in the 1860s to approximately 1,401,000 tons by the 1890s. However, the former accounting represents 89% of domestically consumed meat products, whereas the latter figure accounts for only 68% of annual consumption rates, figures testifying to the continued reliance on imported foodstuff to offset the era’s population upsurge and agricultural distresses (Perren 3).

social hierarchy—the spoils of hunting most benefited those who discovered methods to profit from second-hand pickings.

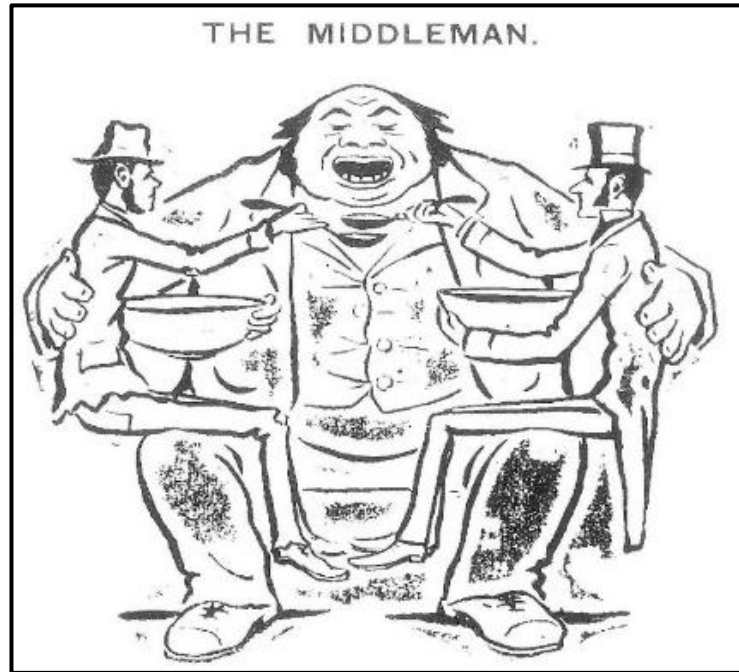


Fig. 4. A woodcut engraving of “The Middleman,” from *Labour Leader*; London, 21 Nov. 1891, p. 13.

Exploiting meat surplus for commercial benefit situated the Brothers as “Middlemen,” a notorious yet lucrative designation. The Brothers could realize large profits without much of the gruelling labour involved in slaughter. In 1885, *Punch* mocked the role, describing that “in the Meat Trade his species is paramount”:

‘Between the starving farmer at one end of the line, and the starving workman at the other, there is a row of jovial and rotund Middlemen, who, as cattle-dealers, drovers, salesmen, slaughterers, meat-carriers, and

butchers, form a happy family unaffected by the straits of the producer, and banded together at the expense of the purchasing Public.’

(“Middleman Once More”)

Some parties thought of the middleman as “an unnecessary go-between” who performs “hardly any of the work” (“Middleman Once More”). An 1891 *Labour Leader* engraving of one such enormous middleman corroborates this point (see fig. 4). “The Middleman” is spoon-fed by, on the left, a seemingly enfeebled labourer in shabby attire, and, on the right, an apparent urban worker in a top hat and long coat (who surely is poorly paid based on his subjugated position and discontented expression). The middleman feeds off both the agricultural and urban workers, substantiating the middleman’s widely known role as an intermediary figure joining classes by taking advantage of them. The middleman consumes the labourers’ profits while they presumably overexert themselves to satisfy him. Middleman figures like the Brothers shared little of the labour involved in hunting, raising, and transporting animal capital, but they nonetheless maximized the benefits of those labours, controlling the end-results of the bio-product’s economic sequence. Because consumer attention lingered on the *final* provider before literal consumption, zoological recycling hid from the consumer’s experience not only the animal’s killing by displacing acts of violence from public scrutiny but also the labour involved in producing these recycled products. Strategic market positioning enabled the Brothers to continually profit from labour not of their own energies. Then, taking advantage of already established transportation methods, processing procedures, and, most importantly, a swollen urban customer base (their always-hungry and ever-

expanding clientele), the Brothers redistributed and marketed animal products with gusto hard-to-match by their competition. Zoological recycling, then, was more opportunistic than ritualistic (the latter adjective belonging to the sporting realm). The assimilation of hunting and labour into the enterprise hinged on the animals' practical transferability, symbolic malleability, and material reproducibility in extinction economies requiring the continual regeneration of diminishing resources. Conveniently, this stratagem could be advanced by conservationist rhetoric addressing wastefulness, which in turn masked the Brothers' complex desires for continued class stratifications across Victorian society. This stewardship over England's stocks was undertaken and inflected by the very industries that undermined the preservation of those stocks.

Outlining a Paradoxical Productivity

By cornering the market on second-hand meat and refining zoological recycling schemes over the years, the Brothers exuded the confidence of having solved period waste issues; however, their role as middlemen in the second-hand trade affirmed their commitment to rigidifying Victorian social hierarchies and perpetuating the extinction economies from which they profited. The Brothers' carefully constructed image of conservative tradesfolk camouflaged their agenda, indicating economically and nationalistically driven motivations. Resource durability mattered in domestic imperial culture, too. Like the colonial states dependent on the sustained extraction of re-processable resources, domestic economies relied on sustainability practices for its own for rarifying

commodities.⁷⁹

The ideological underpinnings of the Brothers' stratagems become clearer when placed in the broader context of Victorian periodical culture with its recurrent, twinned themes of financial and resource viability. An 1876 *Sporting Gazette* article, for example, focalized a shared drive among sporting aficionados and game traders to capitalize from an economized nature. This troubled *Gazette* writer berated "wild-fowlers" who possessed "the unblushing effrontery to talk as complacently of bagging *thrushes* and *kingfishers* as a sportsman would of bagging pheasants or grouse." Primarily, he denounced their ignorance of lost future earnings:

One cannot, of course, expect these persons to take any interest in abstract zoology, or to feel any sentimental pangs at the extinction of a particular type of [animal], regarded from a purely scientific point of view; but one would have thought from a merely commercial point of view, they would have been eager to regulate and lessen the stupid wholesale slaughter which has made their trade a by-word for senseless cruelty. For they must surely know that the result of the policy of extermination, so gaily and thoughtlessly pursued for the last sixty years, can only be the utter extinction of the species on the existence of which they depend for their profits. ("Process")

⁷⁹ Richard Grove (1996) discusses how colonial governments countered commercial interests in undertaking conservation programs. While these state activities differed from the Brothers' commercial activities, I still recognize a link between "long-term economic security" and conservationism in domestic imperial culture, even if such an insight regarding the Brothers' programme remained only rhetorically conservationist (7).

The *Gazette*'s framing of obligation toward domestic wildlife as profitable indicates how deeply entwined in the cultural consciousness were threatened creatures and their commodified statuses. Significantly, the *Gazette* suggests that failing to protect English fauna made those involved in these practices complicit in economic sabotage (a point especially relatable to the Brothers).

The emphasis on profit over empathy surfaced across other period media. For instance, in an 1893 segment of “By Our Own Philosopher” from *Punch*, extinction economies paradoxically made threatened creatures sustainable while remaining wholly compliant to consumerist demands. *Punch* outlined the economic benefit of sustaining rather than improving the endangerment of a particular threatened population. “[W]oe to that seaside or inland country place for which no one has anything but praise,” the Philosopher sardonically laments:

It soon becomes the fashion; its natural beauties vanish; the artificial comes in. Nature abhors a vacuum; so does the builder. Yet Nature creates vacuums and refills them; so does the builder. Nature is all things to all men; but the builder has his price. Man, being a landed proprietor and a sportsman, preserves; but he also destroys, and *the more he preserves so much the more does he destroy*. Nature gives birth and destroys. Self-preservation is Nature's first law, and game preservation is the sporting landlord's first law. (“Multiple Essay,” emphasis mine)

Punch illuminates the evolutionary notion that natural selection works on adapting inhabitants to their specific places, and repeatedly so, while humans merely work for

themselves. More significantly, the piece's satirical tone exposes the meat and game trades' inner-workings to critique. The trades' extinction economies depended on chronic rarity, though never outright depletion; capital gains would cease if dependence on imports rose; and, if ubiquity depended on availability, then traders had little choice but to adopt protectionist stances that reshaped, though never really alleviated, period overconsumption.

Another 1890 example from *The Standard* more openly criticized the paralleling of scarcity and value by spotlighting the negative consequences of economizing conservationism. Dr. Robert C. R. Jordan reminded *The Standard's* readers in a piece entitled "On the Road to Extinction" that "the destruction of birds and plants is going on with railroad speed," a telling sign of the modern and industrial scale of destruction in which fauna and flora alike were debased as "articles of merchandise." Jordan laments the reality that so "long as purchasers are to be met with, so long will the ferns be rooted out and hawked about for sale." Jordan's observation of the rapid pace of extirpation reinforces the notion that the anthropogenic destruction of nature alters evolutionary rhythms and perceptions of (slow) geological time. This countryside pilfering (often for botanists or naturalists for study, ironically) left formerly abundant and "festooned" spaces "bare." Jordan described how some creatures' monetary values rose as populations shrank, or how prices escalated when the high demands made affected animals compromised yet obtainable delicacies. Cornish cough, he instances, could "fetch a high price, and are therefore sought after eagerly." Jordan looked beyond the obvious choices of naturalists and hobbyists for allies in conservation efforts, instead seeking out vigilant

civilian observers, alarmed sporting enthusiasts, or animal-dependent game traders (Jordan). As these collective examples show, the animal's commoditized condition made it valuable and irreplaceable within local economies, and thus worthwhile to preserve, specifically—and paradoxically—due to the animal's creep toward eradication. Preservation was a by-product of an ecologized economic network and a consumerist protectionism triggered by the financial fallout from domestic collapses (or their threats). Traders did not want the agricultural and consumerist havoc wrought by FMD to similarly deplete England's remaining zoological resources.

The *Regeneration* of Profiting Conditions

Instead of concealing extinction anxieties, the Brothers made those anxieties part of the consumer's cultural narrative, knowing that marketing conservationism could be as valuable to their business as curtailing collapse. They made room for preservation based on bottom-line considerations.⁸⁰ Underlying their conservationist rhetoric remained the drive for increased profitability and marketplace authority. Preservation was a ploy, a gambit of a marketing strategy. Having attended to the various steps in the animal's physical and figurative repurposing, a sequence linking the animal's production,

⁸⁰ The Brothers' conservationist rhetoric did not extend to the entire animal domain. At their stalls in Smithfield, the Brothers publicly deployed "a marvellous mousetrap." A *Hull Daily Mail* reporter estimated at least 250 rodents in the Brothers' trap during a visit. He described a miniature ecosystem in which the flux of specific creatures analogized tangible marketplace imbalances: "[T]hey had lived in a room where quail were fed in cages, and hempseed was rained down on the floor like manna. But when grouse came in quail went out, and when the supply of quail ceased the manna ceased also. So they raided the bin where the corn was kept." After trapping them there, "a terrier paid a flying visit, which raised the death-rate of the community." The piece concludes that the Brothers "should add another branch to their big business": pest control ("Mice").

rendering, delivery, sale, and ultimately ingestion, it becomes obvious that extinction anxieties created conditions in which those in positions of power—like the Brothers—could organize or control animal life for their specific advantage.

Consequently, by utilizing conservationist rhetoric for commercial benefit, the Brothers contributed to the erasure of the animal’s exploitation, at least from their storefronts or their advertisements. As Ted Geier explains (2017), “Animal rights, which contributed to human slaughter reforms, led only to the easier, more efficient systematisation of meat animal production and disassembly” (12). As a demonstration, take Geier’s assessment of slaughter reform’s impact on Smithfield Market. Geier describes, “The Smithfield live animal market made human-animal coexistence a fundamental aspect of London civic development,” but, simultaneously, emergent “slaughter reform produced a concept of meat with all notion of the animal itself—the stinking, noisy, suffering, proximate animal body—erased.” Slaughters permeated meat markets but the Brothers represented the events as removable from the consumer’s experience, actively distancing the carnage.⁸¹

Geier points out that the obscuring or masking of the animal body—and its experience as animal capital—sometimes suppressed or even reversed concerns about

⁸¹ Perren describes the “indescribable scene of confusion” at meat markets in mid-century: “Cattle and sheep were killed and skinned in dark, filthy cellars some of which at times contained fifty to a hundred sheep crowded into the smallest possible place. In some of these places water was not even provided so it was impossible to keep the premises remotely clean [...] Vans and carts were crammed into the street, unable to pass each other or get into the market, so they unpacked in the street surrounded by crowds of salesmen. Conditions inside the market were so foul and oppressive, and without sufficient space to handle meat properly, that a large quantity was spoiled for want of air and space to hang it” (33-34). After lengthy public debates, the Smithfield livestock market transferred to a new location near the rail line in 1855 to alleviate (not entirely successfully) some of the above-mentioned problems (41).

animal welfare (7).⁸² Think back to Morris’s charges against the Brothers for hawking supposedly protected birds: the birds in question are never explicitly identified throughout the exchange, a telling sign that their welfare depended on their relative position of value in an anthropocentric order of economized nature. Similarly, think back to the description of Norwegian ptarmigan; they are cornered in valleys then immediately depicted as carefully preserved on ice—no description of their slaughter occurs there, either. As for the Brothers, conservationist rhetoric also facilitated the animal’s erasure, as much as the Brothers’ advertisements stressed animal/human co-habitation in everyday spaces. Their practices preserved their populist brand and marketplace power all the while sheltering their business and customers from the violences of the trade. Alarmed or not, Victorians evidently ate the evidence of catastrophe.

Protective, innovative, and aggressive, the Brothers’ practices and underlying motivations embody the *regenerative* qualities of extinction economies that make order out of mess or waste. Imagine the *regeneration* or the retention of anthropocentric and speciesist prejudices that make thinking beyond the conditions of the human difficult precisely because of the human reliance on the animal for sustenance. Further, think of *regeneration* as enabling class redefinition, or consider it as social reformulation, since sustained profiting from domestic animals favoured traders and improved their social stations. After all, the labour of conservation obscured the nonhuman subject by coercing

⁸² Geier uses butchers as an illustration of his claims: “The butchers . . . developed the ‘humane’ killing methods . . . and took great pride in their efficient dispatch. ‘Management’ remains a technical achievement . . . as does the rumoured skill of the hunt and the art of the dressing. The rhetoric of morality and decency . . . suggest a civic programme that merely reiterates a brand of human concern focused on treating animals a certain way insofar as that treatment breeds a more ideal human comportment and welfare” (18).

a paradoxical productivity in the depletion of animal capital. Ultimately, consider *regeneration* as the replication and reproduction of the conditions for profit that created excess in the first place. If, as Soper notes, “only human beings create waste,” then it was inevitable within a capitalist order that perceivable excesses would become monetizable, as well. Like natural selection seizing upon variability and requiring excess or profuseness to continue its generative work, extinction economies made use of society’s discards. Certainly, this application of evolutionary thinking implies Social Darwinist undertones in the Brothers’ business strategies.

Furthermore, anthropocentric projections of nature’s productivity *for* humans served the interests of an open market. Therefore, animal interests were always discursively shaped by human interests, even when informed by conservationist rhetoric. Once physically and symbolically incorporated into dominant modes of production, the animal becomes codified in the public imagination by commercial interests and forces, thereby enabling further losses that would be mitigated by the potential of future gains.⁸³ Regardless of the Brothers’ public outcries in defense of domestic wildlife, financial gain still made population loss tolerable—the Briton’s appetite for meat and profit vied with and often surpassed concern for other species.

Conserving the Nation

A particular animal sold by the Brothers illuminated how human appetites continually

⁸³ The animal’s welfare was less frequently considered until it was economized, a point epitomized by FMD outbreaks in the century’s latter half. Contagion was first perceived as a lingering nuisance until the economic consequences became so severe that the livestock industries lobbied for more powerful legislation that would protect threatened stocks (A. Woods 24).

subjugated the animal regardless of the Brothers' explicit protectionist posturing. Vulnerable to consumerist pressures, the European brown hare played a vital role in upholding a cultural narrative that represented England as exempt from the consequences of unchecked extractivist activities. Since a hare was a traditional icon of vitality, its increasing absence from everyday life and the proceeding calls for action against its depletion demonstrated scarcity as a solvable problem that, once resolved, would benefit Britain's reputation and international image.

An imperialist idea of *nature* made natural resources seem abundant regardless of their ongoing depletion and exploitation. Like natural resources, zoological resources could be set aside or segregated from human living while still being overlooked, managed, or exploited by resource-hungry Victorians. Grove's earlier point about resource management in the colonies precipitating proto-conservationist efforts proves relevant again here, for the outright destruction of zoological resources benefitted few. Elaborating on the connections between the colonial abroad and domestic England, Ian Baucom (1999) recognizes that "the cognitive map of England was increasingly understood to have become almost homologous with the achieved map of the empire," allowing for the most familiar of English spaces to take on qualities or traits often associated with colonized regions (44). As the most obvious indication of an imperialist treatment of *nature*, domestic animal losses were caused by tactics strikingly similar to colonial tactics abroad, including the retention of similar sporting mindsets, the promotion of "rationality . . . in underpinning [imperial] ideas about nature," as well as "the desire to separate nature off in protected areas" (Adams 19). Less apparently, and set

against a backdrop of intertwined crises of wastefulness and scarcity, non-specialist parties in England like the Brothers still obscured or misdirected the meat trade's associated violences and extinction threats, conveying England's natural spaces as otherwise profuse irrespective of the lamentable situations of nonhuman inhabitants.

In order to understand the Brothers' scheme, it is important to first understand the gravity of the hare's plight. Notably shy, the animal took on an impressive stature in print media, stirring public debates about external competition in the English marketplace, all the while stimulating protective legislation and grassroots movements to curb overkilling. Unlike its Australian relations, the English hare required propagation rather than extermination, a strategy seemingly unique in an imperial era dominated by global extirpation measures.⁸⁴ Multiple sources indicated the extent to which hares had become over-hunted. For instance, in 1886 *The Evening News* reported, "the breed of hares is being diminished by reason of the power conferred by the Ground Game Act." At the time, no seasonal restrictions to hunting meant that hares were "killed at all times of the year, to the great detriment of their breeding." Without "some statutory provision," the writer cautioned, hares risked becoming wholly "extinct" ("Threatened Extinction").⁸⁵ While many in the middle and upper classes considered the creature as simple fodder for

⁸⁴ An 1884 report from Melbourne's *The Australasian* provides a fascinating colonial analogue of the negative effects of unrestrained culling. In Australia, rabbits were considered major threats to crop production. Farmers had considered introducing tuberculosis into wild rabbit populations in order to curb their numbers. Rather than positioning the rabbits as valuable products, the report presumed their demise in the "interests of science and mankind," fearing Australia's transformation into "a vast teeming rabbit-warren encircled round by the ocean" (Davy).

