Nature Writing of the Anthropocene

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For Øyunn Hestetun

Abstract

The point of departure for this study is the hypothesis that the American genre of nature writing has reached an important crossroads in the way it describes the human-nature relationship. My study argues that the awareness of the large-scale environmental changes that are signaled in terms such as the Anthropocene has changed the way nature writers approach their genre. Where traditional nature writing would tend to posit a separation between pristine and humanized environments, the nature writing of the Anthropocene emerges from the awareness that environmental impacts have reached a scope where no such distinction can be made. The traditional narrative of retreat to pristine nature or the wilderness from civilization has thus been replaced in Anthropocenic nature writing with the narrative of confrontation with a natural environment impacted by humans. This is a dystopian tendency in the genre, in which descriptions of nature are increasingly characterized by the writer's concerns over what is happening to the landscape in question, and what the future might hold in a world where industrial humanity is affecting all ecological processes. Such literature increasingly foregrounds the best available environmental science, and the texts mark a shift from the traditional focus on spiritual connections with the environment, towards more material and functional understandings of the role of humanity in the complex organic and inorganic dynamics that maintain the world's ecosystems. This dissertation analyzes the emergence of Anthropocenic awareness in selected texts of contemporary American nature writing with reference to its five main features: scientific interest in the function of ecosystems, interest in the agency of matter rendered through what is referred to as material nature writing, the dignification of the overlooked, the environmental landscape of fear, and a turn in the genre towards matters of environmental justice. Even though what I refer to as Anthropocenic nature writing may seem dystopian, this dissertation foregrounds the various ways in which the narrative of confrontation with the human also invites activism and engagement in the hope of stimulating change and environmental justice.

Keywords: Anthropocenic awareness, nature writing, material nature writing, material ecocriticism, environmental justice, rhapsody, jeremiad, the dignification of the overlooked, functional aesthetics, anti-landscape, necroregion, retreat, confrontation.

Table of Contents

Abstract.....	iii
Acknowledgments	v
Introduction: American Nature Writing in the Anthropocene	1
Nature Writing and the Anthropocene.....	3
Overview of Environmentalist Nature Writing	8
Scholarship on Nature Writing of the Anthropocene	11
Rhapsody, Jeremiad, and the Landscape of Fear.....	16
Material Nature Writing	20
Scientific Interest in Ecosystemic Function, Environmental Justice and “the Dignification of the Overlooked”	25
Chapter One: Confronting Environmental Change in Ellen Wohl’s <i>Of Rock and Rivers</i>.....	31
Situating Wohl’s Nature Writing in the Anthropocene	32
From Rhapsodizing to Politicizing in Wohl’s Nature Writing.....	35
From “Space” to “Place” in Wohl’s American West	39
Wohl’s Material Nature Writing.....	40
From Retreat to Confrontation in <i>Of Rock and Rivers</i>	44
Wohl’s Postnatural Writing.....	50
Wohl’s Template for Anthropocenic Nature Writing.....	55
Chapter Two: The Dignification of the Unseen in David George Haskell’s <i>The Forest Unseen</i>.....	60
Nature Writing and <i>The Forest Unseen</i>	62
Dignifying the Overlooked in <i>The Forest Unseen</i>	67
“Partnerships” in <i>The Forest Unseen</i>	75
Scale in <i>The Forest Unseen</i>	82
Anthropocenic Intrusions in <i>The Forest Unseen</i>	87
Dignifying the Living Earth in <i>The Forest Unseen</i>	95
Chapter 3: Nature Writing and the Anti-Landscape in Erik Reece’s <i>Lost Mountain</i>	101
Genre, Focus, Textual Strategies and Political Stance in <i>Lost Mountain</i>	103
The Dignification of “Damaged Goods” in <i>Lost Mountain</i>	107
Ecological Icons in <i>Lost Mountain</i> ’s Landscape of Fear	110
Cessation Moments in <i>Lost Mountain</i>	114
Material Nature Writing, Anti-Ecotones and the Anti-landscape in <i>Lost Mountain</i>	119

Material Nature Writing and Environmental Justice in <i>Lost Mountain</i> 's Anti-Ecotone	124
Chapter Four: The Anthropocenic Landscape of Fear Accelerated in the Nature Writing of Louisiana	132
The "Viscous Porosity" of Louisiana's Landscape and Nature Writing	135
The Regional Phase of Anthropocenic Nature Writing in Louisiana	138
The Global Phase of Anthropocenic Nature Writing in Louisiana	153
The Trans-Corporeal Phase of Anthropocenic Nature Writing in Louisiana	161
The Nature Writing of Aftermaths	170
Conclusion	174
Works Cited	180

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Introduction: American Nature Writing in the Anthropocene

The nonfiction essay genre of American nature writing has played an influential role in shaping the way Americans think about the environment since its earliest days. Famous nature writers such as Henry David Thoreau, Mary Hunter Austin, Aldo Leopold, Rachel Carson, Edward Abbey, Annie Dillard, Barry Lopez and Terry Tempest Williams have made significant contributions to environmental thought both nationally and internationally. The study of nature writing has also influenced environmental scholarship. The earliest version of the academic discipline of ecocriticism – the so-called first wave of ecocriticism – was centered on the study of American nature writing. Eventually this focus had to be expanded in what Timothy Clark in *The Cambridge Introduction to Literature and the Environment* (2011) refers to as a movement “beyond nature writing” in ecocriticism (87), which was led by the publication of anthologies such as Karla M. Armbruster and Kathleen R. Wallace’s *Beyond Nature Writing: Expanding the Boundaries of Ecocriticism* (2001). While it initiated a productive and necessary expansion of ecocriticism, the movement beyond nature writing also invited reductive rhetoric towards the genre that would establish dismissive attitudes among ecocritics regarding nature writing, as exemplified by Gabriel Egan’s exhortation to “retreat from the blind alley of treating ecocriticism as the study of nature writing” (*Green Shakespeare* 45). In a representative line of argument that targets both nature writing and scholars of nature writing, Clark suggests that in the complicated environmental contexts of the present “critics concerned with the US wilderness tradition have sometimes come to look like defenders of outdoor leisure pursuits” (87). Nature writing in Clark’s line of argument is equated with “[p]urist notions of the environment as pristine wilderness,” and Clark cites an activist’s conclusion that “... the real purist notion of environment – that it is just the natural world – just can’t work in today’s world” (88). The perception that nature writing is devoted to representations of nature that “just can’t work in today’s world” is persistent among ecocritics. This study makes a case for the continued relevance of nature writing by showing how nature writers have been diversifying beyond “purist notions of the environment as pristine wilderness” for many years. More importantly, it argues – through an analysis of a selection of recent examples of nature writing – that nature writing is currently undergoing one of the most significant changes in the genre’s history as it comes to grips with the implications of the comprehensive environmental changes implied in concepts such as the Anthropocene.

The nature writing of the Anthropocene represents a new phase in American nature writing that challenges certain foci, attitudes, values, and themes that are often considered foundational in the American branch of the genre. The tradition of American nature writing has by many scholars, such as Randall Roorda, Don Scheese, Peter A. Fritzell, Mark Tredinnick, Patrick D. Murphy, been defined in terms of its orientation towards the nonhuman. Some scholars go further in identifying not only the centrality of the nonhuman to their understanding of nature writing, but also the marginalization of the human. Both Roorda and Scheese, for example, recognize the key “spatial movement” (Scheese 6) of conventional nature writing as involving the description of a departure from the sphere of society and culture for the “nonhuman world” (Roorda 6). Roorda deems that

“the narrative of retreat” (3) is a common element joining the different types of nature writing (5), and that “the ‘essential fact’ of the retreat narrative is an essentially nonhuman world” (6). Scheese in somewhat similar terms asserts: “The typical form of nature writing is a first-person, nonfiction account of an exploration, both physical (outward) and mental (inward), of a predominantly nonhuman environment, as the protagonist follows the spatial movement of pastoralism from civilization to nature” (6). The nature writing of the Anthropocene takes place in a world now widely recognized as deeply affected by industrial humanity across various scales, where conventional motifs such “retreat” or “escape” or “refuge” in mainly nonhuman environments are no longer possible.

The nature writing of the Anthropocene thus emerges from what I call “Anthropocenic awareness,” which is the recognition among its authors that the material interactions between nature and culture have grown complex to the point where the two can no longer be meaningfully disentangled from each other. Thus the nature writing of the Anthropocene replaces the traditional “narrative of retreat” with what I call “the narrative of confrontation.” This narrative is structurally similar to Roorda’s retreat or Scheese’s description of the spatial trajectory of nature writing narratives in that it preserves the departure from centers of human habitation towards uninhabited regions. The difference lies primarily in what type of information is relayed about the chosen location. Where Roorda stresses “an essentially nonhuman world” and Scheese emphasizes “a predominantly nonhuman environment” as cornerstone features of conventional nature writing, Anthropocenic nature writing confronts the reader with the ways in which the impacts of industrial humanity are pervasive. Hence, Anthropocenic nature writing foregrounds the impacts of industrial humanity on nature. In the nature writing of the Anthropocene the orientation towards the nonhuman that Roorda and Scheese find characteristic of the genre can no longer exclude the many ways in which all human and nonhuman lives are entangled in the ongoing large-scale alterations to the environment that are signaled in concepts such as the Anthropocene, which can be defined as the era in which the collective impacts of industrial humanity on the earth are recognized as on par with, or even more significant, than the forces of geology (see e.g. Clark, *Ecocriticism* 1 and Tsing, *Mushroom* 19).

This study examines works by nature writers who engage with the changed nature of nature. As we will see, the growing sense among writers of the prevalence of human effects on nature has led to significant changes in the genre of nature writing. It should be noted, however, that not a single work selected for analysis in this study makes use of the concept of “the Anthropocene.” That is to say that this is first and foremost a study of recent developments in American nature writing, and not a contribution to contemporary debates regarding the merits of the term “Anthropocene.” The first chapter explores how Ellen Wohl in *Of Rock and Rivers: Seeking a Sense of Place in the American West* (2009) redraws the map of nature writing’s most popular wilderness refuge in the American West, presenting a scientist’s view of the region as a place of dynamic interactions between natural processes and past and present human impacts across a wide range of scales. The second chapter analyzes David George Haskell’s *The Forest Unseen: A Year’s Watch in Nature* (2012) in terms of a scientist’s portrayal of the material and evolutionary

dynamisms that bind the human and nonhuman world together across all scales of being. The third chapter examines Erik Reece's *Lost Mountain: A Year in the Vanishing Wilderness: Radical Strip Mining and the Devastation of Appalachia* (2006) as a chronicle of nature's destruction, causing both human and nonhuman suffering. The fifth chapter examines a selection of texts that suggest that the Anthropocenic nature writing of Louisiana has very rapidly undergone three different thematic phases in response to the real world calamities of coastal erosion, Hurricane Katrina, and the Deepwater Horizon oil spill. The chapter examines a selection of texts pertinent to each consecutive phase.

The texts analyzed in the first chapters rely on a strong investment in science, while the texts discussed in later chapters represent more journalistic and event-oriented nature writing. The texts focus on different types of landscapes, from landscapes where human impacts are hard to detect and require special knowledge to be apprehended, towards landscapes where large-scale anthropogenic changes are increasingly obvious even to the untrained eye. This means that the texts represent a variety of responses with respect to political engagement and rhetorical strategies, from restrained to overt environmentalism, and from more timeless descriptions towards issue-oriented writing. The selection of primary texts thus represents a thematic arc that covers central features of Anthropocenic awareness in recent American nature writing.

Nature Writing and the Anthropocene

The narrative of warning that characterizes the selected works of nature writing derives its force from the author's awareness of the changed nature of nature. In *Wildlife in the Anthropocene* (2015) Jamie Lorimer defines what he calls "the modern figure of Nature" as "a single, timeless, and pure domain untouched by Society, or at least the actions of modern humans" (1-2). The Anthropocene, however, implies a different world for Lorimer: "This world is hybrid – neither social nor natural" (2). The narrative structure of the primary texts of this study in various ways illustrates how a view of nature as "essentially nonhuman" is replaced by an Anthropocenic awareness of the wide-ranging and multiform entanglements of industrial humanity with nature. This awareness ultimately undoes what Lorimer refers to as the "Nature-Society binary" (2) by highlighting the condition of mutual, multiform porosity and interaction across various temporalities and all scales of being, which characterizes what used to be considered the somewhat discrete realms of nature and culture.

In *Imagining Extinction* (2016) Ursula K. Heise writes that from one perspective in Paul J. Crutzen's "The Geology of Mankind" (2002), which popularized the term, the Anthropocene can be defined "as the sum of all environmental havocs humans have wreaked on the planet" (206). Noel Castree has described its summarizing potential as "a politically savvy way of presenting to nonscientists the sheer magnitude of global biophysical change" (qtd. in Clark, *Ecocriticism on the Edge* 2). In *Ecocriticism on the Edge* (2016) Timothy Clark asserts this capacity of the concept of the Anthropocene in more detail:

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

Clark's description roughly corresponds with the way in which the Anthropocene is used throughout this study as shorthand for the sense of thorough human-induced changes and new, unfolding complexities described in the selected works of nature writing. For Clark, "[t]he term 'Anthropocene' is also a catchphrase, used as both intellectual shortcut and expanded question mark to refer to the novel situation we are in" (3). In this study the term is used as both "intellectual shortcut" and "question mark," for the analysis of "the novel situation" that these nature writers bear witness to. Primarily then, this study makes use of the Anthropocene as an effective shorthand that has gained substantial traction in environmental discourse of the past decade. Reference will also be made to the recent upsurge of scholarship devoted to exploring, elaborating, complicating, dismissing or replacing the Anthropocene, which has yielded many valuable insights about how nature writers relate to large-scale environmental degradation.

In *Hyperobjects* (2013) Timothy Morton describes the Anthropocene as a period characterized by the irrefutable emergence of nonhuman entities as agents of history:

we are no longer able to think history as exclusively human, for the very reason that we are in the Anthropocene. A strange name indeed, since in this period non-humans make decisive contact with humans, even the ones busy shoring up differences between humans and the rest. (5)

In *The Great Derangement* (2016) Amitav Ghosh in somewhat similar terms discusses the Anthropocene and climate change in terms of the shocking discovery that "something that seems inanimate turns out to be vitally, even dangerously alive" (3). Like Morton, Ghosh argues that rather than centralizing a sense of human mastery, the Anthropocene thrusts the nonhuman into the center of current debate and culture: "Behind all of this lie those continuities and those inconceivably vast forces that have now become impossible to exclude, even from texts" (63). He considers "one of the uncanniest effects of the Anthropocene" to be "this renewed awareness of the elements of agency and consciousness that humans share with many other beings, and even perhaps the planet itself" (63). Clark pursues parallel lines of reasoning when he observes:

For the major irony of the Anthropocene is that, though named as that era in the planet's natural history in which humanity itself becomes a decisive geological and climatological force, it manifests itself to us primarily through the domain of 'natural' becoming, as it were, dangerously out of bounds, in extreme or unprecedented weather events, ecosystems becoming simplified or trashed, die-back or collapse. (6)

In the following I argue that the nature writing of the Anthropocene is characterized by its encounters with nonhuman agency, mainly with reference to five different perspectives: what might be referred to as material nature writing, a scientifically motivated interest in ecosystemic function, a choice of focus that entails what Lawrence Buell has called “the dignification of the overlooked,” the exposure of what Yi-Fu Tuan has called “the landscape of fear,” and a turn towards matters of environmental justice.

A significant feature of Anthropocenic nature writing is its increasing emphasis on the dynamism of matter, of the “liveliness” that characterizes both the organic and the inorganic components of ecosystems. Nature writing has long emphasized the importance of the spiritual connections that interlink the human psyche with nature in supposedly beneficial ways. Anthropocenic nature writing attends more closely to the many physical ways by which organisms are linked to, and interact with, the wider environment. Unlike the spiritual correspondences conventional nature writers often pursue, the porous openness of bodies and landscapes to the active processes of the rest of the material world that Anthropocenic nature writers represent take place regardless of our awareness of them. Adapting the label from the academic approach to the dynamism of matter commonly known as “material ecocriticism” (see e.g. Iovino and Oppermann *Material Ecocriticism* 2), I refer to this increasing preoccupation with the “liveliness” and agency of matter in nature writing as material nature writing. Material nature writing undermines any sense of human control that the term Anthropocene might indicate through attending to the disturbed material interactions that result from human meddling in processes of which they have only a partial understanding, at best. Material nature writing traces the many anthropogenically mobilized material agencies that now unpredictably alter and pervade the environment beyond the bounds of human intentionality and control. However, it should be noted that although the emphasis in the following will be on the function of material nature writing in the context of the Anthropocene, material nature writing does not necessarily have to be Anthropocenic or even environmentalist and occurs in more conventional forms of nature writing.

While conventional nature writing has tended to focalize on the charismatic or uplifting qualities of organisms or landscapes that have been considered mostly, if not wholly, pristine, Anthropocenic nature writing is motivated by a scientific interest in the ways in which ecosystems function. Hence, the increasing concern about environmental decline produces a shift in focus from beauty and charisma to function and processes. As ecosystems decline, nature writing becomes more and more concerned with understanding and celebrating the many organic and inorganic mechanisms that contribute towards their functionality. Rather than celebrating the pleasing visual characteristics of places, such nature writing relies heavily on science to emphasize evolutionary adaptation, coexistence and cooperation. Where traditional nature writing might focus on various features of ecosystems independently of each other, the more specific emphasis on ecosystem functioning of Anthropocenic nature writing underscores the complex webs of interdependencies and interactions of which all beings are irrevocably part.