⁸⁵ The Ground Game Act of 1880 stipulates, "The occupier and the persons duly authorised by him as aforesaid shall not be required to obtain a licence to kill game for the purpose of killing and taking ground game on land in the occupation of such occupier, and the occupier shall have the same power of selling any ground game so killed by him, or the persons authorised by him, as if he had a licence to kill game" ("Ground Game").

sporting rituals, traders like the Brothers depended upon such creatures as a means of income and citizens desired them as an affordable alternative to more expensive beef, mutton, or pork cuts. Collapsed stocks caused manifold ripple effects, negatively impacting various vocations like milliners, pet dealers, or garment-makers.

Competition from imports worsened the situation. Because cheap continental hares imported from Germany, Hungary, and Russia travelled frozen, they outlasted and outsold domestic stocks, complicating conservationist agendas and pressuring English traders to keep up by continuing or even accelerating unsustainable culling practices (“Threatened Extinction”).⁸⁶ In 1887, *The Hampshire Advertiser* voiced fears about the alarming disappearance of the domestic hare in a single, observable generation, undermining entrenched notions of England as fertile or abundant. It projected a vision of England burdened by economies that had been weakened by collapses. “[U]nless some measures are taken,” the *Advertiser* warned, “Great Britain will be wholly dependent on the foreign supply” of animal capital (“Protection”). Threatened by importers, traders like the Brothers demanded a strengthened Hares Preservation Act to reduce depredation and protect future stocks (“Threatened Extinction”).⁸⁷ A strengthened Act would also combat wastefulness so that fewer, more expensive domestic hares would go unsold.

In domestic imperial culture, animals involved in the meat trades capably

⁸⁶ For a thorough account of the frozen meat trade between England and its colonies, and the impact of frozen commodities on England’s marketplace, see R.J.H. Woods’ article “From Colonial Animal to Imperial Edible: Building an Empire of Sheep in New Zealand, ca. 1880-1900” from *Comparative Studies of South Asia, Africa and the Middle East*, vol. 35, no. 1, 2015, pp. 117-136.

⁸⁷ The main provision of the “Hares Preservation Act” reads as thus: “Whereas hares form an important article of food, and have of late years greatly decreased in numbers in England, Scotland, and Wales, by reason of their being inconsiderately slaughtered, and owing to their marketable value it is important to provide for their protection during the breeding season” (“Hares Preservation”).

conveyed similar commodified statuses and analogous metaphorical overtures as aquatica for aquariums, wildlife for trophies, fauna for collectors, or flora for hobbyists—they became markers of imperialist attitudes, determinants of social identity, and ascribers of community status for whomever profited from their repurposing. Threatened hares became potent, pliable symbols in the possession of savvy businessmen who used them to contest negative perceptions of metropole, nation, or empire as affected by domestic shortages of animal capital.⁸⁸ The maintainable welfare of consumable domestic animals reflected the proper operation of imposed English order during an era of extreme wealth and resource migration that, in turn, signalled broader imperial functionality and cohesiveness. In Kurt Koenigsberger’s (2007) terms, animal disappearances disparaged the “prevailing idea of the empire as a comprehensive whole” (ix). Non-specialists raised questions about the attrition of Britain’s symbolic potency in a fast-growing global market, threatening to derail master narratives of national exceptionality and imperial coherence. Reading the nation’s marketplaces reveals the waning vital signs of regional fauna and the shakiness of England’s reputation. It is true that the “fact of empire” permitted “Britain to use steamships and steam locomotives to export at least some of its environmental damage” (Winter 3). By this point in time, however, transferred damages could only hide so many domestic maladies. But the Brothers would not fully admit these points, for the sake of their own livelihood.

Against the grain of their ecological reality, the Brothers synchronized the welfare

⁸⁸ Shukin notes how “the national fetish hinges on the double sense of animals’ material and metaphorical currency” (5). The “fetishistic potency” of circulated animal bodies could be rendered as “material and symbolic [resources] of the nation” (6).

of the hare with the promise of nature's continued abundance. The Brothers prioritized hares over foreign products in an attempt to make domestic products more fashionable than those from competing importers—a lobbying effort implicitly promotive of the hare's future consumption while explicitly endorsing their future protection. A familiar ploy surfaces here: in the guise of attending to national interests and a global reputation by preserving domestic hares, the Brothers perpetuated the current harvesting of domestic zoological resources, making the implicit assumption that nature would continually provide.

Utilizing their local clout, the Brothers rallied support in their community for recovery, a strategy contingent on maintaining optimism for the hare's future and implying that England's productive energies had not yet been smothered. On the cusp of springtime hunts when the hare population blooms, the Brothers published their views in *The Standard* on 21 February 1887, speculating that the potential absence of hares would catalyze imminent economic distresses. Since their public reputation was at stake, they broadcast a protectionist message in order “to remove a general impression that game dealers object to legislation restricting business,” even if dealers and traders required a sustained flow of animal capital. In blunter terms, the Brothers insisted, “No one connected with the game trade can wish for a continuance of the existing system,” a decree of the game trade's economic obligation, though not to the hare itself but instead to the hare's profiteers (“Extinction of Hares”). Again, they marketed an economized sensitivity to the animals that they sold, using the threat of ecological consequences as a means of reinforcing the industry's future productivity.

The Brothers also played into the cultural narrative that England's resources could be preserved from future harvesting or processing setbacks. Even with their zoological resources under threat, the Brothers generated associations of healthiness and sustainability, an impression of hopeful recovery masking a desire for protracted exploitation, and an attitude shaped by imperialist assumptions of a world governable alone by humans and British interests. Hares were not protected as agentive beings or based on humane principles; instead, the Brothers protected their future means of production by enrolling the public in a protectionist programme that would perpetuate their future earnings. Future profitability was too irresistible. In this light, and as threatened as it was, the hare was representable as resistant to extractivist powers and exterminating forces. It was marked as inherently *regenerative*, an assessment manufactured in part by animal and game traders who depended on vigorous stocks. Further, in a striking analogue to colonial methods of resource management, the Brothers demanded space and time for recovery of hares, establishing plans to engineer and shape England's future nature according to their own interests.⁸⁹

In summation, the Brothers show how the chance to thwart future collapses hinged on prolonging the animal's subjection to human desires. The Brothers continually steeped protectionism in economized or nationalist imperatives—outside of hegemonic modes of production, their targeted animals faced eradication. The conservationist ideas espoused by the Brothers were bound to the consumption habits that they criticized

⁸⁹ Winter highlights the economic necessity of preservation even when faced with low odds of success. He writes that “plunderers” who “exhausted the last reserves to the point where economic growth was no long possible” had actually provoked “political and industrial leaders . . . to search for ways to alter nature without seriously deranging” their own circumstances (27).

though never truly alleviated. By normalizing profitability, they signaled ecological exigencies as inexorably bound to everyday consumerist transactions. By facilitating innovative methods of waste management and attempting to engineer recovery periods for England's zoological resources, they advocated a sense of entanglement with nonhuman others, however much they still operated by a seemingly incongruous rhetoric which allowed them to capitalize on ripening conditions for extinction.

Chapter Three

H.G. Wells's *The Time Machine*: A Guide to Representing Future Forms

“The story was so fantastic and incredible, the telling so credible and sober.”—H.G. Wells, *The Time Machine*, 1895 (69)

“. . . the mind cannot be held truly to encompass and analyse the properties of the world that lie about it.”—Gillian Beer, *Darwin's Plots*, 2009 (45)

In the second half of the dissertation I move to literary sources, namely scientific romances that engaged with post-Darwinian anxieties about species extinction, evolutionary progress or degradation, and the human's place in nature. By the *fin de siècle*, diverse representations of scarcity or wastefulness had opened up the possibility of the human subject as exposed to evolutionary pressures and, potentially, to extinction itself, all the while unveiling a natural world functioning outside of anthropocentric registers. Chapters Three and Four change the focus from periodical discussions of local species collapses to literary depictions of human evolution and fears about the human's susceptibility to extinction. Fiction like *The Time Machine* and *The Purple Cloud* come to terms with the vulnerable human subject, engaging with cultural anxieties about the fate of humanity as informed by scientific and evolutionary discourses while offering innovative perspectives on humanity's progress (or lack thereof). These texts provide additional layers of interpretation by showcasing protagonists who have to wrestle with the possibility of a posthuman domain coming after them. While tolerant of a radical materialism, late-period fiction was still ambivalent about the insights that decentred the human as the earth's chief subject or shaping force.

When it came to post-Darwinian writers concerned with human extinction, few

were as well-versed in its possibility as Wells, whose works broadly reflected period anxieties about collapses. In early works preceding *The Time Machine*, Wells fixated on humankind becoming zoological residuum.⁹⁰ In the essay “Zoological Retrogression” (1891), he projects the human’s usurpation by a fitter species, proclaiming, “Nature is, in unsuspected obscurity, equipping some now humble creature with wider possibilities of appetite, endurance, or destruction, to rise in the fullness of time and sweep *homo* away into the darkness from which his universe arose” (168). By positioning the “Coming Beast” within the “Coming Man” (168), Wells crystallizes the anxieties of a society enraptured by progress yet increasingly conscious of its futility. Later, Wells’s essay “On Extinction” (1893) anticipates that the “‘swarming’ of the whole globe by civilized men” would result in the evacuation of humans from the natural order (170), conceding that “the list of destruction has yet to be made in its completeness” (171).⁹¹ In no way shying away from extinction anxieties, Wells portrayed the human’s impending obsolescence, but not without interpretive and representational complexities, for extinction always remains “subject to the deceptions and sureties of language” (Sheehan 187).

⁹⁰ Originally serialized in *New Review* (and based on an 1888 *Science Schools Journals* romance, “The Chronic Argonauts”) before being published in book form in 1895 first in New York and then London by William Heinemann (Arata “Note” ix), *The Time Machine*’s reception extended “from guardedly positive to unreservedly glowing” (Geduld 9). Arata explains the significance of the Heinemann edition, which I use in this chapter. It was “the end product of an unusually long gestation period stretching back to Wells’s student days at the Normal School of Science. Intermittently over nearly a decade, Wells worked on versions of a story centred on time travel. The prehistory of *The Time Machine* includes tales published in three separate periodicals, each tale differing from—though clearly related to—the others. All three . . . eventually made their way into the Heinemann edition” (“Note” ix). Wells did not alter his story again until 1924, so the Heinemann edition best reflects the text’s immersion in *fin-de-siècle* anxieties (“Note” x).

⁹¹ In “A Vision of the Past” (1887), Wells also satirizes progress narratives that preclude humans from extinguishment by crafting a primitive “philosophic amphibian” who, without privileged foresight, believes its species to be the culminating point of all existence.” The misguided idea is later debunked: “O, foolish creature! Think you yourself the great end of all creation? . . . [F]ar from lasting for ever, your race will in a few million years—a trifle in comparison with the enormous lapses of geological chronology—be wholly extinct; that higher forms than you will, by insensible gradations, spring from you and succeed you” (156).

In *The Time Machine*, representational conundrums regarding extinction involve implausible or paradoxical problematics: what life forms follow the human? Who witnesses holdover or progenitor taxa in a posthuman biosphere? How can a world where, as Darwin says, “forms of life change almost simultaneously” (*Origin* 260) be depicted with a language that—as Beer notes—is “capable of being extended or reclaimed into a number of conflicting systems” (*Darwin’s* 3)? Beer claims that evolution “does not privilege the present,” because it views the present “as a moving instant in an endless process of change,” clarifying an innate tension within the human observer who fantasizes an exceptional vantage on the dynamic evolutionary subject it documents (*Darwin’s* 10). When it comes to depicting evolutionary outcomes, concerns about objectivity persist. “If the material world is *not* anthropocentric but language is so,” Beer proposes, “the mind cannot be held truly to encompass and analyse the properties of the world that lie about it.” A seemingly paradoxical task presents itself when interpreting and disseminating evolutionary insights: developing “a language that gives proper attention to the nature of things” without imprinting upon it “our own needs, conditions, and sensibilities” (45).

In *The Time Machine*, a tension exists between the observation of evolutionary outcomes and an accurate representation of evolutionary process that results in a formal crisis of representation. Consequently, this tension directs attention to humankind’s limited vision. The interpretation of the non-teleological and unrationalizable biota of a posthuman future remains constrained by the human’s limited perspective of evolutionary development. Darwin, too, highlights the imperfection of human vision and foresight by

comparing the unexpected outcomes of artificial and natural selection: “How fleeting are the wishes and efforts of man! How short his time! and consequently how poor will his products be, compared with those accumulated by nature during whole geological periods” (*Origin* 70).

The Time Machine's plot establishes the conditions for these representational challenges. Mr. Hillyer, the frame narrator, sets the scene: a group of Victorian scientists awaiting the Time Traveller's return. Upon arrival, the Traveller recounts to his skeptical guests his experiences of temporal voyaging. He describes A.D. 802, 701, at first sight a “Golden Age” devoid of his own era's civilizational pratfalls and societal maladies. It is inhabited by timid, peaceful Eloi and predatory, waspish Morlocks (34). But he eventually sees the two forms as descended from familiar nineteenth-century figures: the leisurely dilettantes and the overworked proletariat. As “humankind upon the wane,” the Eloi have shed some of humankind's defining features like intelligence, wit, or inventiveness while retaining familiar identificatory markers (26), whereas the Morlocks demonstrate a more profound (and to Victorian eyes, sinister) “modification of the human type”—as descendants of overworked and dehumanized labourers, they retain the most debased elements of capitalist human nature (41). While the Traveller identifies them as products of Victorian flaws, they fit within a radical ontology, a point that the Traveller frequently overlooks due to his anachronistic perspective and atavistic status in that future temporality. Across the Traveller's descriptions, the Victorian human stands as the reference point for evolutionary change, meaning that deviations from this normative type signal as threats to human durability. As though forcing the Traveller to face the

ramifications of incremental changes all around him, the Morlocks steal his time machine. But the Traveller manages to reclaim it, escaping into the deep future where he witnesses end-times fauna before briefly returning to his original Victorian moment. After relating his experiences to his guests, he again leaves to time travel. Hillyer reveals that by the time of the narrative's transcription, the Traveller had left years ago. Neat resolutions associated with the romance genre do not occur in this text. Like the evolutionary paths of earthly subjects, the Traveller's fate remains inconclusive. Hillyer cannot form a firm conclusion about the Traveller's fate and therefore humanity's end.

The Traveller and Hillyer face similar crises of representation that also challenged Victorian writers of popular science and nature. Tasked with conveying conceptually tricky and socially subversive material for wide audiences, they play specific roles in Victorian society: to accurately observe and interpret data, as well as disseminate novel conclusions using the scientific method. As Lightman notes, such scientific popularizers “could present themselves as the genuine arbiters of truth to the British public” (5).⁹² The narrators—and the narrative frames that support them—emphasize the toils of interpreting the scientific evidence of evolution and of understanding the trajectory of humanity's transformation. As interpreters and mediators of posthuman evolutionary knowledges, the Traveller and Hillyer cannot arrive at interpretations or conclusions that are wholly objective: the text thereby replicates the period's difficult interpretation and

⁹² Lightman reflects on the stakes of the scientific popularizer's role in Victorian society: “those who could claim to speak on behalf of science gained immense cultural authority and intellectual prestige. They could assert that they spoke truthfully, and they could argue that they understood the broader significance of scientific ideas. Since the modern worldview was held together by scientific ideas, they essentially maintained that they could pronounce with authority on all issues” (5).

dissemination of evolutionary knowledges.

The propagation of scientific knowledges is based on clear portrayals or re-enactments of data or experiments, but always present are concerns for the accuracy of conclusions based on the restrictions of available media and technologies. Thus, the text emphasizes (and complicates) the Victorian preoccupation with, as Kate Flint (2000) calls it, “the very practice of looking” (2). If the popularization of scientific topics involved “a multiplication of the witnessing experience” (Shapin 483) and their dissemination involved “the extension of experience from the few to many” (Shapin 481), then *The Time Machine* can be figuratively understood as a “material technology” which simulates the dissemination of evolutionary knowledges either in textual (or visual) form within a book-length publication (Shapin 491).⁹³ More specifically, I treat *The Time Machine* as a “technology of virtual witness” based on “trust and assurance,” especially since the Traveller’s testimony and the flowers gifted to him by Weena, an Eloi woman who the Traveller lures into a controlling relationship but eventually loses in a skirmish with the Morlocks, are the only available data for interpretation (Shapin 491). Before perishing, Weena is framed as the Traveller’s possession and instrumentalized as evidence, such as when he admits to desiring “to bring [Weena] with [him] to [his] own time.” In this future, masculinist and imperialist bravado still reinforces prevailing gender divisions within and outside the scientific domain (51). George Slussuer and Danièle Chatelain (2002) argue that Weena’s flowers actually provide “the reader license to consider the

⁹³ Steve Shapin (1984) outlines the various technologies enabling the dissemination of scientific knowledges: a “material technology” exists in textual and visualized form of the book itself; a “literary technology” of the publishing industry manufactures the text’s reception; and a “social technology” establishes conventions for others to follow (491).

Traveller's description of his future evolutionary landscape not just as a wild fabrication but as a lived experience" (164). This emphasis on lived experience (and its faithful representation) pushes readers to consider the text's "material imperative, where both the story and the situation of its telling are accepted or rejected on grounds of logic and 'fact'" (164). My view of the text as a material technology concerned with the challenges of objectively communicating information aligns with nineteenth-century science fiction's "fictional mission to tell about unknown worlds [that] was enhanced by the mandate to incorporate new technological and scientific concepts." In other words, "Telling becomes an act of communication—a literal conveying of information" (182). The challenges facing the text's narrators parallel the difficulties that faced scientific popularizers. Further, the limits of the text's representational strategies thereby analogize the period's limits to disseminating evolutionary knowledges. In cases like *The Time Machine*, abject biological subjects often resist articulation from within anthropocentric registers, disrupting the human as a reliable witness.⁹⁴

As a material technology, the text models strategies for alleviating a crisis of representation and communicating seemingly unfathomable insights regarding the human's subjection to evolutionary process—though not always successfully. It deploys innovative formal techniques to convey evolutionary transformation while remaining grounded in a human-centric aesthetic register so as to make sense of observed—and

⁹⁴ My thinking expands on what Jenine Abboushi Dallal (2000) characterizes as "an aesthetic that is paradoxically nourished by irrevocable loss" (231). Although Dallal investigates French imperial culture, her claims that expressions of "futility, ennui, and exhaustion" (247) or of "disconnectedness" (248) that, at times, "resist visualization," are integral to understanding how extinction provokes an evolutionary aesthetics which facilitates the imagining of alternate evolutionary outcomes or bodily configurations (254).

barely apprehensible—posthuman subjects.⁹⁵ The challenges of interpreting evolutionary development and speculating on posthuman forms intensify as the narrative advances, leading to an increasing difficulty in witnessing and then publicizing evolutionary observations. The Traveller distinguishes larger patterns to evolution—a presumed degeneration plot—but I argue that he also loses sight of the bigger evolutionary picture as he insulates himself against underlying affiliations between himself and future posthuman forms. He often jumps to conclusions without really ever understanding what had transpired in the intervening eons between Victorian England, the Golden Age, and the world’s end, the novella’s three temporal stages.

The text also evokes the anxieties about the spread of alternatives to anthropocentric knowledges during the period. The increasing lack of representational control in the narrative also parallels the Traveller’s increasing anxiety about the human species’ fate. These worries exhibit continuities with extinction anxieties already outlined in this project: the revulsion of uninhabited spaces, the unease over evolutionary trajectories, and the imperfect evacuation of anthropocentric values. In this depicted continuum in which all biota struggle and diversify, the human remains central to the shaping of the earth; however, the human is also vulnerable to a materiality that exceeds the bounds of human reason and tests the limits of representation.

For the rest of this chapter, I analyze moments in the text (as well as the text’s

⁹⁵ Some Victorian scientists did identify the place—and necessity—of artistry or aesthetics in the dissemination of scientific knowledges. As Huxley notes in 1894, “the artistic habit of visualizing ideas was superadded to that capacity for exact observation” (“Owen’s Position” 285). He claims that the human’s “artistic visualizing faculty” is necessary in order to accurately compare species, signaling that the artist (or writer) could be just as useful to the progress of science as the professional. As Huxley asserts, “[s]cience has need of servants of very various qualifications” (“Owen’s Position” 296).

narrative structure) that model diverse strategies for overcoming representational obstacles to depicting a posthuman world no longer oriented to humans. These strategies include: using a frame narrative that emulates the human's lack of control of the narrative of the species; presenting environmental instability as a mirror to morphic volatility; appropriating degeneration motifs so as to arrive at fresh insights on non-teleological development; and relying on affect instead of accurate observation.⁹⁶

Framing Extinction

The frame narrative establishes the dynamic between popularizers of science and their audiences (and doubly so): the Traveller presents his findings to an audience of gathered colleagues whom he must convince to accept his theorizations and limited evidence, while Hillyer attempts to explicate seemingly inexplicable events to another (presumably) scientific audience. The frame narrative draws attention to the limits of representing evolution while simultaneously emulating the distance between the theories and evidence of evolution. Thus, at a structural level, *The Time Machine* reproduces the representational tensions of its content, calling attention to ambiguities in the narrative that permit alternative visions. Its framed structure spotlights the narrators' interventions with—and translations of—source materials, so it directs attention to the partialness of human vision, especially since the accuracy or reliability of the embedded narrative

⁹⁶ My view of morphic volatility has been inspired by Hurley's work on a Gothic materiality in which "no transcendent meaningfulness anchors the chaotic fluctuability of the material universe" (*Gothic* 9). Evolutionary theory in particular provokes the "ruination of traditional constructs of human identity." She highlights the "abhuman subject," a body which epitomizes "morphic variability" (*Gothic* 3), which is "continually in danger of becoming not-itself, becoming other" (*Gothic* 3-4).

cannot be verified. Thus, the text's structural ambivalence provokes questions about control and authority in the genre.⁹⁷ Unique interpretive opportunities surface from *The Time Machine*'s restricted narrative design and the unpredictable evolutionary vitality it is tasked with stabilizing by means of representation.⁹⁸

I read this ambivalence as a generative modeling of how to convey the open-endedness of evolutionary process. While the frame narrative appears to constrict readerly interpretations by imposing those of the frame narrator and that of the Traveller, the text also permits alternate interpretations, modeling evolution's openness by ambiguating neat closure. After all, the Traveller never returns and the account is never confirmed by outside parties. The embedding narrative simultaneously highlights the representational difficulties associated with this genre and demonstrates humans' lack of control of the narrative of the species. When Hillyer admits to time traveling's perplexities, he distinguishes "the curious possibilities of anachronism and [the] utter confusion it suggested," outlining as well the disorderly or chaotic quality of a future temporality that is difficult to translate into language (12). Helpfully, the framing provides some legibility and credibility to the Traveller's alienating illustrations of a natural world no longer oriented toward humans—an impression of control. His claims about the authenticity and

⁹⁷ This tension is not unique to *The Time Machine*. Nineteenth-century fiction heavily relied on frame narratives to involve readers in the story, to construct alternate visions or readings of the text, or to quell anxieties connected with the embedded narrative. Such works include Mary Shelley's *Frankenstein; or, the Modern Prometheus* (1818), Henry James's "The Turn of the Screw" (1898), and Joseph Conrad's *Heart of Darkness* (1899). Peter K. Garrett (2003) explains that frame narratives rely on "a dialogical interaction in which the reader plays an active role" (25). However, *The Time Machine* relies on the authority of its narrators to advance the plot and convince their audiences of the veracity of the text's seemingly improbable events.

⁹⁸ As Clayton C. Tarr (2013) explains, "While frame narratives appear to provide structure—limits, boundaries, borders—they far more frequently disturb narrative cohesiveness" (4-5).

legitimacy of his observations suggest that he knows that his public authority is at stake: “It appears incredible to me that any kind of trick, however subtly conceived and however adroitly done, could have been played upon us under these conditions” (9). Hillyer goes to great lengths to dissuade his audience of the Traveller’s potential trickery (12), and he riddles the embedding narrative with astute observations ranging from the Traveller’s exact apparel (14) to the time machine’s unusual components (11). Publicized by another, the Traveller’s account appears wholly constrained or controlled, which David Seed (2013) corroborates by noting how the “account is framed throughout typographically by inverted commas . . . which constantly remind the reader of its mediation” (140).

Often, frame narratives represent attempts to control textual interpretations for readers because there are anxieties about interpreting the embedded narrative. One such period anxiety undergirding this text is the unease regarding Victorian class struggles as represented by the bifurcated lineages of the Eloi and the Morlocks displaying the exaggerated qualities of the Victorian social maladies that would induce future degeneration. Another anxiety involves science’s inability to provide all of life’s answers. As well, science cannot control humanity and its relationship to the world. On the surface, the embedding narrative positions the reader’s attitude ambiguously towards a radical ontology, and even threateningly so, by implying its need for repression behind additional layers of narrative. The text seemingly dissociates the Traveller from the abject, chaotic, and threatening materiality so insistently foregrounded throughout it.

Yet, even when Hillyer claims authority as a reliable sharer of information, clues emerge about inadequate evidence, such as when he notes that “—unless [the Traveller’s]

explanation is to be accepted—[it] is an absolutely unaccountable thing” (9). As well, Hillyer tries to create an impression of actually being present at the immediate site of investigation, even if confusion persists. Establishing the scene for the tale in the Traveller’s residence, Hillyer explains, “I remember vividly the flickering light, his queer, broad head in silhouette, the dance of the shadows, how we all followed him, puzzled but incredulous” (11). He positions his audience as front-row spectators, guiding the reader’s focus from the spectators’ exchanged looks of incredulity to the Traveller alone, for they all eventually “looked only at the Time Traveller’s face” (16). But even in this detailed re-creation of the observed events, Hillyer reveals the flimsiness of his supposedly objective account, claiming, “The fact is, the Time Traveller was one of those men who are too clever to be believed: you never felt that you saw all round him; you always suspected some subtle reserve, some ingenuity in ambush, behind his lucid frankness” (12).

Hillyer’s job it is to oversee the plot, interpret it from the Traveller to his own audience, and then make a firm conclusion about it. In his concluding remarks, Hillyer summarizes well the representational and communicative tasks at hand: “The story was so fantastic and incredible, the telling so credible and sober” (69). In “sober” language, Hillyer, like the Traveller, must convey the “incredible.” But he cannot arrive at such a conclusion about the events he witnessed or the Traveller’s tale. Thwarted, he remains a participant rather than a true narrator who has control over the narrative, much like the human in evolution, and much like the *fin-de-siècle* human does not have godlike control over the planet and its species. Because neither the embedding or embedded narrative

demonstrate mastery over the text's events, *The Time Machine* begins to resemble evolution: ultimately uncontrollable and distanced from closure.

The narrators' interpretive difficulties also model a lack of control over the species' narrative. The Traveller and Hillyer cannot control events; they can only observe and interpret. As interpreters of nature, they have no choice but to narrate evolution and temporality except as participants in an ever-changing world. Significantly, their inability to demonstrate their mastery over the events produces a generative ambivalence. Other critics have pointed out a similar ambivalence in the text. For instance, Elana Gomel (2009) designates the tension between competing "final and apocalyptic" or "enigmatic and open-ended" suggestions as irresolvable in the novella (339). The frame narrative's inherent uncertainty about an objective reading does provide an opportunity for reflection on the implausible. What seems at first a controlled narrative turns out to one fraught with conceptual slippages and interpretive challenges. Therefore, even at the level of narrative structure, *The Time Machine* invites readers to dwell on uncontrollable (and uncontrollable) external forces.⁹⁹ The text sets up a situation whereby the frame narrator acknowledges the provocative nature of the embedded tale as a way of inviting readers into a disorienting vision of materiality which, as much as the text's genre, technology, or testimony otherwise suggest, remains a partially incoherent vision.

The narrators' inability to articulate an exact or fully understood depiction of a

⁹⁹ Huxley comments on post-Darwinian anxieties in his essay based on lecture material "On the Physical Basis of Life" (1868). He addresses a threatening materiality: "The consciousness of this great truth weighs like a nightmare . . . upon many of the best minds of these days . . . The advancing tide of matter threatens to drown their souls; the tightening grasp of law impedes their freedom; they are alarmed lest man's moral nature be debased by the increase of his wisdom" (160).

posthuman future parallels the restrictedness of human vision, bringing to mind Darwin's insights on our inadequate representational capabilities. For instance, Darwin admits in *Origin* that humankind often focuses too much "on external and visible characters" which ultimately results in humankind selecting "only for [its] own good"; alternatively, Nature "cares nothing for appearances, except in so far as they may be useful to any being" (69). The point presumes that humans pay too much attention to superficial or unimportant traits and too little attention to forces beyond their comprehension. Narratorial observation does not necessarily denote control or management of final meaning. The uncertainty produced by the framing technique resembles the ambiguity generated by artificial selection—choosing what to present or display is often in contradiction to the larger picture of long, unpredictable natural selection.

As we have seen, the embedded fictional account harbours multiple plot lines that resist closure and coherence, much like narratives of evolution. I have shown that, firstly, the Traveller's unknown whereabouts disturb any sense of closure presumed by the frame structure. Secondly, the novella's structure also generates an impression of interdependency between narrators, signaling a decrease of the individual's control of evolutionary plots. Lastly, I want to point out that the embedding narrative functions like an imperfect translation or reproduction that analogizes the impossibility of replicating exact forms between succeeding generations, hearkening to the revisionist nature of evolution. As with evolution, no individual is in control. Because the embedded narrative is filtered through Hillyer's memory and reads as second-hand knowledge, it is vulnerable to mutations that could have transpired over the years. An inflexible interpretation of the

text remains far-off though teasingly near, a missing link between teller and re-teller not yet discovered or spoken.

Mirroring the Body in the Environment

Another persistent representational issue in the text involves conveying a sense of embodied volatility when all the observer witnesses in person are stable bodies.¹⁰⁰ Early on, the frame narrative foregrounds the durational qualities of earthly life that are often overlooked due to the human's limited perspective. The Traveller explains to his gathered colleagues, "any body must have extension in *four* directions: it must have Length, Breadth, Thickness, and—Duration." That last quality often goes unnoticed because of "a natural infirmity of the flesh . . . we incline to overlook" (5). Such observations import essential Darwinian suggestions into the text; namely, the brevity of human life and the limits to human vision impede one's understanding of evolutionary process. Furthermore, the opening discussion about time travel's legitimacy establishes the temporality of material existence as processual and unrelenting, as unhindered by "repetition" and regulated only by "continual invention" (Grosz, *Becoming* 31).¹⁰¹

As already outlined in previous scholarship (Levine; Beer; Krasner; Sheehan 2018), one of the largest obstacles that a writer encounters when depicting evolutionary process remains the description of unstable forms. Think about how conceptual and

¹⁰⁰ In "Evolution and Ethics" (1893), Huxley recognizes "rest" or stability only as "unperceived activity" (49), gesturing to insufficient period understandings of the possible diversity (and durational endurance) of natural productions. Biotic forms possess an inherent "nebulous potentiality" (50).

¹⁰¹ Grosz describes duration as "the 'inevitable force of differentiation and elaboration' that may be continually expressed as an 'elaboration of a difference within a thing, a quality, or a system that emerges or actualizes only in duration' (*Becoming* 43).

representational conundrums beset diverse Victorian popularizers of evolution (like Darwin's "bulldog" Huxley, the cosmic-minded Edward Clodd, or the populist evolutionist Grant Allen) who grappled with the impracticability of concretely representing transmutation. Smith similarly acknowledges the difficulty of communicating evolutionary dynamism: "The picturing of natural selection, then, was a complicated, controversial, and sometimes contradictory affair." Smith uses Darwin as an example, pointing out how he "needed and wanted to illustrate his work, but he had no new visual language with which to depict his new theory" (19). Similarly, James Krasner (1992) elaborates on Darwin's need for "imaginative illusions" that would "allow the reader to see one organic form multiplying, through visual analogy, into hundreds of potential forms and offer a sense of the formal dynamism of evolutionary nature" (119). In the case of extinction, Paul Sheehan (2018) explains how its representation is not solely a matter of depicting "*horror vacui*, or the fear of empty spaces" (Sheehan 171); extinction requires a depiction of a world no longer adapted to the human.

So, when it came to evolution's unexpected outcomes, Wells faced serious representational conundrums that similarly faced Darwin and his contemporaries. The spectator must convey to their audience "a series [that] impresses the mind with the idea of an actual passage" (*Origin* 44). We must ask of the text: how could the passage of form be represented? Can ecologies evacuated of *anthropos* be signifiable? As a potential solution, the text systematically features environmental volatility to mirror the durational transformations of posthuman bodies. Depicting settings as fluid and unstable cultivates a readerly sensitivity to the ongoing passage of forms. Despite the foregrounded

degeneration plot, this strategy implicitly trains readers to work against the partiality of human vision by suggesting an ulterior epistemology—a method of tapping into the biosphere’s unspoken and insensible shaping forces that regularly overwhelm the Traveller. The frame narrative had already suggested that those shaping forces are at work.

The text’s latent evolutionary verisimilitude—its projection of inescapable materialist forces—disrupts prospects for teleological outcomes in these overwhelming moments.¹⁰² Wells drops clues throughout the text about the natural world’s divergent plans. For example, observe the initial description of time travel that presents time-lapsed “bursts” which seem to dissolve solid geological formations. “I was still on the hill-side upon which this house now stands,” the Traveller relates,

. . . [and] the shoulder rose above me grey and dim. I saw trees growing and changing like puffs of vapour, now brown, now green; they grew, spread, shivered, and passed away. I saw huge buildings rise up faint and fair, and pass like dreams. The whole surface of the earth seemed changed—melting and flowing under my eyes. (17-18)

Life cycles pass by between blinks. The physical environment is presented as fluid as it morphs in analogous ways to a bodily “structure that mutates without ever developing into anything” (Krasner 118). After fixating on the earth’s “great and splendid architecture” outwardly composed “of glimmer and mist,” the Traveller next witnesses “a

¹⁰² Extinction discourses troubled the period’s preoccupation with gradualism (or developmentalism), the notion of steady progression across successive stages of development toward an ideal terminus of perfection. Levine defines gradualism not as “an inference from empirical data, but an explanatory desideratum” which makes data “consonant with the idea of a designed and stable universe” (6).

richer green flow up the hill-side.” Once he halts his progress, he notes that the Thames, the only recognizable landscape feature, also proves vulnerable to change since it “had shifted perhaps a mile from its present position,” an image which further rebuffs the notion of stable forms (24). Overall, this “elusive world that raced and fluctuated before [his] eyes” (18) typifies an evolutionary vision of the natural world in which, as Krasner relates, “things are unfocused, fluid, without specific design or fixity, and . . . [which] continually slip away from an ever-changing norm.” According to Krasner, the representational challenges are manifold: “How can the reader see something that is continually changing, not from one form to another but from one difference to another[?]” (118). At no point in the text is this fluidity directly projected onto posthuman bodies. As much as he stresses bodily and environmental changes as the ages pile on, the Traveller never directly claims witness to those changes, stuck as he is with apparently stable bodies which insinuate their past—and future—volatility.

Moreover, the text’s environmental volatility exposes an ulterior process of differentiation that persistently and insensibly alters the world, undercutting the Traveller’s view of an inescapable degeneration plot for the species. Earth and matter ongoingly transform in ways alien to the Traveller’s anthropocentric perception: changing landscapes, transitional fauna, and inconstant flora melt from difference to difference beyond an anthropocentric register and, undoubtedly, beyond the limits of anthropocentric language or cultural representation.¹⁰³ The transforming landscape falls in

¹⁰³ Grosz relates the consequences of an evolutionary vision: “The human, when situated as one among many, is no longer in the position of speaking for and authorizing the analysis of the animal as other, and no longer takes on the right to name, to categorize, the rest of the world but is now forced, or at least enticed, to listen, to respond, to observe, to become attuned to a nature it was always part of but had only aimed to

line with the uniformitarian principles that ground evolution, as well.¹⁰⁴ While the Traveller presents an account of degeneration's gradual intensification as the eons stretch on, the text's suggested evolutionary framework instead promotes the ceaseless diversification of a posthuman ecological network. If you will, imagine that the text's crisis of representation functions similarly to frame narratives. The text's dominant *embedding* plot of degeneration explicitly endorses a pessimistic viewpoint of evolutionary outcomes as shaped by degeneration rhetoric—it upholds the Traveller's belief in a teleological degeneration plot which unavoidably leads from fetishized, idealized forms to degenerate, primitivized ones. However, an *embedded* plot broadly encompassing the text's implicit evolutionary vision affectively and furtively operates within the embedding plot, repeatedly controverting degenerative outcomes. The nesting of these plots is often imperfect or incompatible, hence the text's multiple possible readings. This ambivalence emulates period ambiguities about an evolutionary awareness constrained by the partialness of human vision. In other words, the underlying, objective reality of this posthuman world persists despite the Traveller's anthropocentric expectations, producing a near-irresolvable tension between evolutionary views: one that details evolution as non-teleological becoming and one that perceives evolution as haphazard degeneration. Thus, even among the obvious clues of degeneration, a radical ontology persists in this staunch materiality, though it remains only indirectly representable in the text. Purged of an

master and control—not nature as a unified whole, but nature as ever-striving, as natural selection, as violence and conflict” (*Becoming* 24)

¹⁰⁴ As Arata attests, degeneration anxieties spread ideas about deviations from a normative type. “Like the earth itself in Victorian paleontology,” Arata explains, “the self could no longer be imagined as immutable. Instead it was riven by history, sedimented by innumerable strata of earlier lives and fates, molded into its present shape by an ineluctable and almost unimaginably distended past” (*Fictions* 22).

exceptional status and forsaken by an indifferent planet as a failed hominid prototype, the Traveller self-consciously observes the world and reflects on the human's precarity.