Material nature writing and the focus on ecosystem function are frequent means by which nature writers of the Anthropocene perform what Buell – in a different context – has

referred to as “the dignification of the overlooked” (*The Environmental* 184). Tom Lynch’s adoption of the phrase in *Xerophilia* (2008) forms the point of departure for how it is used in this study (140-76). In broad terms, the dignification of the overlooked can be understood as the celebration of species, functions, processes, or places for qualities other than their surface beauty, or as the attempt to expand the repertoire of qualities that are considered aesthetically pleasing or interesting. One might say that the dignification of the overlooked is politicized in Anthropocenic nature writing and contributes to its overall activist ambitions. Frequently, the dignification of the overlooked is a measure by which descriptions in Anthropocenic nature writing are structured in terms of features that contribute towards a deeper understanding of a specific environment, which counters the conventional orientation towards the most scenic features of places and systems.

Perhaps the most significant feature of Anthropocenic nature writing is the landscape of fear. In *Landscapes of Fear* (1979) Yi-Fu Tuan defines landscapes of fear as “the almost infinite manifestations of the forces for chaos, natural and human” (6). The large-scale changes that typically shape the Anthropocenic awareness of nature writers result from the human destabilization of nonhuman forces. Towards the conclusion of his historical overview of some of the various landscapes of fear that have typified human existence through time, Tuan notes a particular shift he seems to believe will characterize the future relationship of humans to nature: “If the educated people of the Western world can still be said to fear nature, it is the paradoxical fear that plants and animals, even rivers and lakes, may die through human abuse. The fragility of nature, not its power, now makes us almost constantly anxious” (212). This version of the landscape of fear in Anthropocenic nature writing, encapsulating the writer’s fear of what is happening or may soon happen to his or her chosen landscape or species, is often an essential issue related to the way the text makes an appeal to the reader to confront human impacts. The textual realization of the landscape of fear is also a significant component of the genre’s increasing activism, and especially as rendered through material nature writing, it is a significant motivator of the genre’s turn towards matters of environmental justice.

As noted above, the nature writing of the Anthropocene represents a deeply politicized turn towards the human. The landscape of fear in Anthropocenic nature writing has the double function of casting the human as perpetrator of environmental damage, but also of showing the human as the victim of environmental degradations. Environmental justice calls attention to the many ways by which environmental harm impacts differently along lines of wealth, race, nationality and gender. The attention to environmental justice helps trace the many human inequalities that are often concealed from view when speaking collectively of humans as a geological force, thus drawing attention to the ways by which environmental degradation also degrades the lives of humans and the ways by which the profit-driven activities of some often lead to the long-term disenfranchisement of others.

In general the responses to the Anthropocene have been multiform, multitudinous and diverse. Some, such as the proponents of the so-called “good Anthropocene” hail it as a time of human ascendancy and mastery. Others see it as problematic, but put their faith in techno-utopianism and the belief that humans will be able to engineer solutions to all the problems the period poses. More commonly the Anthropocene is seen as a time of extreme,

mounting, and accelerating environmental crises, or a time in which environmental crises have become scaled beyond anything individual humans can meaningfully engage with. Clark refers to this situation as “Anthropocene disorder,” which designates

a new kind of psychic disorder, inherent in the mismatch between familiar day-to-day perception and the sneering voice of even a minimal ecological understanding or awareness of scale effects; and in the gap between the human sense of time and slow-motion catastrophe and, finally, in a sense of disjunction between the destructive processes at issue and the adequacy of the arguments and measures being urged to address them. In response, the mind is suspended, uncertainly, between a sense of rage and despair on one side, and a consciousness of the majority perception of such reactions as disproportionate and imbalanced on the other. (*Ecocriticism* 140)

As Clark perceives it, the scales at which the Anthropocene must be considered and addressed are of a magnitude that is numbing and disabling to a sense of individual agency. For Clark the Anthropocene becomes a time in which the individual frame of reference itself must be called into question.

Clark’s stance is representative of how many perceive the Anthropocene, which is why other scholars such as Anna Tsing and Donna Haraway take exception to the term. For both Haraway in *Staying with the Trouble: Making Kin in the Chthulucene* (2016) and Tsing in *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (2015) the Anthropocene is troublingly inflected by the type of discourse and thought that has led to the problematic situation in the first place. Of special concern in the work of both Tsing and Haraway is the way Anthropocene disorder disables individual agency in times of ecological crises and defuses and discourages individual and communal actions (see e.g. Haraway, *Staying* 3). Both address the Anthropocene as a problematic time requiring more, not less, “situated knowledges” (Haraway, *Staying* 97), individual and collective commitment to localities, and cooperation across the boundaries of communities, cultures and even species. For both scholars, the unwieldy abstractness of the Anthropocene as a concept, as well as its excessive focus on human agency, are damning features of a term they nonetheless acknowledge has some temporary utility. The term, as they perceive it, is uncomfortably close to being another iteration of human exceptionalism. Both encourage imaginative and creative endeavors that explore ways of engaging with these ecologically troubling times without using the categories of thought that contributed to the creation of the problematic state of affairs in the first place. They encourage thinking in ways that, as Tsing puts it, acknowledge that “we are surrounded by many world-making projects, human and not human” (Tsing, *Mushroom* 21). Haraway proposes the “Chthulucene” as a term for thinking our way out of the Anthropocene:

Specifically, unlike either the Anthropocene or the Capitalocene, the Chthulucene is made up of ongoing multispecies stories and practices of becoming-with in times that remain at stake, in precarious times, in which the world is not finished and the sky has not fallen – yet. We are at stake

to each other. Unlike the dominant dramas of Anthropocene and Capitalocene discourse, human beings are not the only important actors in the Chthulucene, with all other beings able simply to react. The order is reknitted: human beings are with and of the earth, and the biotic and abiotic powers of this earth are the main story. (*Staying* 55)

The authors considered in this study are to a great extent Chthulucenic in their orientation towards the present time. They acknowledge many of the interspecies partnerships that shape existence. They foreground significant material processes which affect the viability of ecosystems. While the dystopian inflection of the Anthropocene is undeniable as the landscape of fear looms in their works, they strive to articulate Chthulucenic stories to help readers transition across the Anthropocene as a negative threshold concept towards something empowering like the Chthulucene, which foregrounds both collective and individual agency, as well as the undeniable embeddedness of humanity in the dynamism of the living earth.

This study will rely on some of the theoretical frameworks of ecocriticism and the environmental humanities. Material ecocriticism and the new materialism as articulated by Karen Barad, Jane Bennett, Nancy Tuana, and Stacy Alaimo will play particularly central roles. Perspectives on the Anthropocene from scholars such as Timothy Clark, Donna Haraway, Timothy Morton, Ursula K. Heise will likewise inform the project. Studies of nature writing by scholars like Tomas J. Lyon, Randall Roorda, Don Scheese, Daniel J. Philippon, and Scott Slovic will provide perspectives on both conventional nature writing and more recent developments of the genre. Issues of environmental justice will be chiefly contextualized with reference to the scholarship of Rob Nixon and Teresa Shewry. With regard to the preoccupation with the environmental landscape of fear, the discussion will also draw on the work of Yi-Fu Tuan, Serenella Ioviono and David Nye.

Overview of Environmentalist Nature Writing

Several taxonomies of nature writing have been proposed in for example Tomas J. Lyon's *This Incomparable Land* (1989, 2001), Patrick D. Murphy's *Farther Afield in the Study of Nature-Oriented Literature* (2000), Ann Ronald's "Kingdom, Phylum, Class, Order: Twentieth-Century American Nature Writer" (2003) and David Landis Barnhill's "Surveying the Landscape: A New Approach to Nature Writing" (2010). Most of the categories of nature writing proposed by these scholars are based on features that are still widespread in the genre. The current study attempts no cataloging of the full range of Anthropocenic nature writing. But it does propose new, if interrelated, categories such as material nature writing and the narrative of warning or confrontation with human impacts. Some of the proposed taxonomies make a separate category for environmentalist nature writing where most, although far from all, activist nature writing is placed, such as for example the category of "man's role in nature" in Lyon's "spectrum" of nature writing (22). Anthropocenic nature writing might conceivably figure in that category, or perhaps more aptly as yet another category added to Lyon's spectrum. Yet the writers selected for this study would also fit in Lyon's categories of "natural history essays," "rambles," and "travel and adventure." It seems likely that the politicizing of the nature writing genre that is a

result of increasing Anthropocenic awareness will eventually apply to the new work of writers throughout Lyon's spectrum and beyond.