Once fissures appear in the text's apparent degeneration plot and clues about directionless divergence overwhelmingly accumulate, it is easier to critically analyze the text's underlying appreciation of degeneration not as assured outcome but instead as non-teleological becoming. Divergence produces varieties and then distinct species on an indeterminately elongated timeline without intended direction.¹⁰⁵ The smallest of differences in offspring over generations gradually grow and swell. *The Time Machine* manifests transitional beings similar to what Darwin would call "species in the process of formation" or "the supposed prototypes and parents of future well-marked species" (*Origin* 92). No set patterns for speciation or extinction exist, including the retrogression commonly associated with degeneration. An evolutionary vision distinct from degeneration or Social Darwinist rhetorics prefigures constant transformations among life forms, and those changes do not abide by assumptions of self-preservation or taxonomical stability because evolution dismisses "*stasis*" and "does not countenance absolute replication (cloning is its contrary), pure invariant cycle, or constant equilibrium" (Beer, *Darwin's* 8). Nature cares for the whole of the vital world, imposing "no limit to the amount of change, to the beauty and infinite complexity of the co-adaptations between all

¹⁰⁵ In *Origin*, Darwin explains his theory's underlying "principle of divergence" that gradually and mostly imperceptibly alters natural productions (93). He clarifies how "the forms of life throughout the universe become divided into groups subordinate to groups": "the most flourishing or dominant species of the larger genera . . . on an average vary most; and varieties . . . tend to become converted into new and distinct species. The larger genera thus tend to become larger; and throughout nature the forms of life which are now dominant tend to become still more dominant by leaving many modified and dominant descendants. But by steps . . . the larger genera also tend to break up into smaller genera" (50).

organic beings” (*Origin* 90). Even so, as Beer attests, “The natural world is not committed to its progeny,” at least in terms of the preservation of one form over another (“Darwin” 326). The dismissal of humans from the natural order does not outright designate an earthly trajectory toward ruination necessarily. Instead, it marks our limited understanding of the “infinite complexity” of the biosphere which we inhabit.

“Ruinous Splendour” and Recycled Motifs

Another solution to overcoming the confusion evoked by representing posthuman biota involves appropriating established degeneration motifs that, once imported into this posthuman world, deflate the very degeneration plot which they had formerly upheld. The Traveller uses degeneration motifs in order to make sense of alienating scenes, much like period professionals and popularizers used discourses available to them in order to communicate enigmatic insights about evolution.

Soon after his arrival in the Golden Age, the Traveller spots transformed biota everywhere he looks as he accustoms himself to the “condition of ruinous splendour in which [he] found the world” (25). The juxtaposition inherent to the image of “ruinous splendour” outlines well the conceptual tension between degeneration and becoming in the text. It signals something uncontainably lively or vibrant transitioned away from something perceivably decayed or ruined without actually culminating in a complete form. Suggestively, the mention of “splendour” makes room in the text for wonder, awe, and joy that arise as reactions to new life forms; inundated by presumptions of degeneration, the text carves out a discursive space for contrapuntal reflection on the

necessity of change in the natural world rather than the threat of its inevitability.

In a more elaborate example, the flora surrounding the Traveller imply the Eloi's own unexpected development, presenting a degeneration motif at odds with the text's emphasis on open-ended evolution. A "wild" and obviously "long-neglected and yet weedless garden" symbolizes the Eloi's deviation from a preferred type—the "tangled waste of beautiful bushes and flowers . . . grew scattered," overcoming the imposed decorum that the garden plot suggests to the Traveller's Victorian sensibilities (22). That garden image recurs when the Traveller surveys the wider landscape:

I have already spoken of the great palaces dotted about among the variegated greenery, some in ruins and others still occupied. Here and there rose a white or silvery figure in the waste garden of the earth, here and there came the sharp vertical line of some cupola or obelisk. There were no hedges, no signs of proprietary rights, no evidence of agriculture; the whole earth had become a garden. (26)

Recurrent garden imagery evokes one of the period's prevalent degeneration motifs. Established cultural metaphors like gardens signified the design or robustness of empire and nation. Yet, this well-known metaphor of organic erosion also figured social problems at hand.¹⁰⁶ The "waste garden" symbol implies a movement away from an idealized form and discredits the Traveller's hope for humankind's movement "faster and

¹⁰⁶ As an example of this motif of degeneration, see George R. Sims's *Horrible London* (1889) in which he comments, "the great 'Guilt Gardens' of London are overrun with the rankest of weeds and the most poisonous of plants." He scoffs at how "sickly do crime and vice and drink and improvidence twine and intertwine and spread themselves over the soil upon the fertilizing juices of which they flourish and grow fouler day by day" (143).

faster towards the subjugation of Nature” (27). The tension between becoming and degeneration arises here yet again—the depiction of the entire planet as a symbol for degeneration is surrounded by vigorous, innovative forms that inspire the awe and wonder more commonly associated with undirected becoming. This ambivalent symbol implicitly suggests the unfeasibility of teleological expectations.

At this moment in the text, the Traveller’s most impassioned (yet faulty) justification for a belief in the “perfect triumph of man” coincides with another symbol of liminality: “the full moon, yellow and gibbous” (28). The confusing contrast of “full” and “gibbous” (simultaneously connoting fulfilment and incompleteness, or sustainment and transformation) suggests a perpetual in-between state or intermediary form that never culminates in a final configuration, a point inferable by the Traveller’s later judgement that the Eloi and Morlocks “were sliding down towards, or had already arrived at, an altogether new relationship” at the limits of his comprehension (46). For the Traveller, degeneration discourses made sense of these new relationships, even if that understanding could not make sense of the natural world’s curious profundities. By this point, the Traveller does not receive the whole vision of natural selection as communicated to him by natural productions, but readers can intuit the larger forces at work from the text’s previous clues about ongoing evolution.

Negative Visions

Decentering the human as a privileged spectator of evolution becomes another way for the text to model evolution’s representational paradoxes, as difficult as they are to represent.

The text employs image patterns of *negation* to reveal a biosphere that exceeds human perception. These images are often resistant to intelligible depictions, directing attention to external forces and processes that cannot be incorporated into an anthropocentric language or world view. For instance, when the Traveller initially arrives in the future, he admits, “[e]verything was so entirely different from the world I had known” (24). These ideas of alienation and dislocation intensify the longer that he remains out of his own time, granting him perceptions that exceed the anthropological. “Looking at these stars suddenly dwarfed my own troubles and all the gravities of terrestrial life,” he notes when he and Weena take refuge from the Morlocks at night. He reflects on these estranging forces:

I thought of their unfathomable distance, and the slow inevitable drift of their movements out of the unknown past into the unknown future. I thought of the great precessional cycle that the pole of the earth describes. Only forty times had that silent revolution occurred during all the years that I had traversed. And during those revolutions all the activity, all the traditions, the complex organizations, the nations, languages, literatures, aspirations, even the mere memory of Man as I knew him . . . had been swept out of existence. (49)

The “unfathomable” and “unknown” qualities of the material universe press against his own sense of human exceptionality, evoking nostalgia for former human sovereignty on earth. By articulating the relentless passage of forms in a plaintive tone that catalogues the lost qualities of civilized humankind, he registers a world that was neither made for

nor privileges humans.¹⁰⁷ In this moment of mourning, the Traveller recognizes and partially articulates a radical ontology but ultimately refuses—and, surely, is refused *by* anthropocentric language—to compromise his privileged human position of observation. But this refusal ironically gestures to ulterior processes and beings that human vision does not consider. Negation here becomes generative for thinking about an alternative evolutionary vision.

When he reaches the final stage of planetary life, the Traveller’s descriptions rely so steadfastly on an anthropocentric language to illustrate an inherently anti-anthropocentric experience that he can only picture parts of the scene through negation: “It would be hard to convey the stillness of it. All the sounds of man, the bleating of sheep, the cries of birds, the hum of insects, the stir that makes the background of our lives—all that was over” (66). The Traveller both describes the world as lacking and indicates his uneasy fit with this future environment. Faced with a posthuman nature that, to the Traveller’s eyes, personifies a terminal stage of terrestrial life where few life forms perceptively stir, he fails to describe anything beyond the limits of human comprehension. He bemoans the loss of a familiar world within which he could ground himself, thus marking posthuman taxa as impervious to clear representation, and further highlighting

¹⁰⁷ At times, the Traveller seems to allude to other literary influences from the century. Eschatological apocalypticism, Gothic horror, and Last Man narratives all influenced extinction narratives. Wagar terms these projections of desolation “terminal visions” (8). Before the rise of scientific romance, many visions of extinction hinged on an understanding of the natural world as existing foremost for humans. Multiple pre-Darwinian writers had difficulty articulating oblivion in its totality without direct human observation. Lord Byron’s “Darkness” (1816), Thomas Campbell’s “The Last Man” (1823), and especially Mary Shelley’s *The Last Man* (1826) come to mind. Particularly, Shelley’s *The Last Man* remained a chief influence of later extinction narratives because of its vivid depiction of a “vast annihilation that has swallowed all things,” and which leaves only the “voiceless solitude of the once busy earth” (209).

the extreme partiality of human vision. However, another ironic point stands out: the nonhuman “background of our lives” perpetually surrounds and affects the Traveller, though he does not always recognize it since he has been transplanted into it as an entity indistinguishable among the rest.

The ambiguity produced by the Traveller’s insistence on being a privileged observer and the natural world’s controverting ends draws attention to the non-teleological controls of evolutionary outcomes that operate outside of anthropocentric or degeneration logics. Darwin’s insights into ongoing speciation are helpful here. He concludes *Origin* by forecasting the continued transition of biota into unknowable yet linked future forms, maintaining that “endless forms most beautiful and most wonderful have been, and are being, evolved.” This evolutionary view positively reinforces differentiation and mutation by stressing the sustained transformation of bodily forms. Pressured by contingency and necessity, succeeding generations secede to outwardly fanning affiliations. Even dominant species succumb to divergence. By registering the unfolding “grandeur” of biotic becoming, Darwin suggests the indeterminacy of evolution’s outcomes as well as the difficulty of modeling or predicting divergent lineages (396).¹⁰⁸ It is true that individuals—as much as species—are but fleeting translations of prior models that, generation by generation until the original species’ cessation, fade away from their original structures. Coloured by degeneration motifs, such insights are accepted with uncertainty by the Traveller; but absorbed into the text’s

¹⁰⁸ Carolyn Merchant’s (2015) work on “nature as an active, sometimes disruptive and unruly entity” shapes my thinking here (xi). Particularly, she notes how evolutionary theory (later buttressed by Mendelian genetics) “was a further manifestation of the breakdown in ideal forms and types” (10).

embedded evolutionary vision, they transform anomalous developments into expected results of natural selection in a human-less world. It is a given rather than an abnormality that no species remain exempt from mutation or variability because “no character appears to be absolutely fixed” (Darwin, *Variation* 58) since, after all, there is “ample provision for the production, through variability and natural selection, of new specific forms” (Darwin, *Variation* 61). An evolutionary subtext necessitates transformation alongside destruction: turnover rates increase following extinction events; varieties advance into autonomous species; and once-dominant creatures become peripheral agents in their respective, shape-shifting bioregions.¹⁰⁹

Degeneration, then, is revealed as a cultural construction founded on socio-cultural anxieties. Across the Traveller’s descriptions, the Victorian human stands as the reference point for evolutionary change; but when the human is decentred as a privileged spectator of evolution, the text’s posthuman bodies trouble the understanding of *species* as a consistent ideological concept or stable representational unit. For example, as the Traveller perceives it, the Morlocks’ existence “lacked one thing even for mechanical perfection—absolute permanency” (62). Their symbolizing of civilizational degradation reads as an unsound conclusion from within this posthuman world no longer driven by human intervention. Instead, the text’s representational strategies expose the degenerate body as a pliable, manufactured concept formed in response to extinction anxieties and

¹⁰⁹ Darwin does qualify the limits of ongoing speciation in *Origin*: “I am far from thinking that the most divergent varieties will invariably prevail and multiply: a medium form may often long endure, and may or may not produce more than one modified descendant; for natural selection will always act according to the nature of the places which are either unoccupied or not perfectly occupied by other beings; and this will depend on infinitely complex relations” (119).

perceived societal failures. After all, “the classification of species is an aesthetic activity” (Heymans 1) and the taxonomic rank of *species* itself is “a pliable ideological concept” that unravels when subjected to intense scrutiny (Heymans 2). As I read it, the text’s evolutionary verisimilitude does not reify the human subject, but instead problematizes it, ultimately suggesting the possibility of new subjective experiences, innovations of lacking forms, and an increased awareness of kinship between seemingly unrelated beings.

As much as *The Time Machine* produced anxiety in readers about the human’s place in nature, it did not discredit the materialist lessons provided by evolutionary theory; namely, that the natural world accumulates, innovates, and eliminates its biota according to no human rationale. Thus, scenes of negation can be read as analogies of inaccurate human vision. Negation does not outright solve a representational conundrum, but it at least directs attention to entities and forces that exist external to human perception—in other words, negation implies the fallacies driving the Traveller’s interpretations. Accepting—or in the Traveller’s case, merely entertaining—divergence and duration as driving forces of evolution means accepting rather than precluding alternative or innovative forms which endure neither beneficially nor detrimentally towards the earth or humankind. What seem distinct, unrelated entities—humans, Eloi, Morlocks, tentacular monstrosities, and protoplasmic slime—are eventually linked by their underlying affiliations within an evolutionary context. Unexpected developments—what the Traveller depicts as an accumulation of horrors, an abundance of abnormalities, and an environment of incomprehensibility—arise even when an anthropocentric outlook

attempts to obscure them.

Contemplating Annihilation and Embodied Dread

Although seemingly counterintuitive to a sound strategy for communicating evolutionary knowledges, representational *incoherence* demonstrates the need for decentring the human observer. The text's most profound instance of a crisis of representation occurs after the Traveller escapes a Morlock trap in the Golden Age. Upon recovering his time machine, he speeds away from aggressive Morlocks, unknowingly, to a terminal stage of earthly life. When he ceases his temporal voyaging uncountable eons away from the Golden Age, he is taken aback. I can spend time analyzing the representations of the end-times environment and fauna but their depictable features are less significant in this scene than what the narrative *cannot directly relate* about them. Thus, I turn to affectivity as part of the text's representational strategy.¹¹⁰

The text establishes an image pattern of affective prompts across the narrative. Early on, Hillyer underscores the significance of the Traveller's depicted expressivity. "In writing it down," he says of the Traveller's testimony,

I feel with only too much keenness the inadequacy of pen and ink—and,
above all, my own inadequacy—to express its quality. You read, I will
suppose, attentively, enough; but you cannot see the speaker's white,

¹¹⁰ It is not a reach to consider the role that affective or experiential qualities play in aesthetic representations, as Joanna Bourke (2008) outlines: "The classical Greek term 'aesthesia' refers to the senses and sense perception but also to feelings and emotions. Aesthesia is thus a sensual reaction to external stimuli as well as an emotional involvement with the world. In this sense, . . . the study of feeling or the history of bodily and emotional reaction to the world . . . [must consider] the emotional reaction of the self to stimuli in lived experience" (420).

sincere face in the bright circle of the little lamp, nor hear the intonation of his face. You cannot know how his expression followed the turns of his story! (16)

Experienceable sensations evidently impact the body but the body also casts an affective power on observers. All the while, Hillyer alludes to language's failure to present an embodied experience in its entirety.

In other places, the narrative is laced with facial expressions and embodied reactions that later take on provocative dimensions. Look to the Traveller's first encounter with Morlocks that cues meditations on his own species' dehumanization. They scurry in the dark "so like a human spider" while their "ape-like" features trigger queasy reactions (38). He describes "their eyes [as] abnormally large and sensitive, [like] the pupils of the abysmal fishes," making it easier to distance himself from what he perceives as debased life forms, especially since the Morlocks cannibalize the Eloi—their related kin—in a macabre demonstration of unrestrained social Darwinism (44). Regardless of his attempt to present Morlocks as "nauseatingly inhuman," the Traveller still sees genealogical consonance between themselves since humankind's worst features accumulated in them (45). Due to his anachronistic circumstances, the "truth" about speciation's unexpected outcomes "[dawns]" on the Traveller. He understands "that Man had not remained one species, but had differentiated into two distinct animals," and (more devastating to progressivist logic) "that this bleached, obscene, nocturnal Thing, which had flashed before [him], was also heir to all the ages" (38). Situating the human as primitive, the Traveller suggests that the posthuman will always carry traces of the human

within it.

However, the Traveller's *reaction* to the Morlocks is most significant here. It revealingly affirms an inherent nonhumanness that remains always expressible through emotional or instinctual displays, all of which "attest to the body's immersion and participation in nature, chaos, materiality" (Grosz, *Chaos* 3, note 2). "The old instinctive dread of wild beasts came upon me," the Traveller recounts of that first encounter. His descriptions confirm the affective stimulus of such a "[s]trange terror in the dark": he "clenched [his] fists and steadfastly looked into the glaring eyeballs . . . afraid to turn" (38). Similar reactions recur when the Morlocks steal the time machine. The fear of never returning to his own time manifests bodily, as when he describes, "The bare thought of it was an actual physical sensation. I could feel it grip me at the throat and stop my breathing" (29). The moment affirms that life could be wholly experienceable through "[s]ensations, affects, and intensities" (Grosz, *Chaos* 3).

When the Traveller reaches the earth's final stage—what the narrative ironically calls "*The Further Vision*"—his observations are more affective than accurate (63). "I cannot convey the sense of abominable desolation that hung over the world," the Traveller admits when rendering his deeply unsettling experience among end-times biota at the threshold of earthly existence (65). His intense visceral reactions to the scene disturb his cognitive processes. For example, he spies a lone familiar sight—the extinguishing sun—and feels both overcome by "a terrible dread of lying helpless in that remote and awful twilight" (67) and powerless to "convey the stillness of it" (66). The scene's affectivity overwhelms the Traveller. He cannot accurately relay his impression

of the scene because his corporeal reactions prove to be too overpowering. The text's tension between accurate observation and faithful representation reaches a breaking point in this scene as it threatens to wholly subvert ontological stability as much as depictive coherence.

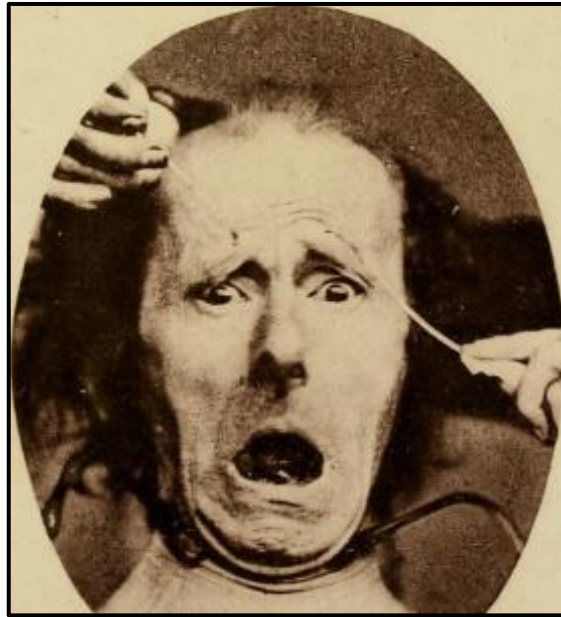


Fig. 5. A test subject displaying horror during Dr. Guillaume-Benjamin-Amand Duchenne de Boulogne's experiments in electric muscle stimulation, appearing in Charles Darwin's *The Expression of the Emotions in Man and Animals*; London, Murray, 1871, Plate VII.