Anthologies provide a form of meta-narrative for the genre through their selection and arrangement of materials by different writers. *The Norton Book of Nature Writing* (1990) edited by Robert Finch and John Elder promotes a conservative view of the genre through an assortment of texts that mainly reflect the genre's consistent dedication to the retreat. Another way of representing nature writing is to construct a narrative of steadily increasing environmentalist preoccupation. Bill McKibben, for example, uses this as his organizing principle for the texts in the anthology *American Earth: Environmental Writing since Thoreau*: "I've arranged this work chronologically, and my hope has been to give some sense of how environmental concern built to a great crest at Earth Day in 1970 and since has begun to explore new directions. This is literature that twines around a movement ..." (xxx). Although McKibben's volume is devoted to environmental literature rather than nature writing, and although McKibben seems to believe that nature writing is mainly celebratory and environmental writing thus somehow represents a necessary movement beyond it (xxii), *American Earth* is predominantly an anthology of nature writing, with "only a few poems" and "just tiny chunks of fiction" (xxx). Hence, while *The Norton Book of Nature Writing* centralizes the retreat, McKibben's anthology provides an emphasis on the genre's long history of increasing environmentalist concern and close involvement with the environmental movement. Many of McKibben's chosen authors are also represented in *The Norton Book of Nature Writing*, but the works chosen by the editors of each volume are different, probably representing the editors' diverging views on what is of importance in the genre of nature writing and environmental literature in general. The selection of primary texts in this study bears more resemblance to McKibben's *American Earth* than to *The Norton Book of Nature Writing*, although the classification of these texts as Anthropocenic rather than conventional nature writing, for example, is not a matter of absolutes, but rather determined by the degree to which the writer can be said to express Anthropocenic awareness.

The historic roots of nature writing are traced in many different ways and there are significant variations of opinion among scholars as to how far back genre antecedents should meaningfully be traced. Oftentimes the English writer Gilbert White's *The Natural History of Selborne* (1789) is noted as an early example of proto-nature writing. In the American context Lyon emphasizes the writings of Thomas Jefferson and Hector St. John de Crèvecoeur in the 1780s as early progenitors of the American branch of the genre. But Lyon also traces the genre deeper into history by examining the earliest descriptions of the American landscape in the journals and correspondences of early explorers and settlers, seeking out instances of "the poetic-scientific temperament of many later, more accomplished nature writers" (39), calling attention to for example William Wood as a noteworthy early practitioner (38). A general consensus among scholars seems to be that a turning point is reached in 1854 with the publication of Henry David Thoreau's *Walden*, which Buell hails as "[t]he most canonical of Anglophone nature books" (*The Future* 42). Lyon traces this turning point even further back to Thoreau's first publication, and goes as far as to argue: "Thoreau placed science and fact as helpful tools within the transcending

philosophical context of experience and presented this view of the world in accomplished, even artistic, prose. It is thus fair to say that the possibilities of the nature essay as a modern literary form were outlined in Thoreau's first essay, published in July 1842" (71). *Walden*, however, was the work whose enduring popularity and influence did more to cement the genre into its modern form than any other single publication. Significantly, Thoreau was one of the early writers to move beyond the view of nature as static scenery to an understanding of nature as dynamic, as well as of the entanglement of nature and culture, leading him to formulate an early case for wild nature as fundamental to the very survival of culture.

From Thoreau, scholars such as Buell, Corey Lee Lewis, Lyon, Daniel J. Philippon or Scott Slovic commonly trace the emergence of nature writing's environmentalist orientation through representational writers that typically include John Muir, Mary Austin, Aldo Leopold, Rachel Carson, Edward Abbey and Terry Tempest Williams. These are also some of the most widely read figures of American nature writing, and thus likely to be represented in any anthology or historical account of the genre. John Muir became an early and vocal advocate for the preservation of wilderness, and was instrumental in the designation of some of the earliest national parks such as Yosemite. Both Muir and Austin were central figures in introducing to wider audiences the landscapes of the American West. Austin is particularly noteworthy for celebrating desert landscapes that had until that point received scant attention in nature writing, as well as for advocating for their preservation. Leopold famously introduced his influential notion of a "land ethic," which asserted that something was positive when it tended towards benefiting the biotic community, while it could be considered negative if it tended to degrade it. Carson was in many ways an early Anthropocenic nature writer, and is most famous for *Silent Spring* (1962), a book that has been credited by some for starting the modern environmental movement. *Silent Spring* was an environmental exposé on the widespread ecological devastation resulting from the extensive use of the pesticide DDT, and was instrumental in having many nations eventually ban further use of the substance. Slovic praises Abbey's *Desert Solitaire* (1968) for launching "the renaissance of modern nature writing in this country" (*Getting over* xxi). Since the beginning of the renaissance Abbey inspired, the prime locus of nature writing has been the American west, and the principal cause of celebration has been the perception of an essentially nonhuman desert wilderness. Abbey's later novel *The Monkey Wrench Gang* is credited with inventing environmental sabotage, or ecotage, as a form of resistance, and with inspiring the rise of the Earth First environmental organization. Williams is especially noteworthy for the publication of *Refuge: An Unnatural History of Family and Place* (1991), which drew startling links between the Williams family's ravaging history of cancer and the aboveground testing of nuclear devices in her region of the Southwest.

As briefly sketched, the links between environmentalism and nature writing are strong in America. This is true to the point where Slovic's introduction to *Getting over the Color Green: Contemporary Environmental Literature of the Southwest* (2001) presents the terms "nature writing" and "environmental writing" as if virtually synonymous or interchangeable when speaking of "the renaissance of nature writing" (xvi). What makes it

nonetheless meaningful to introduce such a term as Anthropocenic nature writing in this long lineage of literature of environmentalist engagement is the shift of consciousness expressed in the term Anthropocenic awareness. Anthropocenic awareness breaks down the spatial demarcations that have sustained environmentalism based on the defense and idealization of pristine locations. Like much environmentalist discourse in America, conventional American nature writing has tended to structure its environmentalism spatially in terms of separations between humanized places and pristine places, or wildernesses. Even when writing about environmental issues, nature writers have often done so with an understanding of these issues as spatially external to the wilderness. In such narratives the pristine locations serve as a discrete domain, an intact, protected haven for the retreat. Retreat into the wilderness thus becomes a source of inspiration, where a baseline of “naturalness” can still be experienced and preserved. The retreat can thus be environmentalist particularly through insisting on the contrast between the pristine location of the retreat and the decline witnessed elsewhere.

Anthropocenic awareness insists on recognizing the porousness of seemingly pristine places to the large-scale environmental changes that have occasioned the term Anthropocene. For Anthropocenic awareness the classical terrain of the retreat no longer exists. Anthropocenic nature writing is thus distinguished from other forms of environmentalist nature writing by disallowing demarcations between pristine and damaged locations. A conventional nature writer may muse on the fact that few places truly remain separate from environmental harm, or at least environmental threat. But these instances of recognition will generally be separated from the main exploration of the chosen location, and the realization that few if any places remain truly unaffected by industrial humanity remains a brief note between stretches of conventional description. However, the mere acknowledgement of environmental decline does not warrant the classification as Anthropocenic nature writing. What I refer to as Anthropocenic nature writing is actively and consistently shaped by an Anthropocenic awareness, which must be understood as a sustained consciousness of the constant, complex, and active entanglement of human and nonhuman processes that is woven into descriptions of places throughout the text. Anthropocenic nature writing allows few, if any, long moments of classic retreat without at least some form of confrontation with the Anthropocene, commonly manifested as the landscape of fear.

Scholarship on Nature Writing of the Anthropocene

Over the past decade and a half, Britain has been experiencing an upsurge of nature writing that Robert Macfarlane in “New Words on the Wild” compares to the earlier American flourishing following the publication of *Desert Solitaire* (1966). Referred to as “new nature writing,” this boom in British nature writing has yielded significant scholarship which has gone further towards linking nature writing with the Anthropocene than in America. In 2008, the journal *Granta* devoted a special issue to what is now called “the new nature writing.” Understood at the time as a specifically British phenomenon, the blurb on the dustjacket nonetheless echoes some of Lyon’s and McKibben’s ideas about recent trends towards increasing environmentalism in American nature writing in stating that “[f]or as

long as people have been writing, they have been writing about nature. But economic migration, overpopulation and climate change are transforming the natural world into something unfamiliar. As our conception and experience of nature changes, so too does the way we write about it.” Indeed, as nature changes, so does nature writing.

What according to Jason Cowley, the editor of *Granta*’s special issue, sets “new nature writing” apart from “old” nature writing, then, is its explicit awareness of transforming natural systems and landscapes (9). Reasoning along similar lines, Macfarlane identifies two contexts for the “recent renaissance in Britain” (“New Words” 167). The first context is what he refers to as “disembodiment,” by which he means that people spend a lot of time working inside on their computers, which has the “inevitable consequence” of stimulating “a longing for wildness and nature” (167). The other context is the Anthropocene:

The second context is global crisis. It is no coincidence that a literature celebrating the natural world should have emerged at a time when the natural world is so conspicuously under threat. The past 15 years have seen the Deepwater Horizon blowout in the Gulf of Mexico, the break-up of the Antarctic ice shelf, widespread habitat destruction, further evidence that we are living through the sixth great extinction pulse, and the slow-motion emergency of climate change. British nature writing is energized by this sense of menace and hazard. (167)

This contextualization of the new nature writing seems to indicate that this branch of nature writing can also be considered Anthropocenic nature writing. Yet, its positioning towards landscapes of fear and the Anthropocene is not always the most insistently foregrounded dynamic of such writing, and while there are further similar features, other characteristics diverge partially or more completely from American Anthropocenic nature writing. One noteworthy distinction is Macfarlane’s above emphasis on “celebration.” The nature writing of the Anthropocene to a greater extent dampens the conventional tendency towards celebration with the environmentalist recognition of human impacts on nature.

There are other commonalities between the new nature writing and the nature writing of the Anthropocene. In “A Cultural History of the New Nature Writing” (2014) Joe Moran observes: “A common thread that unites the new nature writing is its exploration of the potential for human meaning-making not in the rare and exotic but in our everyday connections with the non-human natural world” (50). This objective of finding meaning through contact with common species and “everyday connections” aligns the new nature writing with the typical motifs of urban and suburban nature writing, but also to some extent overlaps with some of the different tendencies in Anthropocenic nature writing that I refer to as the dignification of the overlooked. Some of the Anthropocenic nature writers considered in this study, such as Haskell, and to some extent Reece and Mike Tidwell, venture into landscapes that are characterized by proximity to the human realm. Like the new nature writing, these writers do not necessarily aim for distant and exotic locations. Haskell especially encourages a sense of wonder for places and species that might seem ordinary and unimpressive.

Yet what new nature writing seems to emphasize in these encounters with a landscape or natural scene is not necessarily identical with the objectives of similar encounters in Anthropocenic nature writing. Moran underscores the encounter with the nearby as a source of alternative “meaning-making” to replace or complement the more traditional sojourn in wilder regions: “In the new nature writing, this concern with local connections to the natural world is frequently offset against the alternative attractions of wildness and desolation” (53). Moran’s emphasis is often on the author’s efforts in new nature writing to experience a meaningful connection with uncanny locations. His readings often focus on the authors’ drawing spiritual or emotional sustenance from places that may be challenging. The nature writing of the Anthropocene also recognizes this potential of unusual locations, but more often foregrounds other elements of the experience such as the unanticipated biodiversity and ongoing ecosystemic functions of the site, rather than projects of “human meaning-making.” The emphasis on material nature writing in the nature writing of the Anthropocene, perhaps more insistently than new nature writing, generally downplays conventional affirmation of personal “meaning-making” and especially “spirituality,” described by Barnhill in terms such as “depictions of nature as holy,” “mystical identification with nature,” “nature’s sacrality,” or “views of the mind’s essential unity with the universe” (282). Value is placed on biodiversity, the integrity of ecosystemic functions and processes, the persistence of species in the face of Anthropogenic pressures, rather than on the writer’s ability to derive meaning or experience a sense of connection. Although this is not an exclusive focus by any measure, the most consistently explored connection in Anthropocenic nature writing is material rather than spiritual, and grounded in the attention to various features of interpenetration and interaction between porous bodies and ecosystems.

According to Moran, the new nature writing is further characterized by the “focus on details and intricacies over abstraction, the close-up over the panorama, touch and proximity over the remote gaze” (54). Astrid Bracke likewise notes this proclivity towards “minute attention to natural detail” in “Seeing the Human in Nature in New British Nature Writing.” This attention to the minute is characteristic of Anthropocenic nature writing as well, yet in this instance too, a similar feature seems to be differently calibrated between the two branches of the genre. Moran suggests that this tendency in new nature writing emphasizes the tactile dimension of encounter, which he exemplifies with Macfarlane’s preference for collecting tiny souvenirs such as pebbles and “caressing them” (54). The focus on the experience here is predominantly sensuous and psychological. What is at stake is Macfarlane’s personal experience of tactile encounter, and the emotions and thoughts stirred by the experience of touching tangible objects. Moran quotes Macfarlane as stating: “‘Touch is a reciprocal action, a gesture of exchange with the world’” (qtd. in Moran 54). According to Moran, Macfarlane perceives touch as “a reaction to a post-millennial culture that is increasingly disembodied, atmosphere-controlled and electronically mediated – what he calls the ‘retreat from the real’ ... a prising away of life from place, an abstraction of experience into different kinds of touchlessness” (54). Touch becomes a means of engendering a sense of grounding that counters the general “disembodied” condition that Macfarlane argues is characteristic of the contemporary condition.

In Anthropocenic nature writing physical contact is also of importance, but here its tendency towards material nature writing foregrounds the “trans-corporeality” of encounters. Stacy Alaimo declares that her concept of trans-corporeality highlights “the movement across bodies” and reveals “the interchanges and interconnections between various bodily natures” (*Bodily Natures* 2). The type of “reciprocal action” at stake in Anthropocenic nature writing is thus of a more literal nature than Macfarlane’s “gesture of exchange.” And while material nature writing of the Anthropocene does enforce a sense of grounding and connection, this is not something that needs reinforcing through sensuous contact, but rather a constant condition of unavoidable bodily enmeshment in active, dynamic material processes that are always ongoing. Alaimo argues that “[p]otent ethical and political possibilities emerge from the literal contact zone between human corporeality and more-than-human nature” (2). The preoccupation with the minute and particular in Anthropocenic nature writing is calibrated towards this politicization rather than mainly towards the author’s individual sense of being meaningfully grounded in a place. Such nature writing is based on its attention to human and non-human agencies and their effect on the movement of dynamic materials through ecosystems and bodies, rather than on the writer’s individual efforts at experiencing meaningful connections.

Moran’s insistence on new nature writing’s focus on “details and intricacies over abstraction, the close-up over the panorama, touch and proximity over the remote gaze” also indicates another distinction from Anthropocenic nature writing. The new nature writing as described by Moran seems heavily invested in the individualized scale frame defined by the author’s senses. In the examples provided by Moran, such nature writing appears to be directed towards what the author can see, feel, and touch. While this individualized frame of reference is central to the American nature writing of the Anthropocene as well, it is always contextualized against much larger and smaller scales than can be accounted for through the writer’s senses. Anthropocenic nature writing works across a multiplicity of scalar frames, attending to the many, often material, interconnections and exchanges between them rather than predominantly focusing on the scale of what is nearby and minute to the observing writer. In such nature writing “the close-up” is complemented by “the panorama,” and “the remote gaze” may help scale perspectives upwards to show the ways “details and intricacies” encountered through “touch and proximity” are involved in the large abstract phenomena of the Anthropocene such as global warming.

Both the new British nature writing and the American nature writing of the Anthropocene clearly emerge in response to similar environmental issues. Both branches of nature writing share many of the same preoccupations. But the issues that distinguish them are as important as their commonalities. The term “new” in new nature writing is itself problematic in an American context. As noted above, what I refer to as the nature writing of the Anthropocene is to be understood as the most recent developments in America’s long history of environmentalist nature writing. It is distinguished from previous environmentalist nature writing by sustained Anthropocenic awareness. Writers have shown varying degrees of environmental consciousness since the genre’s inception, and episodes of what could be classifiable as Anthropocenic awareness are frequent throughout

its history. What sets some relatively recent specimen of nature writing apart is mainly the degree to which they integrate Anthropocenic awareness throughout most, if not all, encounters with nature. Thus it is more accurate to say that Anthropocenic nature writing signals an intensifying focus on features that have usually been part of the genre for a long time, rather than suggest that it names an entirely new development in the genre. Consequently the term new can be misleading in an American context. The term “Anthropocenic nature writing” to my mind signals more clearly what is actually identified as “new” about the current phase of American nature writing, namely the consistent awareness that no feature of the world can be considered completely unaffected by industrial humanity.

One of the most commonly emphasized features of new nature writing is also one of the factors that this study most strongly resists. New nature writing is characterized by experimentation with form and porosity of genre. According to nature writer Tim Dee in “Super Natural: the Rise of the New Nature Writing” (2013), this urge towards experimentation and opening of the genre is animated by a sense of crisis: “In this crisis of the end of nature, poetry, polemic and scientific prose have vastly lengthened the nature-writing booklist. Meanwhile old taxonomies, hierarchies and clarities have disappeared” (2). Dee refers to this as “the new pluralism” (2), and connects the drive towards pluralism with the environmental crisis: “desperate times call for disparate measures. Who’s to say what fits the bill? We need to load as much onto the ark as we can” (3). The environmental crisis for Dee should stimulate an opening of nature writing towards many forms of engagement with nature: “All of the many ways of approaching nature ought to be admissible. None will offer the last word” (3). Moran, in more subdued tones, makes the related observation that “Implicit in the heterogeneous and discursive registers of the new nature writing, perhaps, is a sense that the complexities of the ecological crisis need to be met by open-ended and polymorphic forms of writing which combine ecopolitical engagement with a personal voice” (59) and holds the door open for both fiction and non-fiction.