Moreover, dread and sublimity entwine in this scene, residual traits of the “apocalyptic sublime” that imbue nature with “catastrophic possibilities” (Paley 4). Such experiences coerce observers to feel “powerless” (3). In this state of mutual awe and

horror, the Traveller cannot “entirely comprehend or contain” the scene.¹¹¹ Incapacitated from contemplating global annihilation, his expression transitions from the catastrophic sublime’s key “identifying response, astonishment,” to its “chief subject matter, terror” (Paley 2). The manner in which the Traveller becomes “drawn on by the mystery of the earth’s fate,” witnesses “with a strange fascination the sun [growing] larger and duller in the westward sky” (65), and observes “aghast at this blackness that was creeping over the day” (66) acutely resembles this passage from astonishment to dread.

Overwhelmed during the “rayless obscurity” of a planetary eclipse, the Traveller struggles to describe his experiencing of the “horror of this great darkness” in an exemplary moment of embodied dread:

The cold, that smote to my marrow, and the pain I felt in breathing, overcame me. I shivered, and a deadly nausea seized me. Then like a red-hot bow in the sky appeared the edge of the sun. I got off the machine to recover myself. I felt giddy and incapable of facing the return journey. As I stood sick and confused I saw again the moving thing upon the shoal . . . [I]t seemed black against the weltering blood-red water, and it was hopping fitfully about. Then I felt I was fainting. But a terrible dread of lying helpless in that remote and awful twilight sustained me while I clambered upon the saddle. (66-67)

Sensations or feelings of alarm, dread, or horror cannot be adequately communicated,

¹¹¹ Darwin similarly felt detached from anthropocentric modes of understanding, as he noted on 18 April 1832 in Sogeco, Brazil in *Journal of Researches* (1839): “It is easy to specify the individual objects of admiration in these grand scenes; but it is not possible to give an adequate idea of the higher feelings of wonder, astonishment, and devotion, which fills and elevate the mind” (26).

though such feelings of dread (and associated negative intensities) simultaneously evidence the Traveller's loathing of his nonhuman condition.

I note this moment's similarities to "moments in the work of naturalists . . . where the self is overwhelmed by what it comes into contact with" (Schmitt, *Darwin* 11), such as "a natural world brimming with ineffable significance"—that which remains beyond words (Schmitt, *Darwin* 12). As a scientist, the Traveller is barred from making astute observations by an overwhelming dread. Thus, expressions of fear hold more than figurative worth because embodied reactions impede the Traveller's rational attempts to impose meaning upon the scene. Inarticulable feelings and sensations carry more significance here than do the descriptions of the abject biota, for the latter subjects are ambiguously figured. "[G]reen slime" vaguely attests "that life was not extinct," a "black object flopping upon the bank" gains no further resolution (66), and his attempted articulation of tentacular creatures is littered with uncertainties about their appearance—" [i]t was a round thing, the size of a football perhaps, or, it may be, bigger" (67). The flashes of ambiguous forms and the Traveller's inability to focus long on these future subjects formally—and hyperbolically— analogize evolution's morphic volatility. The quick glimmers of kinship, the formerly obscured links between forms, and the extreme discontinuity with human modes of interpreting the natural world all culminate in, I contend, this aestheticized attempt to convey from within the human's partial vision life forms entirely abject to the human eye. Temporally, he inhabits a moment where "there is no deferral to human signifying systems" (MacCormack, "Introduction" 2). On the brink of representability, the Traveller's experience itself takes precedent over representational

consistency.

My thinking is rooted in Darwin's *The Expression of the Emotions in Man and Animals*, in which he makes his boldest claims for trans-species kinship by animalizing what were often understood to be the most humanized of traits: emotions "accounted for through the principles of habit, association, and inheritance" (284).¹¹² His commentary on astonishment and fear is relevant here. In order to articulate a "frame of mind . . . closely akin to terror," one must notice how "Attention, if sudden and close, graduates into surprise; and this into astonishment; and this into stupefied amazement" (257). Then, other traits associated with astonishment's transition into fear surface, including "a slight raising of the eyebrows" (135) followed by "remaining motionless, staring intently with widely opened [eyes,] . . . eyebrows being often moved up and down," faces appearing "lengthened," and attempted retreats interrupted by urges to turn back and "intently" observe the perceived threat (134-35).¹¹³ Period photographs from electro-physiologist Dr. Guillaume-Benjamin-Amand Duchenne de Boulogne's experiments in electric muscle stimulation come to mind as a comparative example in which to illuminate Darwin and Wells's illustrations of horrified expressivity (see fig. 5).¹¹⁴ Such images drawn from

¹¹² Darwin summarizes his position in *Expression*: "With mankind some expressions, such as the bristling of the hair under the influence of extreme terror, or the uncovering of the teeth under that of furious rage, can hardly be understood, except on the belief that man once existed in a much lower and animal-like condition" (23).

¹¹³ Darwin's discussion on astonishment, fear, and horror in *Expression* directs attention to the naturalized experience of these emotions across the animal kingdom: "It is certainly a remarkable fact, that the minute unstriped muscles, by which the hairs thinly scattered over man's almost naked body are erected, should have been preserved to the present day; and that they should still contract under the same emotions, namely, terror and rage, which cause the hairs to stand on end in the lower members of the Order to which man belongs" (285).

¹¹⁴ To advance his claims in *Expression*, Darwin uses images like those from Dr. Duchenne's work on the generation of facial expressions "by the aid of electricity" (17). The glorification of humankind's unique higher faculties could not withstand advances made in the nineteenth-century sciences.

Duchenne's photographs and used as illustrations in *Expression* confirm the universality of "primitive" expressions that "[survive] into the modern world, unchanged" (Beer, *Darwin's* 220).¹¹⁵

These similarities between *The Time Machine* and *Expression* suggest that an encounter between humans and the ineffable qualities of the posthuman world provokes auto-ethological thoughts—the human signifies as just another specimen communicating its precarity in an unforgiving and all-encompassing materiality. To demonstrate, compare the previous passage of the Traveller feeling overcome to another of Darwin's statements on the "diversified results" of "violent emotions": "The heart beats wildly, or may fail to act, and faintness ensues; there is a death-like pallor; the breathing is laboured; the wings of the nostrils are widely dilated" (269). Moreover,

the uncovered and protruding eyeballs are fixed on the object of terror; or they may roll restlessly from side to side . . . The pupils are said to be enormously dilated. All the muscles of the body may become rigid, or may be thrown into convulsive movements. The hands are alternately clenched and opened, often with a twitching movement. The arms may be protruded, as if to avert some dreadful danger, or may be thrown wildly over the head. (269)

¹¹⁵ Many of Darwin's anecdotes in *Expression* destabilize the conceptual divisions between species. For instance, at Darwin's request, zookeepers placed a "living fresh-water turtle" in a monkey house. Then he documented the residents' reactions: "they showed unbounded astonishment, as well as some fear. This was displayed by their remaining motionless, staring intently with widely opened eyes, their eyebrows being often moved up and down. Their faces seemed somewhat lengthened" (134). Even uncannier were the baboon reactions, since "some of the larger baboons were greatly terrified, and grinned as if on the point of screaming out" (135).

Faced with his own destruction, the Traveller manages to overcome fear's grip on his body, but not before displaying these instinctual responses to sensed danger. In an evolutionary outlook, these expressions become naturally expected, not merely anomalous phenomena.

Like Darwin and other scientific professionals, the Traveller struggles to articulate his encounters with unusual biota. Such confrontations exceed the traditional limits of human understanding and the representational threshold of anthropocentric language in a similar way to threatened animals becoming “‘swallowed up’ by language, [and] absorbed into its predetermined anthropocentric directives” once incorporated into extinction discourses (Sheehan 168). But instead of mirroring human concerns once absorbed by language, the unusual life forms of the deep future grant an intense affective stimulus—the Traveller still corporeally reacts to the scene when his attempt at interaction fails. When the text needs concrete meaning and generous discursing the most, it cannot adequately depict the scene with the same level of vividness it had previously shown while describing the Golden Age. Like Darwin's reliance on analogy or metaphor in his writings to explicate the intangible qualities of evolutionary process, Wells's dependence on affect in this scene serves as another way of fending off the impression of displaying “an enthusiasm which would extend the material into a form of mysticism” (Beer, *Darwin's* 92). Instead a representational lesson emerges here: affective experience can replace accurate observation or figurative explanation as a reminder of superseding evolutionary forces.

While neither Hillyer nor the Traveller find that alternate mode of expression in

which to circumvent the restrictions of anthropocentric language, this scene at least gestures to an alternate mode of attention to the natural world. The crisis of representation on display in this scene produces alternative subjective experiences, although the Traveller's dread demonstrates a resistance to that unnerving thought. Near-death experiences (or in this case, speculations on near-death experiences), as eco-critic Plumwood asserts, "tell us much about our frameworks of subjectivity": more specifically, such experiences may prompt reconsiderations of the biosphere "from the inside" (31), that "alien, incomprehensible world in which the narrative of self has ended" (34). Fleeting yet forcefully, the affective power of dread indirectly compels reflections on the human's estrangement from its engrained observational habits. From this unique perspective, observers can perceive—and communicate—a grander natural world capable of carrying on without them.

As I have demonstrated, the novella draws on the affective to represent a posthuman future. The tension between the Traveller's resistance and his eventual acquiescence to these forces creates impressions of a natural world encompassing the human's culturally constructed realm of professed exceptionality. Another possible reading of this scene involves interpreting the Traveller's dread as pushback against a threatening materiality that clashes with human interests. However, the reactions that overwhelm the Traveller's attempt to rationalize or impose order upon the scene still point to an inescapable evolutionary plot within which the human is deeply implicated,

and a plot that altogether exceeds the limited scope of the narrative itself.¹¹⁶ There is no way for the Traveller to discredit those animalized sensations because the moment captures both the inescapable material conditions of the human and the insensible plans of natural selection. The wider biosphere to which the human belongs operates uninhibited by anthropocentric understandings of those operations.

To reiterate, there are few neat resolutions in *The Time Machine*. But the ambivalence produced by competing plots of becoming and degeneration does create an openness towards a radical ontology, however filtered through anthropocentrism it may be. The openness that emerges from *The Time Machine*'s dominant degeneration plot eventually controverts what the Traveller perceives as an inevitable degenerate future. Once he encounters the end-times figures of "*The Further Vision*" that are grotesque to Victorian sensibilities and representational practices, the Traveller is literally startled into the awareness of what he needs to learn to see—kinship, relatability, and interconnection—even if such a vision overwhelms him with dread. The Victorian human cannot wholly decentre itself in the world, but when faced with a threatening materiality, the human must nonetheless acknowledge itself as vulnerable within that world. As a guide for representing future forms, *The Time Machine* offers suggestive representational

¹¹⁶ Judging by Wells's contemporaneous critics, the Traveller experiences embodied sensations similar to what Victorian readers themselves could have experienced while reading the novella. One *Daily Chronicle* critic claimed in July 1895 that Wells's representation of "that last fin de siècle, when the earth is moribund and man has ceased to be" actually "grips" (synonymous with immobilized) readers ("A Pilgrim" 183). Another critic, Richard Holt Hutton, bemoaned the novella's bizarre features but nonetheless admitted to its "unnerving" qualities (180). Note that critics (and an assumable broad readership) possessed the imaginative capacity to engage with posthumanism yet challenged its implications. Their apprehension about abject forms matches the Traveller's unease, verifying that the text (and the social context that birthed it) still operated within an anthropocentric (and specifically Victorian) world view regardless of deeply dehumanizing revelations.

strategies for depicting unexpected evolutionary outcomes that implicitly undercut humans as authorities of their evolutionary fate.

Chapter Four

Interlocution with the Elements: Belongingness and Self-Extinction in M.P. Shiel's *The Purple Cloud*

“Duration, thus restored to its purity, will appear as a wholly qualitative multiplicity, an absolute heterogeneity of elements, which pass over into one another.”—Henri Bergson, *Time and Free Will: An Essay on the Immediate Data of Consciousness*, 1889 (229)

“Already, already, there are things that peep and sprout within me...!”—M.P. Shiel, *The Purple Cloud*, 1901, (88)

Exceeding Krakatoan proportions, a volcanic eruption in M.P. Shiel's *The Purple Cloud* spreads toxic gasses across the globe, killing almost all terrestrial beings. The extinction event is seemingly catalyzed—though never confirmed—as a violation of a natural order by the novel's protagonist, Adam Jeffson. He selfishly aims to be the first to reach the North Pole in order to claim a sizeable reward, even murdering his companions on the way. As he nears the Pole, he becomes preoccupied with the consequences of the self-serving “pursuit of riches” (37).¹¹⁷ “Under these conditions,” he asserts, “man becomes in a few days, not a savage only, but a mere beast, hardly a grade above the bear and walrus,” foreshadowing a divergent human form (36). After reaching a turbulent, mysterious lake at the Pole, he swoons and sees “nothing distinctly”—the world violently reacts to his unbidden presence while it simultaneously releases poison gas in an eruption on the other side of the world. These extreme environmental disturbances leave him affectively and experientially overwhelmed. He has trodden too close to “the old eternal

¹¹⁷ Maria Cristina Fumagalli (2002) explains that the text critiques such self-serving pursuits since “it can be read as a very dense, mobile, and complex work that exposes the brutality of the capitalistic profit-motive as a basis for human relationship, [and] allows doubt and conflict about the official ideology of the Empire to surface” (79).

inner secret of the Life of this Earth, which it was a most burning shame for a man to see” (41). The event is hardly comprehensible, and this sense of overwhelming materiality will remain on Jeffson’s mind throughout the narrative. When he flees these unidentified forces and returns from the Arctic to depopulated cities, the true catalyst of the catastrophe remains unclear—the deducible scientific evidence of an arbitrary volcanic event competes with suggestions of an apocalyptic event, merging seemingly oppositional epistemological frameworks.¹¹⁸ Such ambivalence in the novel transmits signs of forces greater than Jeffson at work. These forces solicit his attention, and sometimes threateningly so, though Jeffson himself also embodies a danger to the earth: he begins to wantonly incinerate cities that signalled the epitome of human culture.

As other critics note (Fumagalli 2002; Bulfin 2008; M. Morgan 2009; B. Morgan 2016), *The Purple Cloud* presents multiple interpretive challenges, not the least of which involves the unreliable narrator, Jeffson. Transcribed from the mutterings of a medium, the account distinguishes itself as “a counterexample to the greater control and reliability of retrospective narration” (M. Morgan 278). Without a companion for many years of nomadic arsonism, Jeffson does at points express wonder at the evolutionary vibrancy of the remaining world (while torching it), yet he repeatedly returns to a damaging

¹¹⁸ Deborah Bailin (2010) outlines the ambivalent relationship between evolutionary discourses and apocalyptic ones, commenting, “Evolution is apocalypse, both revelation and ending” (Bailin 382): it “signifies apocalypse in both senses of the word, *eschatos* and revelation. *Homo sapiens* will either become extinct or morph over time into a posthuman species, ultimately, perhaps, into an animal very different from what we are now. The knowledge of that future is itself a revelation in its profound contradiction to and destabilization of the belief that ‘man’ was created from a piece of clay, perfect in its original and supposedly unchanging form” (390). For more on Shiel’s attempted “reconciliation of secular and religious conceptions of the apocalypse” (Bulfin, “End” 155), see Ailise Bulfin’s (2013) “‘The End of Time’: M.P. Shiel and the ‘Apocalyptic Imaginary,’” from *Victorian Time: Technologies, Standardizations, Catastrophes*, edited by Trish Ferguson, Palgrave Macmillan, 2013, pp. 153-177.

anthropocentric—and misogynistic—perspective and practice, attempting to assert sovereignty over the world. Jeffson’s actions throughout the narrative would seem to suggest that the human wholly subjugates and destroys if given a second chance at claiming the earth.

However, the evolutionary vision of the text—as compromised as it is by Jeffson’s resilient anthropocentrism—implicitly controverts Jeffson’s selfish and teleological designs for the species. This ambivalence allows for alternate readings of Jeffson’s experiences that decentre the human as a controlling force in nature. The novel’s reach for a grander awareness or articulation of reformulative forces circulating with abandon sets *The Purple Cloud* apart from other period fiction. The text provides access to inner phenomena and how the subject experiences the linked states of interconnected biota and matter. On display in the text are the “perceptual and ontological shifts” that Grace Kehler (2015) associates with Darwinian materialism. “To embrace an ontology predicated on materiality and common belongings,” Kehler contends, “we paradoxically must estrange ourselves—repeatedly—from our comforting assumptions about human embodiment and subjectivity” (45).

Repeatedly, Jeffson contacts earthly and elemental forces that transpire beyond *and* within him before shunning their insights, corroborating his embodiedness (and embeddedness) within a dynamic nature. He is a witness to as much as a participant within a radical ontology. On multiple occasions after his initial encounter with these insensible forces at the Pole, he recognizes when the earth wishes to communicate with him, leading him to consider, “Must I not, in time, cease to be a man and become a small

earth[?]” (158). Scott McCracken (1998) points out that “at the root of all science fiction lies the fantasy of alien encounter” (102). Such an encounter based on a “living practice of embodied connection” manifests between Jeffson and fluctuating configurations of matter and life forms (Kehler 47).¹¹⁹ The encounter creates a discursive space in which to, as Fumagalli remarks, “explore ambivalent feelings towards the ‘other[s]’”—the others in this case being posthuman subjects and environments relentlessly hailing and affecting Jeffson (Fumagalli 79). These repeated encounters establish a global ecological setting that, as Benjamin Morgan (2016) argues, “demand acts of imagination that situate the totality of human life in relation to the totality of natural systems in order to contemplate their shared fate” (612).

In this chapter, I illuminate the text’s tentative openness to a posthuman domain as articulated via Jeffson’s uneasy interlocutions with earthly elements—the dialogical give-and-takes between object/subject, human/nonhuman, and body/world. These moments strengthen the connections between his interior self and the external world. In turn, they manifest fresh insights about kinship with other beings and matter, even if Jeffson is at times reluctant to revise his epistemology. Unlike *The Time Machine*’s depiction of the deep future’s evolutionary outcomes, *The Purple Cloud* grants access to the *immediate experience of becoming*, as illustrated by Jeffson’s conflicted—and frequently incoherent—responses to belonging to an ever-encroaching materiality and an ever-morphing biosphere. The text strategically relies on extensive image patterns of

¹¹⁹ Kehler discusses this “living practice” further: “When we encounter the natural environment, wild spaces and creatures, companion species, or other humans and their cultures, we have the option of approaching them with the perceptual faith that they open to us and we to them, creating ever-new realities” (47).

becoming, decomposition, or transmutation—assimilative imagery—derived from the evolutionary imaginary in order to establish an all-encompassing and inter-relational posthuman domain. In this recovery phase, surviving biota co-adapt to each other and to the altered earth. Jeffson’s profound but fleeting visions bespeak the novel’s resilient and dynamic evolutionary representations that clash with his hope for shaping the species or the earth to his liking. In other words, the particulars of the fictionalized world problematize the protagonist’s interpretation of that reality.