My concern is that critics may well be going too far in regard to the breadth of forms to which the genre of nature writing is applied. American nature writing is a specific, recognizable, and very prolific mode of writing that has exerted enormous influence on environmental thought for more than a century. The cultural impact of some of its best essays and books has been immeasurable. And while it is certainly true that Anthropocenic nature writing experiments with both form and unconventional types of landscapes, I would stress that innovation is made within the genre confines of the non-fiction, first-person essay about nature. When the selection of nature writing referred in the special issue of *Granta* includes cartoons – under the rubric of “graphic fiction” (“Classic Combo” 97) – and photography, or when Lydia Peelle includes fiction (*Granta* 12), or Dee includes “all of the many ways of approaching nature,” they may well be expanding to the point of uselessness what has for a while now served ecocriticism as a useful term for referencing a specific mode of writing. With such expansions nature writing ceases to be a genre, and instead refers to representations of nature in virtually any form, including drawings and pictures of nature. The Anthropocenic nature writing I will discuss in the following

experiments with form, content, and setting. At times it does this to such an extent that it locates itself well on the outer fringe of, and perhaps beyond, what a more traditional understanding of nature writing would contain. Yet it is my contention that, in spite of their innovation and experimentation, at no time do the writers considered in this study stray from what can, in the age of the Anthropocene, be recognized as the genre we have come to know as American nature writing.

Rhapsody, Jeremiad, and the Landscape of Fear

In *This Incomparable Land* Lyon declares that “[t]he expanding technosphere, some of whose consequences were described so cogently by Rachel Carson, has also had an inevitable effect upon the literature of solitude” (109). Here Lyon touches upon a key motivation in the selection of primary texts for this study. As outlined above, there are many branches of nature writing and related literature that deal with the Anthropocene in innovative ways. This study focuses on how the Anthropocene affects the more traditional nature writing essay of solitary immersion in a natural setting. Lyon touches upon one of the most significant of these effects when he writes: “In the modern era, being alone in nature may still refresh the spirit, but the literary record indicates there now may be, quite often, a certain shadowed quality to the experience” (110). What Lyon calls a “shadowed quality” is what will be referred to in this study as a description of an environmental landscape of fear.

In *Landscapes of Fear* (1979) geographer Yi-Fu Tuan defines landscapes of fear as “the almost infinite manifestations of the forces for chaos, natural and human” (6). Tuan asserts that these landscapes are multitudinous and virtually “omnipresent,” and as a consequence, human efforts at containing them are equally diverse and pervasive. Tuan goes as far as to assert that “every human construction – whether mental or material – is a component in a landscape of fear because it exists to contain chaos” (6). Specifically art, literature and philosophy are singled out as channels for coping with the chaotic and fearsome, or what he more lyrically describes as “shelters built by the mind in which human beings can rest, at least temporarily, from the siege of inchoate experience and doubt” (6). Tuan argues that there are many distinct types of fearsome landscapes, but maintains that for the “individual victim,” the experience of these landscapes will produce two “powerful sensations”: “One is fear of the imminent collapse of [the victim’s] world and the approach of death – that final surrender of integrity to chaos. The other is a sense of personalized evil, the feeling that the hostile force, whatever its specific manifestation, possesses will” (7). A possible alternative formulation to Tuan’s statement, for the purposes of Anthropocenic nature writing, would be to suggest that rather than will, the environmental landscape of fear possesses agency. While the landscapes of fear that Tuan investigates mostly have to do with historic, mythical and religious landscapes of fear, he also predicts that in the near future the predominant landscape of fear is likely to be the environmental landscape.

Arguably, the environmental landscape of fear represents a fusion of “forces for chaos, natural and human” that is perhaps unique in history. It can be understood as a place where human actions have disrupted a perceived natural order of things to the point of

being irreparably compromised or even breaking down. The environmental landscape of fear these days often comes as the result of large-scale industrial intervention, and as such, the environmental landscapes of fear are often the results of far more concretely personalized forms of “evil” than Tuan probably had in mind. If the deterioration in the environmental landscape of fear progresses, the landscape of fear will eventually become what Serenella Iovino has called a “necroregion” or what David Nye has termed an “anti-landscape.” The necroregion is a term introduced by Iovino in an article on the ruinously polluted Po valley in Italy, in which she proposes the terms “necroregion” and “necroregionalism” as the antonyms to “bioregion” and “bioregionalism” (“Restoring the Imagination of Place” 102, 109). The anti-landscape is a similar term coined by David Nye in *When the Lights Went Out* (2010) and developed further in his introduction to the anthology *The Anti-Landscape* (2014) edited by Nye and Sarah Elkind. In *When the Lights Went Out* Nye defines the anti-landscape as a “man-modified space that once served as infrastructure for the collective existence but that has ceased to do so, whether temporarily or long-term” (131). Though in many ways similar, there seems to be a slight difference of emphasis built into Iovino’s and Nye’s concepts. Whereas Iovino seems to primarily stress breakdowns in ecosystems that humans may or may not be part of, Nye emphasizes the breakdown of a “human” landscape.

Nye stresses that humankind has always had the capability of transforming landscapes into anti-landscapes, through for example mismanagement, such as overgrazing or stripping forests of trees (131). What to Nye’s mind is distinctive of the present era in history, is the speed with which what was once a gradual process can now be accomplished: “Highly technological societies can create anti-landscapes quickly, even suddenly. The nuclear contamination of Hanford, Washington and the chemical poisoning of Love Canal come to mind” (*When the Lights* 131). Similar ideas are operative in Anthropocenic nature writing, where the speed of anthropogenic change and the risk of such changes setting in motion harmful processes for which there can be no easy remedy are foregrounded. Additionally, Anthropocenic nature writing is also preoccupied with the scale of change as an important factor in the environmental crises that define the Anthropocene.

In Nye’s introduction to *The Anti-Landscape* the concept is further modified to include nature as a factor in the creation of anti-landscapes: “The anti-landscape is not necessarily the result of human interference, but may have natural causes” (“The Anti-Landscape” 11). The extension of Nye’s definition to include the recognition that nature itself may play a hand in the formation of unliveable spaces is important, because it suggests the potential for interplay between human and non-human agencies in the formation of such spaces. It underscores the risk that humans may have trouble stopping natural agencies they inadvertently set in motion. This extension of the term thus opens a space for considering the involvement of agencies other than human, and connects with the way material ecocriticism stresses how the agentic capacities of nature are often imbricated in environmental troubles in ways that were previously unforeseen and unintended, and which consequently often become uncontrollable as these agentic capacities take over and systems run amuck.

Nye writes that people “may respond to such places [anti-landscapes] with dread, foreboding and aversion” (15), quoting Tuan’s observation that “[f]ear is in the mind’ but ‘has its origins in external circumstances that are truly threatening” (15). Nye puts forth that

[t]his emotional response often arises directly from sensory impressions. In other cases, the fear is based on knowledge that our senses cannot detect. A dangerous chemical may be tasteless, a lethal gas may have no odor, and radioactivity is invisible. People have learned to be afraid of all three, but must rely on scientific measurements and experts to assess the danger. (15)

The landscape of fear that emerges in nature writing is rarely, although sometimes, a fully realized anti-landscape. More often it emerges as a variant of the “shadowed quality to the experience” in the germinating instance¹ that Lyon refers to, cited above. However, because well informed nature writers are often updated on “scientific measurements” and expert assessments, they are often aware well beyond the register of sensuous impressions of the dynamism of places, and able to understand decline as an ongoing process affecting the location in question.

The landscape of fear is often accompanied by an imagined or remembered more ecologically intact version of the same landscape. Often this will be a past version of the landscape, predating significant human alterations. The narrative movement will often be from this ideal terrain for the retreat, to a recognition of the reduced ecological vitality of the present, or an invocation of further decline in the future if preventive action is not undertaken. The continuum of fear in Anthropocenic nature writing is thus often a temporal continuum of decline. This temporal continuum has two possible outcomes. One outcome is the final decline of the landscape into an anti-landscape or necroregion. The other potential outcome is the landscape of hope or recovery, wherein measures have been taken to safeguard biodiversity. Nye argues:

Each anti-landscape suggests a latent narrative with three parts: (1) there once was a healthier, sustainable landscape that supported life but was vulnerable; (2) whether by accident or design, that place was severely damaged and no longer could support human communities; (3) nevertheless, that place might be recuperated ... (20)

The nature writing of the Anthropocene invokes a very similar narrative structure to the one outlined by Nye, grounded in the present landscape. It harks back to a past landscape with nostalgia for its often superior ecosystemic integrity, but is also critically aware of how environmental sins of the past have affected and continue to shape the ecosystemic condition of the present landscape. Such nature writing is aware of decline as an ongoing

¹ In “The Poetry of Experience” (1999), John Elder writes of poetry’s “germinating instance” (318). This can be understood as the moment of contact with nature that inspires the work of art. In this study the term is used in similar ways to reference the moment of contact between nature writer and landscape which gives rise to the essay of nature writing.

dynamic in the present landscape, and envisions what types of future these processes might shape for the place or species in question. Nature writers of the Anthropocene are, however, rarely as certain as Nye seems to be that recuperation is an option. This divergence might stem from the way Nye focalizes the recuperation of place for human purposes, whereas nature writing is equally concerned with the recovery of the non-human.

The increasingly “shadowed quality to the experience” identified by Lyon has begun to significantly change what Slovic and Philippon define as a central narrative dynamic in nature writing, namely the balance between “rhapsody” and “jeremiad.” According to Slovic in “Epistemology and Politics in American Nature Writing” (1996), the rhapsody is to be understood as the “celebratory” mode of nature writing, and the jeremiad as a “warning” (82). Slovic also makes a distinction between what he calls the “epistemological dimension” and the “political dimension” of nature writing (83):

By ‘epistemology’ I mean the effort to understand the nature of the universe and the relationship between human beings – or between the human self – and the natural world. By the term ‘political,’ on the other hand, I mean the effort to persuade an audience to embrace a new set of attitudes toward the environment, and potentially, to implement these enlightened attitudes in the form of relatively nondestructive, behavior. Nature writers have long understood their work as a combination of epistemological exploration and political persuasion. (83-84)

As Slovic points out, the epistemological mode does its own type of mild political work through inspiring a positive attitude to nature. However, for the most part, Slovic maintains a distinction between the political and the descriptive modes of nature writing that connects with his terms of rhapsody and jeremiad.

Slovic explains why he connects the rhapsody to what he refers to as the epistemological mode: “I associate the epistemological mode of nature writing with the rhetorical act of rhapsody (or celebration), for the simple process of expressing deep, ingenuous interest in a subject is, implicitly, a statement of appreciation – a celebration” (84). But this interlinking of the epistemological mode with the rhapsody depends upon assumptions that the landscape being explored is a mainly pristine location suited for the retreat. In the nature writing of the Anthropocene, however, the epistemological mode often begins with the rhapsody but leads to the jeremiad. The “deep, ingenuous interest” that Slovic sees as typical of the epistemological mode, which motivates the very process of accruing information and insights about a place through extensive study, is often precisely what leads to the unveiling of unsuspected landscapes of fear hidden from first impressions. The jeremiad, which Slovic understands as rhapsody’s “political counterpart ... the primary goal of which is to persuade its audience to adopt a new perspective by pointing out the problems with readers’ current way of thinking” (85), becomes more closely related to the epistemological mode of nature writing. No longer is the jeremiad confined to the exhortative mode, but now also combines with what Slovic terms “the epistemological, descriptive mode” (92).

This combination of the two modes highlights a crucial point of contrast between conventional nature writing and Anthropocenic nature writing. While conventional nature writing might often, as Slovic persuasively illustrates with reference to the writing of Henry Beston, intersperse rare moments of explicitly voiced concern in the mode of the jeremiad or environmentalist ideology before slipping back into celebratory description, Anthropocenic nature writing embeds more extended descriptions of the landscape of fear. The landscape of fear is thus very much as Tuan describes it, a quality or presence to be observed, because the landscape is perceived as dynamic and responsive to human pressures of many kinds. Description of landscapes from the perspective of Anthropocenic awareness will therefore to some degree involve information regarding pertinent aspects of environmental trouble. The dividing line between the epistemological mode and the political mode thus becomes more blurred in Anthropocenically aware nature writing. The shift from seeking retreat to voicing a warning thus also shifts the balance between rhapsody and jeremiad in the genre. While the narrative of retreat is predominantly rhapsodic, the narrative of warning, which encourages readers to confront the pervasiveness of human impacts, relies more heavily on the jeremiad.

Material Nature Writing

The environmental changes that define the Anthropocene are first and foremost physical. They are interconnected material alterations at various scales to the geology and life systems of the earth. They are chemical changes in the planet's atmosphere that cause global warming. They are the acidification of the world's oceans. They are deforestation, habitat fragmentation and habitat destruction. They are the dieback of countless species collectively known as the sixth mass extinction event. They are plastic pollution, acid rain and soil erosion. They are the declining ability of agrarian lands to yield crops sufficient to the demands of rising consumerism and the expanding global population. These are material phenomena that affect the processes that drive ecosystems across the earth, stimulating unpredictable change as other than human agencies respond to anthropogenic change. As these material changes accelerate, leaving more pronounced effects on the environment everywhere, environmentalists, ecocritics, and environmentally minded writers become increasingly attentive to the changing character of the physical interaction between humans and their environment.

In the introduction to *Material Ecocriticism* (2014) Serenella Iovino and Serpil Oppermann refer to "a powerful 'turn to the material' in the environmental debate" (2). Material ecocriticism can be characterized as the endeavor "to couple ecocriticism's interest in revealing the bonds between text and world with the insights of the new materialist wave of thought" (2). There is a similar "turn to the material" in the nature writing of the Anthropocene as Iovino and Oppermann describe in scholarship and "environmental debate." This refocusing on non-human agency and the dynamics of matter is taking place in contemporary nature writing through the rise of a mode of description that I refer to as material nature writing. Material nature writing is a particularly forceful and productive mode in the nature writing of the Anthropocene. Nature writing has always been preoccupied with the material reality of nature, but I would put forth that the focus is

shifting. While nature writers have been keen to stress the reality of material nature existing out there, independently of human perception and imagination, currently, nature writers seem to show increasing attention to the human-nature relationship, and to the many interesting, and sometimes disconcerting, potential effects of this interaction.

In short, material nature writing is nature writing that is preoccupied with the materiality of the body and the environment, which is invested in the physicality of experience across a variety of scales, and which is attentive to the dynamism of matter, as it perceives matter as active rather than inert. Hence, material nature writing foregrounds the processes that shape environments across a wide range of scales, from the large dynamisms of geology, to minute interchanges between cells in bodies, even down to chemical reactions and process inside the cell itself. Of particular interest to such nature writing are the porosity of boundaries and the movement of substances across them, such as between the body and its environment. The openness of bodies, human and non-human, to their surroundings is a central feature of such nature writing. Of equal importance is the openness of ecosystems to influences from other places, both near and far.

Material nature writing is also alert to the porosity between scales of being, for example how the internalization of minute quantities of toxic matter to the cell can wreak devastation on the entire organism. The material world is perceived as characterized by activity, interpenetrations, exchanges, and interactions, between and across all scales of being. Such nature writing is not necessarily political or environmentalist, but material nature writing is often the means by which the Anthropocene is unveiled. When informed by Anthropocenic awareness, material nature writing often entails a confrontation with the many and varied anthropogenic pressures on organisms, ecosystems and landscapes. It is often by outlining the porosity between scales of being that material nature writing demonstrates the enmeshment of small locations or beings in large scale phenomena like global warming. In this respect, material nature writing often becomes the most politicized mode of Anthropocenic nature writing.

The perhaps most significant function of the mode of material nature writing in the nature writing of the Anthropocene is to expand perspectives beyond the genre's reliance on the author's sensual impressions of places. Sight has always been the traditional nature writer's primary interface with place, while stimuli from the other senses have taken up second place. In *Xerophilia* Tom Lynch addresses what he perceives as an overreliance on eyesight in nature writing and urges "multiple forms of sensing beyond the visual dimension" (178). He suggests that "... in order to be efficacious in making readers feel a sense of belonging in their landscape, nature writing should be alert to all the ways our many senses are solicited by the flesh of the world ..." (179). However, the human sensory apparatus is insufficient to the task of detecting many of the varied forms of environmental change at various scales of being that signal the Anthropocene. The mode of material nature writing therefore does not adhere to the conventional approach which trusts the individual writer's senses as the foremost authority on place. Material nature writing relies more strongly on science to provide perspectives on place which go beyond any information the human senses are capable of relaying, as exemplified in Ellen Wohl's essay about a snowflake's journey through an aquifer in *Of Rock and Rivers*.

Material nature writing is not necessarily Anthropocenic nature writing, as it might conceivably focus on the dynamism of matter in any number of ways that would not be overtly environmentalist. Cynthia Huntington's *The Salt House: A Summer on the Dunes of Cape Cod* (1999) is an example of nature writing that engenders a sense of the material world as vibrantly alive without being explicitly environmental. However, material nature writing is also one of the primary modes by which Anthropocenic nature writers explore the genre's changing ecological context, and in this sense it often becomes explicitly politicized. The correspondences between this mode of nature writing and the so-called new materialisms or material ecocriticism are very close, and the following exploration of material nature writing will rely heavily on the works of new materialists and material ecocritics such as Stacy Alaimo, Karen Barad, Nancy Tuana, Donna Haraway, Anna Tsing, and Jane Bennett.

In *Exposed: Environmental Politics and Pleasures in Posthuman Times* (2016) Stacy Alaimo finds significance in the fact that "new materialist theories are developing at the same moment as many environmental activists seek to make sense of the interactions between consumer products, pollution, toxins, nonhuman animals, and humans" (8). This study argues that one can see corresponding explorations of material interactions also in American nature writing and the material turn in environmentalism. Alaimo summarizes material ecocriticism as follows: "New materialisms insisting on the agency and significance of matter, maintain that even in the anthropocene, or, especially in the anthropocene, the substance of what was once called 'nature,' acts, interacts, and even intra-acts within, through, and around human bodies and practices" (1). Material nature writing shares this sense of the world as characterized by lively material interactions or intra-actions across porous boundaries of bodies, ecosystems, places and scales of being. To a significant extent, it also shares the sense of the Anthropocene as an era where the character of these exchanges may be changing, and in which attending to these interchanges becomes even more important.