As much as Jeffson espouses dominion over the earth, the text instead suggests that a precarious kinship links Jeffson with other bodies and matter. As I contend, the text anticipates posthuman theory, producing “new, imaginative ways of understanding relations between lives” (MacCormack, *Posthuman* 1). By documenting the *experience of becoming*, the text exhibits a preoccupation with “[h]umanness” as a “discursive construct” or “provisional category” (Hurley 28). The discursive manipulability of humanness eventually troubles Jeffson’s fantasies of an improvable species, bringing out the potential for debate about manifesting such a posthuman subject in physical terms. This difficulty arises from his frequent reliance on an anthropic vantage point from which he can make sense of a transformed—and relentlessly transitioning—corporeality. Eventually, by yearning to redirect future progeny all the while idealizing their role in a new world order, he reinscribes anthropocentric expectations in his eugenic designs—albeit personalized, idiosyncratic ones—for a re-modelled species.¹²⁰ By interpreting this

¹²⁰ Jeffson’s reinscription of anthropocentric ideals is also evident in the novel’s working titles, *The Last Adam* and *The Second Adam* (Sutherland *xix*).

ambivalent reception of a posthuman ecology, I also chart the limits of posthumanist thinking at the turn of the century.¹²¹

The Purple Cloud crystalizes many of the primary concerns of this dissertation, such as human embeddedness in the world and evolutionary process as well as humankind's threat to the earth's well-being. The text's underlying uncertainty about the species' evolutionary future reproduces the period's extinction anxieties. Openness to mutuality among all earthly entities was evident, yet the notion threatened ideas of human durability or exceptionality. By its final act, *The Purple Cloud* takes shape as a tale that undermines Jeffson's extreme individualism, countering his selfish desires for the species by implicating him within a larger web of evolutionary relations operating beyond his untenable desires and limited perspective. This disjuncture reflects the period's difficult acceptance of extinction as a possibility for the species. Still, a partial openness to a radical ontology emerges throughout the text. Jeffson spies its clues both outside and within him.

Projecting a Posthuman Ecology

As I do in previous chapters, I begin my elucidation of ecology by turning to the realm of the everyday. After returning from the Arctic, Jeffson finds himself lured to the abandoned spaces of London, now a sprawling cabinet of curiosities on “a haunted

¹²¹ I am indebted to contemporary theorists like N. Katherine Hayles (1999), Rosi Braidoti (2013), and Claire Colebrook (2014) for demonstrating the productiveness of posthumanist thinking. Braidoti describes it as “a generative tool to help us re-think the basic unit of reference for the human in the bio-genetic age known as ‘anthropocene’ . . . By extension, it can also help us re-think the basic tenets of our interaction with both human and non-human agents on a planetary scale” (5-6).

planet” (97), a decaying exhibition of societal collapse resonant with “secrets, vastnesses, horrors!” (138). Rather than preserve London, he finds “a sensation of dear peace, of almighty power” in torching it, the first razed metropolis in an eventual global chain of cities incinerated by this Last Man figure (142). But before setting London ablaze, he discerns vitalities still populating the de-peopled city. Taunted by “the lunacy of Nothingness” he perceives in the absence of living humans, Jeffson turns his attention to the accumulated detritus of humankind, treating human corpses as background objects while foregrounding ordinary objects (65). Inanimacy does not delimit these artifacts of the expired species from signalling as active and dynamic, like a phonograph haunted with voice (129), a still-“electrified” Roboral advertisement mockingly displaying “the last word of civilised Man” (134), and an Arsenal stockpile transmitting metonymic associations of self-extermination (131).¹²² These moments of object/subject exchangeability encourage Jeffson’s renunciation of ontological cohesion and facilitate his imagining of alternative forms, for he becomes thereafter preoccupied with “that deep, deep secret of the human organism” (132).

Out of these meditations surface the most profound yet unresolvable of his speculations: “Into what kind of creature shall I writhe and change?” (88). Jeffson’s dissolving of the object/subject divide draws attention to the relatability between the unbounded individual self and the immense external world, which, in turn, leads to glimpses of the reciprocal intimacies between earthly bodies and elemental matter—the

¹²² The Arsenal’s discovery suggests that the destruction of the human species was inevitable. Noting the strength of his own “steady, strong smouldering lust” to incinerate London, Jeffson concludes upon finding fuses and explosives for the task that “modern savagery occupied its leisure in exterminating itself” (131).

human body is as transformative and unstable as the environment englobing it. These glimpses involve immersion, wonder, an opening to the world, and a way of knowing that rests not on self-possessed spectatorship but on vulnerable interchange.¹²³ “Life,” as Kehler notes about a Darwinian materiality, “depends on change, and changes requires the interrelational, what is released between and among beings” (45). Jeffson’s projected enmeshment with other life forms leads to momentary estrangements from the former hegemonic Enlightenment model of the human—the human is no longer rationally separate from nature’s exterminating or shaping forces or in control of its experienceable reality.

Resisting a Posthuman Ecology

To access Jeffson’s radical perceptions, we must dive deep into a posthuman ecology that complicates conventional understandings of being and meaning in the same way that it refuses distinctions between objects and subjects. Jeffson’s reassessed relationship with his material conditions begins as soon as he returns from the Arctic, when he realizes that “all boundaries [are] lost,” a claim implying the profound perspectival shift required to focalize chaotic or implausible events. He is overwhelmed by what he describes as a “disembodied world,” by the “unreal sea and spectral sky . . . [that] mingled in a vast shadowy void of ghastly phantasmagoria . . . at whose centre [he], as if annihilated, seemed to swoon in immensity of space” (57). The annihilation of the self suggests the

¹²³ Grosz reminds us, “[matter] must be capable of becoming more and other than what it is (at any one time) in order for life to emerge or evolve in the first place, and for life to be able to induce the expression of matter’s virtuality, which is to say, its capacity for being otherwise, its . . . potential for becoming. . . . [I]t contains in itself an inherent openness, which links it to the rest of the universe” (*Becoming* 52).

loss of human agency and the fragility of a stable human subject. The phantasmagoric confusion and the negated space of a “shadowy void” indicate an inability to wholly articulate natural process or the passage of forms which persist regardless of human observation, connoting a potential loss of control over the world. At this point in the narrative, Jeffson privileges his individual autonomy over these external forces, yet he still recognizes his vulnerability to them. While these early descriptions connote a lack of materiality, Jeffson will soon be overwhelmed by his material conditions.

Repeatedly, Jeffson attempts to reassure himself of his mastery over the earth when he feels removed from control. As a prime example of the tension produced by the novel’s evolutionary vision of materiality and Jeffson’s hesitant acceptance of a radical ontology, look to his musing on becoming a transitional form. During a sequence in which he describes his travels from East and Southeast Asia to the Americas aboard his boat, the *Speranza*, he briefly fantasizes about becoming a nonhuman figure with shared animal, human, and vegetable traits. He recounts:

. . . how I came to San Francisco, and how I burned it, and had my sweets: for it was mine; and how I thought to pass over the great trans-continental railway to New York, but would not, fearing to leave the *Speranza*, lest all the ships in the harbor there should be wrecked, or rusted, and buried under sea-weed, and turned unto the sea; and how I went back, my mind all given up to musings upon the earth and her ways, and a thought in my soul that I would return to those deep places of the [Philippines], and become an autochthone [sic]—a tree, or a snake, or a man with snake-

limbs, like the old autochthones: but I would not: for Heaven was in man,
too . . . (168)¹²⁴

The passage articulates well the transmutational imagery and materialist epiphanies typical of the novel by making decomposition or transmutation (the experience of being “turned unto the sea”) sensible, all the while embedding the human in these processes. Jeffson’s desire to become an “autochthone” suggests his belonging to and desire for the earth. In this moment, he receives a vivid but brief transmission of a feral state foreign to human registers. But the passage also exhibits Jeffson’s reluctance to relinquish control over his planet, species, or body. Note how he boasts of his absolute lordship, claiming the earth as his own (using the rationale “for it was mine”) and playing the part of a deity/human hybrid himself by preserving in that moment a “Heaven” in “man.” In other places in the narrative, he performs uneasy renditions of various theological roles, including Adam the woman-blaming seeker of forbidden knowledge (260), Satan the roaming spreader of earthly destruction (142), and God the life-shaping creator of lineage (261).¹²⁵ Shiel’s unique religious views merged evolutionism with theology, something Bulfin says creates possible “quasi-religious interpretation[s]” in the text (“One-Planet”

¹²⁴ “Autochthon” means “a person indigenous to a particular country or region and traditionally supposed to have been born out of the earth, or to have descended from ancestors born in this way. Hence more generally: an indigenous person; an earliest known inhabitant.” Other meanings include, “A person or creature born out of the earth,” as well as being “part of a faulted formation that has not been displaced by tectonic forces” (“Autochthon”).

¹²⁵ I contend that Shiel draws heavily on post-apocalyptic and theological discourses for three primary reasons. Firstly, his religious convictions, though unique, would have conditioned his imagination for such materials. Secondly, the apocalyptic imaginary was heavily imbued within *fin-de-siècle* culture; lastly (and most significantly here), the apocalyptic register was one of the available explanatory frameworks in which to express his world view. Shiel developed unique theological views over his career, but I argue that the apocalyptic and theological undertones he embeds in the text are not entirely central to his outlook because, repeatedly, materialist discourses crucially fill the gaps in his thinking (and imagining).

105). While Jefferson challenges anthropocentric modes of meaning-making, he repeatedly reverts to a human-focused epistemology.

On other occasions, Jefferson recognizes natural transformations but he cannot accurately convey the scale of such changes. In an attempt to familiarize settings increasingly alien to his sensibilities, he superimposes the distant-past upon his present-day landscapes, evoking events of dizzying environmental and biotic changes: “by noon I was cutting my solitary way up the Thames, which flowed as before the ancient Britons were born, and saw it, and built mud-huts there amid the primaeval forest; and afterwards, the Romans came, and saw it, and called it . . . Thamesis” (101). Similarly, when Jefferson records comparable environmental changes, he detects “an aspect of return to a state of wild nature” (87), such as the old “open country” and formerly maintained lands that appeared as though they had been “uninhabited for ages” (86). But these changes transpire without rationalization and remain difficult for Jefferson to interpret. In another example outside Calais, Jefferson remains “ever-anew astonished at the wildness of the forest vegetation which, within so short a space since the disappearance of man, chokes this pleasant land” (142). His encounters within the biosphere overwhelm his observational powers, much like a naturalist is “astonished” by newly discovered biota. Later, while traversing the Balkan Mountains, he spies in wonderment “the villages and downs going back to the earth, already invaded by vegetation, and hardly any longer breaking the continuity of pure Nature.” Jefferson further testifies to all “that which is not-Man becoming all in all with certain *furor* of vigour,” indicating an energetic and ongoing reformulation of earthly conditions when humans lose control of their

environment (228-229). These observations lead Jefferson to “some principle by which Nature acts with freer energy and larger scope in the absence of man,” though he still implies the separation of the human from these developments (87). Such a thought presents Darwinian associations: the biosphere remains susceptible to change and reconstitution, and has always been so susceptible. “The whole history of the world,” Darwin suggests, “although of a length quite incomprehensible by us, will hereafter be recognized as a mere fragment of time, compared with the ages which have elapsed since the first creature, the progenitor of innumerable extinct and living descendants, was created” (*Origin* 394).

Whatever meanings that Jefferson garners from his posthuman circumstances are complicated by his lingering fear of external materialist forces. He has difficulty understanding the ends (or the lack thereof) of the natural productions in this recovery period. He even goes so far as to look for evidence of such ends where none reliably exist, misrecognizing nature’s reclamation of civilization as the earth’s “abortive effort to sweep her streets” of the living human (92). Jefferson senses natural actions and events transpiring at the threshold of human perception, but he still cannot understand the larger evolutionary picture. He intuits not definite meaning but instead senses shifting, metamorphizing percepts outside of human understanding. For instance, the geomorphological changes that he compares against his own ontological transformation reference the earth’s “strange” designs and “moods” along with the hoarded “meanings, secrets, [and] plans” incongruent with his way of knowing the world: the long-distance reaching of continents across oceans, the peninsulas pointing like fingers to the poles, and

the geological correspondences of faraway lands offer meanings barely decipherable to the mere human observer. Yet, the repeated focus on the “fits” of seemingly unrelated land masses and geological formations to each another further suggest that Jeffson intuitively wants to identify with natural forces. The “forefinger with a long nail” of Denmark and the “thumb” of the Yucatan peninsula connote a likeness between Jeffson and the earth, as though he could map his body onto the earth’s, “herself a living being.” This inferable alliance between body and earth also positions Jeffson as a vessel ready to be filled with novel insights: “I lie awake and think, for she fills my soul, and absorbs it, with all her moods and ways” (156). While contemplating the earth’s mysterious developments, Jeffson becomes alert to fresh ontological possibilities, shifting from searching for understanding to entertaining the implausible.

Tolerating a Posthuman Ecology

The limitations of human knowledge and vision in the text call attention to the greater complexities of material forces and processes yet to be discerned. The ambivalent representation of a posthuman ecology makes room for alternate readings, generating fissures in Jeffson’s hardened thinking, such as the time in Constantinople when the earth pushes back against his plans. The “place seems to plead with me,” he confesses when he senses that his “impulse to burn was quieted” (178). The text’s aggregate references to evolutionary and geomorphic transformations beyond Jeffson’s control allow for an interpretation of this posthuman ecology as non-threatening and conducive to the type of ecosophical thinking that privileges mutuality and relatability instead of selfishness or

progressivism.¹²⁶ Non-teleological becoming and ever-yielding duration have shaped the text's posthuman ecology.¹²⁷ Even when Jeffson perceives purpose or directionality in the surrounding biosphere, his evolutionary vision promotes his untethering from human-specific modes of perception. While several portrayals of natural reclamations are sometimes militaristic or pathologized, I want to make clear that Jeffson's increasing openness to an ontology governed by deviation and becoming undermines rather than outright usurps the idea of an earth made for humankind. For instance, he admits after crossing the Arabian sea that the "subduing or mesmerising effect upon the native turbulence of Nature" as caused by humans had been "removed" (155). By documenting a natural world evacuated of human control, the novel anticipates contemporary conversations concerning ecological entanglement inclusive of strange kinship, environmental proximity, and underlying mutualism. An unpredictable narrative of broadly unfolding kinship and ulterior agency weaves in and out of Jeffson's prescriptive, triumphalist narrative for the species.

My reading exposes a leveling effect predicated on likenesses between states and bodies that destabilizes imposed hierarchies of life forms—hence the extensive image patterns of amalgamated bodies, forces, and matter that hold steadfast to evolutionary

¹²⁶ The text manifests an early rendition of what Wallin terms an "ecosophical rethinking of ontological scale" wherein one may uncover "the queer symbiosis of human/inhuman assemblages [that suggest] a turning from the transcendent towards the material connection of life forces" (Wallin 155).

¹²⁷ From Kelly Oliver (2004): "If various interconnected elements—air, light, waves, particles, nerves, tissues—interacting makes vision possible, then distance is never empty space, an unbridgeable gap, or an abyssal void. Rather, the distance between us is the connective tissues of earthly elements" (111). For more on the links between a phenomenological reading of vision and an ethically-charged ecological sensibility, see Oliver's "Ecological Subjectivity: Merleau-Ponty and a Vision of Ethics" from *Studies in Practical Philosophy*, vol. 4, no. 1, 2004, pp. 102-125.

rather than anthropocentric logics. Take, for example, the text's recurring nautical symbols that connote ontological fluidity while promoting an active coalition of body, environment, and matter. Sometimes Jeffson personifies his ideas of the self's assimilation with the elements, such as when he muses about whether the earth has "a will and a fate, as sailors said that ships were living entities?" (156). This image of a ship as agentive and animated by material forces repeats when Jeffson plunders a drifting ship in the Coral Sea. His anxiety surges while aboard, for he fears the ship's abrupt sinking. "That ship was nothing but an emptiness," he records, "and a stench of the crude elements of life, nearly assimilated now to the rank deep to which she was wedded, and soon to be absorbed into its nature and being, to become a sea in little, as I, in time, my God, shall be nothing but an earth in little" (164-165). The interpenetrative and transformative image creates direct links between different states of matter; from the overlooked rankness of protoplasm to the shape-shifting seas and to the planet as a distinct entity, the slippage between physical states provokes revelatory insights in Jeffson. His depiction of radical enmeshment facilitates an understanding of "ecology as intimate, [with] the planet no longer an object content in its solitude but perilous in its continuity" (Cohen 65). Such a viewpoint endorses diverse instances of "cross-ontological fellowship" (Cohen 8). Becoming "sea" or "earth" expresses Jeffson's lessening resistance to an unstable human identity and his increasing attention to the common properties or constitutions of all life forms.¹²⁸ He comes to this realization after narrowly avoiding a beaching on freshly-risen

¹²⁸ In "On the Physical Basis of Life," Huxley conflates the physical properties of all life forms and determines that their commonalities—"carbon, hydrogen, oxygen, and nitrogen, in very complex union" (143)—outweigh their differences. He questions whether there is "any such unity predictable of their

volcanic islands unknown to any available map—evidently, the earth is as restlessly disruptive as his own sense of self.¹²⁹

Moreover, the text repeatedly emphasizes the non-teleological momentum of gradual change across all environments, subverting progressivist assumptions of how recovery from catastrophe would transpire. In one instance, the results of geographic redistributions surprise Jeffson but they make sense within a posthuman domain developing athwart anthropocentric expectations. While wandering “a rich woodland, somewhat scorched at first, but soon green and flourishing as the jungle” in the Beyoğlu district of Istanbul, Jeffson makes observations that betray an earlier belief in the planet’s hurtling toward some preordained doom (another teleological misconception). “Here,” he distinguishes,

nature in only twenty years has returned to an exuberant savagery, and all was now the wildest vegetation, dark dells, rills wimpling through deep-brown shade of sensitive mimosa, large pendulous fuchsia, palm, cypress, mulberry, jonquil, narcissus, daffodil, rhododendron, acacia, fig. Once I stumbled upon a cemetery of old gilt tombs, absolutely overgrown and lost, and thrice caught glimpses of little trellised yalis choked in boscage. With slow and listless foot I went, munching an almond or an olive, though I could swear that olives were not formerly indigenous to any soil

forms” (139) since “[b]east and fowl, reptile and fish, mollusk, worm, and polype, are all composed of structural units of the same character” (140).

¹²⁹ This perspectival shift conceives of planetary existence as, in Colebrook’s words, “some fluid, oceanic, maternal plenitude from which the bounded form of a distinct and representing body would emerge” (*Death* 214).

so northern: yet here they are now, pretty plentiful, though elementary, *so that modifications whose end I cannot see are certainly proceeding in everything.* (184, emphasis mine)

The overgrowth of profuse flora that seems to blend individuals together proves the fallaciousness of progressive gradualism that Jefferson had expected to characterize the period of recovery. On the contrary, he feels that he is being “led on and on” deep into the woodland by an unattributable and unexplainable force. In this recovery period, the spread of biota appears as a form of disorder to the anthropocentric observer. Attempting to justify these novel productions, Jefferson primitivizes the “exuberant savagery” of the posthuman flora while simultaneously normalizing ongoing evolution. Crucially, the passage’s concluding Darwinian diction not only highlights Jefferson’s admitted ignorance about the formation of novel productions, but it also places one of Darwin’s key theoretical assertions into practice: that natural selection is always “silently and insensibly working” (*Origin* 70).¹³⁰ While Darwin admits, “We see nothing of these slow changes in progress, until the hand of time has marked the long lapse of ages,” the novel’s depiction of nature quickly reasserting itself makes these changes perceptible, proving such changes as ubiquitous yet overwhelming to the partialness of human vision (70).

The Purple Cloud’s suggestion that natural productions are incompatible with permanent or idealized forms is reminiscent of Henri Bergson’s outlining of the difficulty

¹³⁰ Compare the depictions of incessant biotic changes in *The Purple Cloud* to Darwin’s illustration of relentless evolutionary action in *Origin*: “It may metaphorically be said that natural selection is daily and hourly scrutinizing, throughout the world, every variation, even the slightest; rejecting that which is bad, preserving and adding up all that is good; silently and insensibly working, whenever and wherever opportunity offers, at the improvement of each organic being in relation to its organic and inorganic conditions of life.”(70).

of accurately inferring or representing the concepts of becoming or *duration*.¹³¹ Bergson destabilizes the divisions between what counts as matter or life form and opens up a discursive space in which the idea of duration is unconstrained. To Bergson, the passage between states is never complete nor is it ever directly representable. New states pass over from old ones, and neither can be isolated in the present moment—the passage between forms is ongoing and undoes the possibility of stability. The flow between states and forms includes “inner phenomena” that are, as Bergson explains in *Time and Free Will: An Essay on the Immediate Data of Consciousness* (1889), often misrepresented by scientific discourses too concerned with “extensity,” since “science retains nothing of duration” and infers insights based on stable appearances (228). He clarifies his position, insisting that the subject of scrutiny should not be “inner phenomena once developed . . . or after the discursive reason has separated them and set them out in a homogenous medium in order to understand them” (229). Bergson fears that what remains as evidence of duration only ever presents itself as “immobility.” Instead, one must contemplate “inner phenomena in their developing, and in so far as they make up, by their interpenetration, the continuous evolution of a free person.” Bergson stresses: “Duration, thus restored to its purity, will appear as a wholly qualitative multiplicity, an absolute heterogeneity of elements, which pass over into one another” (229). He outlines a non-individualistic freedom that propels new becomings. “[I]n this so-called phenomenal world,” Bergson notes, “which, we are told, is a world cut out for scientific knowledge,

¹³¹ See Grosz’s account of the driving questions behind Bergson’s philosophy in Chapter Two “Deleuze, Bergson, and the Concept of Life” in *Becoming Undone* (29).

all the relations which cannot be translated into simultaneity, [or in other words,] into space, are scientifically unknowable” (234). Looking toward active and ongoing processes both within and outside the experiencing, observing body, Bergsonian philosophy offers insights on assimilations and collaborations with nonhuman forms, marking them part of the phenomenal experiences of all subjects. Along this line of thinking, an important implication arises for *The Purple Cloud*: not only does divergence transform bodies *and* environments, but also their alterations, however slight, mutually impact one another.

The imagery of process and mutualism in *The Purple Cloud* attests to a posthuman ecology. Over and over, Jeffson as well as deceased humans are dynamically connected with durational transformations—repeatedly, subjects and matter evolve or develop in interconnected patterns of becomingness and decomposition, with no end in sight. For example, Jeffson happens upon islanders’ remains while exploring the South Pacific archipelago of New Caledonia, realizing that “the earth was in them all, and made them wild, perverse and various like herself” (160). Though the earth remains “greater” than him, base matter or “thing-ness” reforms the schema of the human, obliging the reconfiguration rather than the reinforcement of human identity (155). Natural forces oversee form’s contingency and plasticity, triggering new ontological identities or states that succeed each in a non-hierarchical or non-progressivist sequence. Enduring events of elemental intercourse (the earthly subject’s interpenetration by the elements) persist throughout the text, although Jeffson sometimes struggles to convey (or accept) those moments. Like the olives thriving in diasporic clusters or the continents’ ceaseless

tectonic choreographies, human assemblages are contextual forms already—and always—going-astray.

Looking closely at Jeffson’s account, I recognize clear instances of “inner phenomena” materializing a radical—but fleeting—openness to new ways of knowing and being in the world. Jeffson pays attention to reformulations of matter as part of his reconsideration of materiality. Material life—that relentless unfolding of bios and matter—is driven by unexpected collaborations that ongoingly materialize new forms and agentive configurations. From a discursive process initiated by Darwinian discourse, and subsequently taken up by Bergson and Shiel in philosophical and literary ways, a new ontology emerged. Commenting on the future of this intellectual tradition, Grosz describes such an ontology as one which operates based on “the relentless operations of difference, whose implications we are still unraveling” (Grosz, *Becoming* 4). In *The Purple Cloud*, it is clear that even though Jeffson insists that his personal will can trump nature’s plans, his own zoomorphosis is still entirely expected. As Colebrook relates, when the human is no longer recognized as “the ground from which acts, accidents, events and predicates might be thought,” then the human also faces obsolescence in its becoming “absolutely new”—such is the risk of being a durational being (“Suicide” 137).

Elemental Interlocution and *Postdiscursive* Insight

“The Earth is all on my brain, on my brain, O dark-minded Mother,” begins Jeffson’s most profound reflection on his openness to an immersive materiality (155). As Jeffson’s desires to travel and immolate cities intensify, so, too, do the nonhuman provocations that

trigger his interlocutions with the elements. I focus on a particular set of Jeffson's seafaring meditations deep into his pyro-maniacal spree across the globe because of the sequence's radical openness to ways of knowing the world that diverge from exclusively human-oriented modes. This short-lived perspectival shift provokes revisionary conceptions of ontological stability or subjective coherence.

This reflection takes place during an extended sea voyage, prior to disembarking at the Andaman Islands and after outrunning massive typhoons that struck Jeffson with horror. Set against a milieu of an all-consuming yet transformative materiality, Jeffson contemplates his ontological status by means of "an involutory mode of attention" that grants him fleeting access to an ecologized vision of this posthuman domain. He focuses on the insights and narratives that had formerly been expressed "in otherwise muted registers" (Hustak and Myers 78). He later calls this mode of observation "a state of existence whose acts, to the waking mind, appear unreal as dream" (162).

In the reflection's centrepiece below, Jeffson conceives of biotic and elemental filiations that suggest an underlying kinship between all beings and matter. Albeit fragmentarily, and in the script of a traumatized mind coming to terms with loneliness and the fallacy of anthropocentrism in the world, the reflection confirms the depths and darkens of the phenomenological body.¹³² Jeffson needs to look beyond his body and species for self-identification in this moment, for he realizes that the earth's

methods of forming coal, geysers and hot sulphur-springs, and the jewels,

¹³² Grosz explains the lived or phenomenological body as defined by the inherent openness of the subject and object to each other (*Volatile* 103).

and the atolls and coral reefs; the metamorphic rocks of sedimentary origin, like gneiss, the plutonic and volcanic rocks, rocks of fusion, and the unstratified masses which constitute the basis of the crust; and harvests, the burning flame of flowers, and the passage from the vegetable to the animal: I do not know them, but they are of her, and they are like me, molten in the same furnace of her fiery heart. (157)

At this moment, he is enraptured by a heightened connectivity with forces beyond his perceiving senses. Here, he is no longer threatened by imagining enmeshment with nonhuman others. Instead, he accepts mutual solicitations between the world and his self, a development in his evolutionary vision in which he briefly relinquishes human control of the narrative of the species. As Grosz remarks, “Things solicit the flesh just as the flesh beckons to and as an object to things” (*Volatile* 103). Faced with inescapable homologies within his all-encompassing biosphere, Jeffson updates what he considers as belonging with or to the earth. Instead of reproducing itself or progressing toward a perfectible form, the human must instead submit to forces of undirected regeneration.

Albeit briefly, Jeffson subordinates his self to outside forces, seeing himself as *a part of* rather than apart from his physical environment. Suggestions of the earth as a maternal or a supernatural entity persists, but what still resonates in this intense reflection is a perceivable evolutionary plot of vast dimensions encompassing all bodies and matter. Into this unfolding plot, Shiel inserts Jeffson, perpetuating a paradox of a worldly destroyer momentarily debilitated by a confrontation with an elemental grandeur that far exceeds his own powers or vision. The earth both compels and informs this provocative

vision, allowing for a powerful absorption of the secretive, affective knowledges that Jeffson had only glimpsed (and misunderstood) when he previously reached the North Pole.

Reoriented to the earth in this moment, Jeffson spies only a glimpse of a broader posthuman world, but he still articulates the *likeness* (“they are like me”) between all bodies, things, and matter—an embodied kinship with the earth. No longer restricted by Victorian motifs of progressive development, he envisions a haphazard and arbitrary development of form that never advances towards a terminus. The majority of the passage’s verb choices foretell of inevitable reformulations: “forming” as well as “constitute” and “burning” collectively connote a shifting between stable forms or states and a surpassing of dualist thinking between human/nonhuman or individual/earth. Suggestively, disparate life forms and assemblages of matter are all eventually amalgamated on a condensed evolutionary timeline in which earth and inhabitant transform together (155). Differentiation is revealed as a driving force in this world.¹³³ Life is presented as durational and persistently creative or eruptive instead of prescriptive or mechanistic—the individual as much as its lineage transgresses traditional barriers between body/world. In this posthuman vision, materiality is vibrant, divergence is ubiquitous, and more-than-human existences thrive outside human epistemes.

Faced with the limits of human perception and the restrictions of anthropocentric language, Jeffson nonetheless manages to record homologies with the earth that disrupt

¹³³ Similar ideas later appear in Bergson’s *Creative Evolution* (1907), where he expands his ideas on evolutionary potential: “The universe endures. The more we study the nature of time, the more we shall comprehend that duration means invention, the creation of forms, the continual elaboration of the absolutely new” (14).

the hierarchization of earthly forms. He is connected as much to “rock” and “jewels” as he is to “flowers” or “harvests.” Ever so briefly, Jeffson is exposed to “*a world without reference to a subject*,” as Morton puts it another context (“Here Comes” 177), a realization that “all beings are related to each other . . . differentially, in an open system without center or edge” (*Ecological* 39).¹³⁴ Inscribed, and indeed defined, by aeonic potential, he describes a “molten” genealogy branching out globally, creating vertiginous relations. Assemblages pass before him, ambiguitating distinct impressions of individuality.¹³⁵ In attuning to the openness of form, Jeffson himself transmits his openness towards all matter, thereby producing levelling effects that link the human and nonhuman, make kin the organic and inorganic, and bind the sentient with the inanimate.

In Jeffson’s reflection, earthly matter progresses through the possible passages of form that range from distinct bodies to the englobing environment, demonstrating that corporeality involves its material surroundings. The “unstratified masses which constitute the basis of the crust” (the lithic) join the “the burning flame of flowers” (the vegetable), which, in turn, merge with “the animal” (the fleshly).¹³⁶ Seemingly separate entities—

¹³⁴ I approach Jeffson’s vertiginous vision on the verge of incomprehensibility from a critical position shaped by Morton’s work on “dark ecologies,” a concept that “undermines the naturalness of the stories we tell about how are involved in nature,” especially when scrutinizing “the dark, depressive quality of life in the shadow of ecological catastrophe” (*Ecology* 187). Having exhausted the explanatory power of humanist knowledges and broken down “the metaphysical illusion of rigid, narrow boundaries between inside and outside,” Jeffson must confront the notion that his body is fused with other surrounding bodies and nearby matter (*Ecological* 39).

¹³⁵ M. Morgan (2009) notes how the displacement of the self as autonomous subject also arises in the novel’s narratorial form. Morgan explains how Jeffson “can create the illusion of a connection between two people by splitting himself into author and reader; in a sense, Adam is his own narrative audience” (274).

¹³⁶ Jeffrey Jerome Cohen’s (2015) insights about lithic liveliness guides my understanding of a materialist recalcitrance to closure or finality in this reading. A “[l]ithic-induced perspective” offers experiences of “anarchic irruption, . . . generative encounter, an erosion of secure foundation, [and] an ethical moment of connection-forging” (16). Above all, “The earth is an open and untotalizable entity” (65).

sediment, coral, crops—turn out to be interchangeable, as though they, too, exhibit a type of interpenetration. Fleshly bodies are given lithic bloodlines. “[V]egetable” exigencies are bequeathed to “animal” minds. A kind of magmatic vibrancy exists in the ostensibly inert, signaling form’s inbuilt changeability. Bennett’s idea of “thing-power” provides insights about individual bodies becoming “susceptible to infusion / invasion / collaboration by or with other bodies” (“Powers” 254) as made possible by “an inexplicable vitality or energy” residing in all matter (*Vibrant* 18). Such thoughts about “collaboration” with other subjects infiltrate Jeffson’s reflection, pushing him to rethink what it means to be human and to acknowledge deep connections with the elemental forces impelling the momentum of his becoming-nonhuman. Material existence emerges as a proliferation of resilient open-endedness. It transpires within an ecological matrix of reformulative forces, filiative intensities, and concentrated affects perpetually surrounding the subject, compelling innovative assemblages. When Jeffson inserts himself into this dynamic by attuning to the vibrancies around him, all matter throbs, unrestrained.

An important point surfaces here about Jeffson’s proposed designs for the species: any schematic of the body turns out to be as volatile as tectonic unrest or geological torsion. One’s material circumstances grind away at any normative form. Images of movement and activity, like “geysers and hot springs,” the “rocks of fusion,” or “the passage from vegetable to animal” evoke both energy and as-yet untapped potential. Seeing himself as equally dynamic or as just one transitory assemblage among many possible combinations, Jeffson suggests that he contains the potential of a momentary Pangaea on the verge of splitting into some other configuration. He shares with other

dynamic forms the tendency to move away from cohesion or definition. In allowing himself intimacy with instability, Jeffson alludes to a new identity not yet assembled, and never really completable (except, of course, upon an evolutionary timeline fulfilled by extinction).

As a product of an involutory mode of attention, the style of Jeffson's reflection itself signals an attempt to communicate affective insights rather than a lucidly representable moment. The style is hyperbolically dreamlike as depicted by a series of seemingly unrelated images, fantastically amorphous as different states of matter amalgamate in procession, and syntactically elongated as demonstrated by the passage's overreliance on run-on sentences as well as its overuse of colons and semicolons. Formally and stylistically, the passage offers an example of a *postdiscursive* insight. Grosz, who draws on Maurice Merleau-Ponty, offers a definition of the *prediscursive* on which I draw for my exploration of the *postdiscursive*. As Grosz explains:

What is described as flesh is the shimmering of a *difference*, the (im)proper belongingness of the subject to the world and the world as the condition of the subject. [Merleau-Ponty] attempts a return to prediscursive experience before the overlay of reflection, before the imposition of metaexperiential organization and its codification by reason. A 'return' to or reconstitution of such prediscursive experience, a 'wild being,' an uncultivated or raw sensibility, is necessary to produce a nondualist, nonbinarized ontology. (*Volatile* 96)

This "prediscursive" experience precedes the human so what follows humankind exists in

a *postdiscursive* form. Jeffson's ruminations uncover a glimmer or a "shimmering" of *postdiscursive* percepts as his thoughts break the engrained boundaries between mind, body, and world. Produced by Jeffson's integration with reformulative forces, a wildness inhabits Jeffson's musings—the vision of vegetable, animal, and lithic entities unfolding in a surreally irrational sequence confirm a "nonbinarized ontology" in which a sense of self becomes inherently flexible. He remains on the verge of becoming something unexpectedly new though decidedly other. Jeffson's illustration of this radical ontology based on shared states of being approaches knowledge prior to "its codification by reason"—the vision cannot fit the human's way of knowing the world or classifying its profuseness. Jeffson's attempted depiction of his elemental interlocution remains a fleeting but powerful reminder of the human's immersion in materiality, its fragile sense of exceptionality, and the inadequacy of its cultural modes for representing nonhuman experiences.

"[M]ore and more," Jeffson shares as his phantasmagoric vision subsides, "the earth over-grows me, woos me, assimilates me," admitting to his revised relationship with the earth. No longer a separate entity, the planet is integrated into his selfhood. Subsequently, he claims that his future ontological state would be divergent from his present one: "Must I not, in time, cease to be a man and become a small earth, precisely her copy, extravagantly weird and fierce, half-demoniac, half-ferine, wholly mystic—morose and turbulent—fitful, and deranged, and sad—like her?" (158). As another earth, he has taken on the nonhuman qualities that he has observed—lithic traits, vegetable qualities, and animal features. He exits his reflection not in control as a human, but

instead controlled by natural process that relentlessly and insensibly incorporates *and* innovates him. This “fitful” and “ferine” and altogether *strange* form directs attention to a world that binds form to precarity all the while exceeding the finitude of human reason or vision. However, this *strangeness* again presupposes Jeffson’s reluctance to fully accept a reconstituted ontology regardless of his profound visions.

One possible reading of Jeffson’s foray into networked animal, mineral, and vegetable agencies is that it represents exuberant personification. At times, he anthropomorphizes nature in order to make it comprehensible, using the discourses available in his historical moment. For example, in the moments leading to his sustained reflection, he observes “a definite obstreperousness in the mood of the elements now, when once roused, which grows, which grows continually” (154). At face value, this moment offers a hyperbolized case of pathetic fallacy wherein Jeffson projects his internal psychological turmoil onto unstable geographies and biota, but such an interpretation remains too shallow. Instead, Jeffson’s psychological state is influenced by—and embedded in—his material conditions. “[M]y mind grows and grows to [the earth] like the off-shoots of the banyan-tree, that take root downward,” Jeffson admits just prior to his profound reflection, sensing his growing rootedness in natural intensities (155). The rhizomatic spread of his thoughts distances his personal development (as much as the development of the species) from progressive gradualism. Once he breaks the barriers between self and world, Jeffson projects assemblages of matter that flicker and shimmer around him before slipping into amorphousness. The eventual return of his self-serving ways is not an outright rejection of this radical ontology either; rather, his fleeting

reflection pronounces his capacity for thinking outside the human.

Ultimately, this extended reflection in the middle of the Pacific aestheticizes the percepts of an observing subject who reflects from a vulnerable position of alterity on a world no longer oriented towards human subjects. After all, Jefferson positions the human as one among innumerable natural productions. Even if only momentarily (and unevenly), he imagines incoherence as the engine of his species' ontological unraveling.¹³⁷

A Perpetual Last Man

Earlier in the text, while he was still exploring England, Jefferson hints at the baselessness of his eventual desire to reshape the species, musing:

‘If now I be here alone, alone, alone ... alone, alone ... one on the earth ... and my girth have a spread of 25,000 miles ... what will happen to my mind? Into what kind of creature shall I writhe and change? I may live two years so! What will have happened then? I may live five years—ten! What will have happened after the five? the ten? I may live twenty, thirty, forty...’

Already, already, there are things that peep and sprout within me...!

(88).

He represents himself as becoming—slowly and inexorably—one of the many grotesqueries of the evolutionary imaginary. Suggestively, he foresees an evolutionary

¹³⁷ Following Spinoza, Patricia MacCormack (2014) discusses the anti-progressive qualities of a posthuman viewpoint, explaining, “The will has no absolute beginning, no established stasis, nor perceptible end . . . Life is this way understood as the infinite beginnings which teeter upon potentialization at each constellation of interaction and relation” (“After Life” 181).

trajectory unamenable to his own hopes for the species. By identifying genealogy as expansive, he asserts that evolution lacks telos. His anxiety stems from the uncontrollable nature of speciation as well as his awakening attention to his already-nonhuman form.

Yet, Jeffson forgets—or ignores—these lessons by the novel’s final act when he discovers Leda, a sultan’s daughter who survived in a palace prison after miraculously subsisting off wine and dates. His underlying eugenic vision of an ideal, mouldable species clashes with the novel’s superseding evolutionary vision. The natural world has ulterior plans to Jeffson’s schemes, a point in line with M. Morgan’s claim that the text “not only criticizes the possibility of rational prediction but also, more radically, undermines the ability to understand the past and gain more accurate knowledge over time” (276).

After a misogynistic and domineering courtship with Leda, Jeffson feels compelled to “recommence the Race again” (202) and even calls himself “the Second Parent of the world” (261). The final scenes are scattered with Jeffson’s directives for his species’ future forms. But during Jeffson’s engagement with the posthuman, he ironically reinforces his belief that the natural world is centred around humankind. I trace the text’s posthuman speculations under no illusion of their retreats to humanist or theological territories.¹³⁸ Following in the tradition of the post-apocalyptic genre, the text’s “scenes of near-destruction of the human milieu are followed by an exploration of what will survive or remain, or what ought to survive or remain, after the absence of humanity as we now

¹³⁸ For more on how such works “testify to the re-emergence of the human within the posthuman” (158) in the late-Victorian period, see Ralph Pordzik’s “The Posthuman Future of Man: Anthropocentrism and the Other of Technology in Anglo-American Science Fiction” from *Utopian Studies*, vol. 23, no. 1, 2012, pp. 142-161.

know it” (Colebrook, *Death* 190). Such an outlook ironically reinscribes anthropocentric values, thus troubling the practicability of posthuman discourses.

Mitigating reversionary tendencies or mutational prospects in upcoming human generations involves manipulating or redirecting reproductive efforts. In turn, those efforts require careful scrutiny on the part of the agent in power of these shaping forces, or else they risk unforeseen developments in later progeny. As a wielder of these shaping forces, Jeffson sees himself propagating a future community of perfectible descendants. Conscious of the archetypal Adam figure’s re-mythologization, Jeffson seeks to become the new “Arch-one,” an improved “*motif* of the world” (121)—he envisions not humanity replicated but humanity reconstituted, rationalizing his role not as the “last man” but instead as the “first of [his] race.” He promotes a future identity divergent from his previous, flawed human condition (142). Humankind as it had previously existed “was not a good race,” and he wishes that its corrupt traits will never “spring and fester again” (203).

Seeing himself as an unbounded organism, he promotes an improvable lineage. He foretells of “a race that shall resemble its Mother: nimble-witted, light-minded, pious,” and further forecasts a community of exclusive “vegetable-eaters” considering that “all the meat extant is eaten up” or putrefied. They will “*invent*” future food sources and speak a language tinged by speech impediments inherited from the former recluse, Leda (261). Even though Jeffson prescribes traits that will sharply deviate from human norms, his plans for the species buy into Victorian appeals to reason and improvability that also undergird eugenic impulses. Regardless of these imposed deviations, he still

imagines them as “all-human” (260), and thus aligns his designs with prevailing Victorian “narratives of ethical improvement” though he complicates them (Miller 1). Instead of decentring the individual like his previous interlocutions had taught him, he recentres his individual desires, demonstrating an “anticipation of a future state,” but one that must adhere to his standards (Miller 9). His egotism serves as rationale enough. Confident in his selections, he declares to Leda that the “modern Adam is some eight to twenty thousand years wiser than the [first:] . . . less instinctive, [and] more rational” (207).

But this confidence in rationalized improvement impels negative consequences since the desire to possess knowledge and the godlike status to pronounce on the good is what sets the whole Genesis fall in motion, a point that seems to have slipped Jeffson’s mind. Still, he pursues self-extinction through his own selection practices and breeding philosophies that direct attention to an implicit eugenic agenda. According to his standards, the species can only attain enhancement through its disappearance—what Jeffson calls “the nobility of self-extinction” (207). Additionally, he fusses over the viability of his progeny because of his appreciation of evolution’s persistence and productiveness. “[O]riginally the earth produced men by a long process,” he tells Leda, “beginning with a very low type of creature, and continually developing it, until at last a man stood up.” But Jeffson wants to propagate a revised human form.

He presents his aspirations as more progressive than Leda’s by establishing her as “the defender of the dead race” and blaming her for any perceived deficiencies in their lineage (218). Like the first Adam, Jeffson blames and belittles the woman. This behaviour is not anomalous in the text. Jeffson consistently instrumentalizes matter as

well as persons, as evinced, for example, in his blaming his former fiancé, Clodagh, for his self-serving ways, (16), his mistreatment of Leda by shaping her in the image of a compliant, lesser being (248), or his sexualization of and hostility toward female corpses (133). This obsession with attaining supremacy and displaying dominance is present from the start of the text when he betrays his companions in order to be the first to reach the Arctic—and on his own (39). He takes it upon himself to curate a new race, assuming a self-appointed deified position and acting as a misogynist god on earth. If any form of humankind would survive, it would only be on Jeffson's resolute terms. He makes it seem as though the species cannot escape his self-justifying decisions.

But by revealing in desire to breed out the undesirable attributes of his former humanity, Jeffson ultimately falls back on anthropocentric ideals as a crutch against purposelessness or imperfection. In these final scenes, his self-serving nature appears uninhibited, especially since the decision to cast himself as another “first man” so noticeably juxtaposes the text's previous depictions of unscripted becoming and interpenetrative affinities. I contend that the text's strange plots of evolutionary divergence and ceaseless durational becoming leave enough clues to insist an irresolvable unease about Jeffson's future genetic interventions. The unruly and uncontrollable materiality dominating the text implicitly controverts Jeffson's belief in shaping his potential progeny. In other words, the text's adherence to evolutionary theory overrules Jeffson's desire for a *specific* posthuman form that ultimately must, like an unfulfillable revelation, remain unsubstantiated.

The unknown future faces Jeffson and Leda at the novel's end—the text concludes

with uncertainty about whether they should reside “in the deep earth [in order to] live sweetly together, till the danger is overpast” or reside on the surface and risk another wave of poison gas (260). They are only holdover taxa (not dominant species) during this global recovery period, and the forms that their future progeny will take remains unknown (and unsuggestible) by the text’s conclusion. Their lineage is fated to slip away from imposed designs. Any successor is destined to acquiesce to unplanned developments and become a perpetual Last Man figure with no concluding form. In spite of Jeffson’s dominant will, future genealogies will unfurl regardless of his dictates. Realistically, his designs will be negatively impacted by low chances for widespread dispersal and a shrunken gene pool. Jeffson’s desire for a clade unto his own, a zoological order severed conceptually (though not genetically) from ancestors cannot be reconciled with the grander evolutionary pressures at work. Judging by Jeffson’s earlier interlocutions, his progeny will be seemingly capable of extreme morphic volatility themselves. We see across *The Purple Cloud* the difficulty of extricating humanist—and masculinist—ideas from posthuman imaginings since those speculations often revert to attempted enforcements of genealogical closure. Significantly, Jeffson’s speculations still retain the residuum of taxonomy, sequence, and filiation; this lingering genealogical structuralism problematizes posthumanism’s difficulty in practice. Ostensibly, this Adam is both fallen and destined to fall again.

Critiquing Extreme Individualism in Catastrophe

As I have been trying to show, the text remains truthful to the basic principles of

evolutionary thought, and in doing so, it ironizes and supersedes Jeffson's belief in directable progeny. According to M. Morgan, it is possible to derive from the novel a reading in which a sentient Earth has an objective existence outside of Jeffson's mind (268-269). Thus, Shiel's representation of a vibrant world can be read as a tacit critique of Jeffson's self-serving worldview. When the text endorses the human's assimilation with external agents and environments, it promotes a notion of belongingness that privileges transformation and abjection over duplication or homogeneity. This irrepressible kinship between earthly forms creates a latent obligation toward sustaining those embodied connections with formerly abject or otherized agents and forces. The idea that the body is surrounded, protracted, and vitalized by an unforecastable sequence of becoming need not be singularly threatening. Change to the species is acceptable, the text seems to suggest, so long as selfishness or self-righteousness does not get in the way of a practicable kinship. Moreover, the text emphasizes more than just the ubiquity or normalization of change; its evolutionary vision implicitly demands change as existential necessity, as tentatively as Jeffson accepts that point.

In the end, the disaster was not the poisonous catastrophe, the text seems to propose.¹³⁹ By chronicling Jeffson's repeated acts of arson, the text suggests a disastrous result if the worst of humankind's flaws persist. Difference and change can emerge from within, but the human has a deeper purpose—and responsibility—to reorient one's

¹³⁹ Against the grain of this point, Shiel's readers recognized some anxiety-inducing connections between the text and their experienceable world. For example, in 1902, *The Evening News* posted one correspondent's comparison of *The Purple Cloud*'s "descriptions of the appearance of Dover with its heaps of dead struck down by the [poison] gas" with the recent wipe-out of Saint-Pierre, Martinique from a volcanic eruption ("Gossip of the Day"). The plausibility of the novel's disaster tapped into a cultural sensitivity toward the material world's possible hostilities.

relationship with the world.¹⁴⁰ Thus, the text uses catastrophe—impending or transpired, figurative or objective—as an invitation to readers to act accountably and ethically toward their earthly kin; extreme individualism does not fit with the natural world when the entire species is at stake. In the end, *The Purple Cloud* communicates an irresolvable ambivalence between competing anthropocentric and materialist frameworks. That incongruity nonetheless focalizes the mutual interactions of fellow beings, proving the text as a gateway to the frequently misperceived elements englobing and innovating us.

¹⁴⁰ As Kehler notes about a transformed relationship with the natural world, “That our perceptions consist of approximate, protean approaches to the sensible signals . . . not a failure of comprehension but an enactment of our central ontological—and also ethical—obligation: initiating and responding to the touches and encounters within our one world” (47).

Coda

Of the Earth: Positivity in Catastrophe

“There is grandeur in this view of life . . . [and] whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.”—Charles Darwin, *On the Origin of Species*, 1859 (396).

Having broadly incorporated extinction discourses within post-Darwinian print culture, Victorians seriously considered the possibility of a biotic paradigm devoid of their kind, and they attempted to live with and understand life beyond extinction (including, possibly, self-extinction). Speculations on catastrophe exposed entangled relationships with nonhumans, even within capitalist modes of production that exacerbated extinction anxieties or within cultural modes of consumption that complicated or misappropriated evolutionary knowledges. Chapter One demonstrated that the period’s economics of extinction (as I term them) muddied the possibility of a coherent conservationist rhetoric, though this economic order made room for zoological exigencies. Moreover, Chapter Two gauged the wider economic landscape to which the Brooke Brothers belonged, revealing domestic extinction intensities at the heart of Victorian consumerist energies. Print culture investigations like this one offer possible resolutions to methodological hurdles in Victorian animal studies, such as how to unveil obscured animals, narrate subjugated nonhuman experiences, or track animal capital in circulation. For Victorian scholarship, periodical studies hold a key to accessing how everyday Victorians culturally manufactured the human, nonhuman, and posthuman.

Furthermore, Victorians represented in diverse ways (and for disparate uses) the

grandiose driving forces of gradual change responsible for the natural world's shifting demographics. Looking at the formal challenges of depicting evolution in *The Time Machine*, Chapter Three explored the various representational strategies involved in depicting threatening evolutionary insights from within human-oriented discourses and modes of expression. The text parallels the challenges facing popularizers of science during the period. Chapter Four examined the *experience of becoming* in M.P. Shiel's *The Purple Cloud*, an ongoing event in which the protagonist reconsiders his ontological stability through profound and *postdiscursive* speculations on the posthuman.

Across this study, I have examined the cultural crises that followed from the possibility of species collapse across England, and I have examined posthuman visions wherein our species becomes relegated to background entities in the natural world, or is eliminated altogether. Print culture widely affirmed the natural world's disinterest in human intentions and depicted a human realm encroached upon by a relentless flow of nonhuman or material affects, energies, and forces. But this did not necessarily mean that Victorian extinction discourses were entirely pessimistic.

Depictions of catastrophe or collapse invited readers to act accountably and ethically toward nonhuman kin. Non-specialists came to recognize their own influence on the ecologies in which they were entangled, a positive development that worked against the grain of prevalent degeneration rhetorics or progress narratives. An awareness of vulnerable future forms manifests an ethics that proceeds from the end of humankind (either from our physical demise or categorical erasure). I see the complex formation of an ecological sensibility based upon entanglement (interconnection, kinship, mutuality)

that generates reassurances in catastrophe and our own expendability: form's instability will be privileged and humankind's selfish desires for the natural world will be ineffectual. The discourses related to species extinction in the mass press projected ideas of ecological durability and viability, evoking hopefulness for future change alongside the crises of modern living. Such speculations showed Victorians that they could not act or consume selfishly without consequence—positivity lingered in catastrophe.

Consider again Beer's optimistic rendering of Darwinian extinction. Evolutionary process is revisionary: hyperproductivity and extreme losses balance each other by producing new and innovative forms to fill vacated niches. Kehler similarly notes the "hopefulness" of a Darwinian view of extinction: "In spite of the shadow of extinction, Darwin espouses an affirmative vision of countless sites of generation, 'exquisite' co-adaptations, and possible, still-unknown futures" (47). Hopefulness and possibility still persist in the "unknown futures" of my case studies. Diminishing the human's importance creates discursive opportunities for reflection on Victorian selfhood and society based on an accountability to nonhumans and the earth itself.

After Darwin, the idea of being human included a broadened kinship with the earth and its inhabitants, even if an emergent Victorian ethics of relationality did not wholly divorce the human from its anthropocentric views. Although the radical ontology advocated by Darwinism was not fully accepted, notions of kinship, interconnectivity, or affinity still urged Victorians to normalize mutuality between all matter and beings. Whether an illustrator at *Punch*, a parson from Nunburnholme, a middle-class inventor, or the last person on earth—among seemingly countless others as-yet discovered in the

archives or under-appreciated in period literature—Victorian historical and fictional figures could not completely remove the human from a position of authority over the natural world; still, they acknowledged the human’s often detrimental shaping of that world. These figures thereby suggested lessons for being—and becoming—a species altered by the knowledge of its insensible relations with earthly kin as much as its insensible violence against them. Projecting improved versions of humankind, they framed their humanity within their animality. These Victorians approached what Oliver calls in our present moment “an alternative notion of subjectivity based on ethical response-ability” as much as “responsibility” (“Ecological” 104). From extinction anxieties emerged critical attitudes that birthed colloquial critiques of society, industry, and species. When my dissertation title refers to extinction’s cultural “life,” it partially means this ulterior (and critical) positivity surviving in catastrophe’s wake.

Amidst the anxiousness of living with collapses or imagining their imminence, anti-oppressive conditions emerged for nonhuman subjects, proving the existence of “escape routes from humanism which may encourage ethical relations” (MacCormack 2). While Victorians could not discard their human-oriented ways, they encountered life beyond human registers—a starting point for future conservation efforts and ontological reassessments. As MacCormack contends, “By shredding ourselves to bits, dying to human-ness, we encounter life itself as the adventurous event and open the world to the ambitious hope of lives beyond and without the human being able to flourish in their own imperceptible ways” (12).

By parsing these uneasy lessons about solidarity in kinship, I have uncovered the

ways that Victorians saw through—but still often used—capitalist, industrialist, and imperialist prerogatives to the root cause of intensified species collapses: humankind. Victorian reflections on anthropogenic damage and the (re)shaping power of recovery periods resulted in the scrutiny of entrenched notion of exceptionality—instead of dominating the earth, humans realize they are of the earth, like its gradually shapeshifting animals, environs, and matter. Even with the human foregrounded, an ethics for future forms is rooted in revelations of kinship with nonhumans *outside and within* ourselves. Extinction serves as an invitation to dwell on the *implausible* and to dwell with catastrophe as an event—and a provocation—proximate and local rather than removed from daily living.

Our species' propensity to contribute to increasing extinction rates, and even risking our own destruction, points to how the toxifying effects of Anthropogenicity have seeped beyond the bounds of the nineteenth century. Victorians offer lessons about living with destruction, challenging rather than calcifying consumerist drives, and evacuating anthropocentric assumptions from everyday routines and ecologies. The acceptance of Anthropogenicity, then, evolved alongside an ecological sensibility, though unevenly—Victorians identified the two forces as obliging balancing in ways analogous to the harmonization of competition and mutualism in the struggle for existence.

To critically reflect on our modern age's preoccupations with upholding human exceptionalism, we must continue interrogating its historical origins and vulnerabilities. The Victorians' complicated and contradictory development of an ecological consciousness reflects on our own age and displays many continuities with our own

precarious state: the ecological imbalances difficult to rectify, the economic impetuses behind conservation rhetoric, and the cultural difficulties of extinguishing anthropocentrism. My reflections on topics like collapse or catastrophe have brought to mind the ways in which we, as a species, can continue moving toward a collective mindset that acknowledges, accepts, and integrates entanglement with nonhuman others as an ethical imperative. We are very much like the Victorians who offered rejoinders to human-induced collapses that had interleaved unwanted consequences and unsettling realizations within their everyday lives and day-to-day discussions. Post-Darwinian print culture presented evolutionary lessons and demands for earthly change inherited by our own contemporary conversations concerning responsible action for the natural world. Ultimately, we and the Victorians are linked along a temporal spectrum of ecological responsibility.

If this project's evolutionary imagery and posthuman evocations are to be taken seriously as a sign of the period's deepened—though imperfect—understandings of kinship and belongingness, then we must recognize in the period a growing appreciation for the inconstancy of form, the generative rather than restrictive potential of abnormality, as well as the insufficient effects of humankind's wishes for natural productions. After all, as Darwin says, “[t]here is grandeur in this view of life . . . whilst this planet has gone cycling on according to the fixed law of gravity” (396). Like holdover taxa after surviving catastrophe, obligatory attitudes borne of Victorian anxieties—and fantasies of an improvable biosphere and society—still evolve and resonate in our own time.

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