With a minor, but necessary adjustment, Alaimo's summary above could stand as a valid summation of the agenda of most Anthropocenic material nature writing as well. Even though she stresses the ways her concept of trans-corporeality and the new materialisms in general break down human exceptionalism, Alaimo's work is nonetheless predominantly focused on the human body in these newly perceived webs of material activity and intra-action. She quotes Jeffery Jerome Cohen's argument that,

Agency is distributed among multifarious relations and not necessarily knowable in advance: actions that unfold along the grid surprise and then confound. This *agentism* is a form of activism: only in admitting that the inhuman is not ours to control, possesses desires and even will, can we apprehend the environment disanthropocentrically, in a teetering mode that renders human centrality a problem rather than a starting point. (qtd. in Alaimo 8; emphasis in the original)

The human body is still the central figure of Alaimo's work in both *Bodily Natures* and *Exposed*. Material nature writing is, however, more preoccupied with the material

dynamism and trans-corporeal exchanges of the non-human environment. The human body and industrial humanity are relevant factors, but the nonhuman environment itself is the central domain of material nature writing.

Material ecocriticism is one of the currently most flourishing branches of thought in the ecoritical field to the point where some consider it a possible fourth wave of ecocriticism. Slovic, for example, has suggested that the material turn constitutes a potential fourth wave of ecocriticism in the editor's note to the 2012 fall issue of *Interdisciplinary Studies in Literature and Environment*, and then again in "Seasick among the Waves of Ecocriticism: An Inquiry into Alternative Historiographic Metaphors" (2017). He foregrounds Alaimo and Susan Hekman's anthology *Material Feminisms* (2008) as an early and noteworthy specimen of the fourth wave, describing how it "vividly demonstrates how the human body is essentially embedded in the physical world with its host of discursive practices, and how literary texts illuminate both the material and the ethical implications of physical phenomena that pass between our bodies and the body of the Earth" ("Seasick" 105). Material nature writing in similar ways explores "the material and ethical implications" of the material transactions between bodies and places. It is precisely this "illumination" of "implications" that makes material nature writing the most characteristic way of unveiling the hidden landscape of fear in Anthropocenic nature writing.

The field of material ecocriticism aligns itself closely with Ulrich Beck's risk theory, but also has strong ties to certain trends within environmental justice, such as Rob Nixon's ideas about slow violence and the environmental travails of the globally disenfranchised. One of the most significant figures in material ecocriticism is quantum physicist Karen Barad, whose *Meeting the Universe Halfway* (2007) explores what she calls "agential realism," and puts forth the concept of "intra-action," which modulates the concept of agency, suggesting that agency is no longer to be conceived as exclusively tied to human subjectivity. "Intra-action" suggests a condition in which none of the actants pre-exist their relations, but are rather to be seen as emergent through them. Agency, Barad wants us to understand, is to be apprehended as "a matter of intra-acting; it is an enactment, not something that someone or something has" (235). Actions take place in a field of relations between forces that all possess agentic capacities. Much of the nature writing of the Anthropocene is colored by its attention to the forces of evolution or geology, or the behavior of organisms, substances, and climatic processes that operate independently of human intention, and to the altered reality that is emergent through the intentional, unintentional, and often unpredictable intra-actions of industrial humanity with the distributed field of agency in the material world.

Other scholars of material ecocriticism have built on Barad's thoughts to stress the "vitality of matter," such as Jane Bennett with her concept of "vibrant matter," in ways that deeply mirror how nature writing has for some time conceived of nature as a field of forces and fluxes. These contiguous lines of reasoning about the materiality of nature can for example be seen in the work of Barry Lopez, whom Bennett establishes as a major inspiration for her thoughts, alongside fellow nature writer Wendell Berry, especially with reference to Lopez's major work *Arctic Dreams*, which describes the great seasonal migrations of animals on earth in the context of the many forces and systemic fluxes that

impel them in situations of seasonal advance and retreat, which Lopez lyrically likens to global inhalations and exhalations of breath. Bennett writes that by “vitality” she means “the capacity of things – edibles, commodities, storms, metals – not only to impede or block the will and designs of humans but also to act as quasi agents or forces with trajectories, propensities, or tendencies of their own” (viii). She attempts to “articulate a vibrant materiality that runs alongside and inside humans to see how analyses of political events might change if we gave the force of things more due” (viii). Both Bennett and Barad perceive the act of giving matter more attention as a project with significant ethical ramifications. The notion of humans interacting with passive and inert matter, the world as a blank and passive canvas on which to enact human intensions, is conceived as the fuel of “hubris and our earth-destroying fantasies of conquest and consumption” (ix). Acknowledging the agency and activity of matter, on the other hand, is believed to at the very least proffer a sense of caution.

Other material ecocritics have studied the implications of intra-action more deeply with the attention centered on the human body. Nancy Tuana’s influential essay on “Viscous Porosity,” for example, stresses the porosity between human bodies and natural, social, economic and political phenomena with a view on the convergence of the human and non-human elements that shaped Hurricane Katrina into the disaster it became. Similar preoccupations drive the nature writing of authors like Bill Streever and Mike Tidwell, as we shall return to in the final chapter. Of more general relevance to this study, is Stacy Alaimo’s concept of “trans-corporeality,” introduced in *Bodily Natures: Science, Environment, and the Material Self* (2010), which highlights the ways in which nature writers are beginning to understand humanity’s place and role in nature. The concept “trans-corporeality” suggests that the human body as a material entity is open and porous to its environment, and in constant exchanges with it. Alaimo uses Harold Fromm’s description from *The Nature of Being Human* (2009) to illustrate this new perception of the body’s involvement with its surroundings: “The ‘environment,’ as we now apprehend it, runs right through us in endless waves, and if we were to watch ourselves via some ideal microscopic time-lapse video, we would see water, air, food, microbes, toxins entering our bodies as we shed, excrete, and exhale our processed materials back out” (qtd. in Alaimo 2). Substances like food, water, and pollen enter the human body with significant consequences for its behavior and functionality. The skin itself is conceived as permeable and permeated, cross-slashed, perforated and penetrated by microorganisms and micro-substances, be they beneficial, harmful or harmless. A constant wash of information and matter is seen as passing in and out of the human and non-human body at all times, and at all levels, linking it in a number of ways, but always, to its immediate and wider surroundings.

Material nature writing shifts the focus on connections with nature from the psychological and emotional to the physical. It suggests that humans are always embedded in dynamic relations with nature whether they are aware of it or not. Barad likewise asserts that

the notion of *intra-action* (in contrast to the usual ‘interaction,’ which presumes the prior existence of independent entities or *relata*) represents a profound conceptual shift. It is through specific agential intra-actions that the boundaries and properties of the components of phenomena become determinate and that particular concepts (that is, particular material articulations of the world) become meaningful.... *relata* do not preexist relations; rather, *relata*-within phenomena emerge through specific intra-actions. (139-40; emphasis in the original)

Unlike the psychological and spiritual connections that have been central to conventional nature writing, the connections between humans and environment that are at the forefront of material nature writing are to a much larger extent involuntary and non-negotiable. They link human beings to the environment and other beings across various scales of space and time. These are not passive linkages, but active intra-actions that have shaped and continue to shape humanity. While they can be ignored, denial or ignorance does not prevent these ongoing multifaceted and multifarious intra-actions from taking place.

The condition of openness and embeddedness that contemporary environmentalism, material ecocriticism and material nature writing recognize is particularly precarious in the Anthropocene. Alaimo suggests that recognizing trans-corporeality means recognizing vulnerability. Attending to the Anthropocenic disturbance of the material flows of the world becomes a political act especially when vulnerability is taken into account, as Alaimo suggests: “Performing corporeality as that which is violable entails a political claim against future harm to those bodies, but it also disperses the political subject through risky places where human actions have resulted in landscapes of strange agencies” (*Exposed* 78). The material nature writing of the Anthropocene often draws attention to the realization that in the Anthropocene all landscapes have to various degrees and extents become “landscapes of strange agencies.” There is thus a dystopian possibility of regarding every landscape as a potential landscape of fear. Material nature writing is thus informed by an ethical drive reminiscent of what Alaimo refers to as “an insurgent vulnerability,” which is to be understood as “recognition of our material interconnection to the wider environment that impels ethical and political responses” (94). This formulation foregrounds the human’s doubled role in the Anthropocene and in Anthropocenic nature writing, as both perpetrator of environmental decline, and victim of environmental decline.

Scientific Interest in Ecosystemic Function, Environmental Justice and “the Dignification of the Overlooked”

As already suggested, one of the things that typifies Anthropocenic nature writing is its increasing attentiveness towards factual information or science, which does not mark a rupture with previous modes of writing, but an enhancement of a genre feature that was already significant. However, more often than not, the shift towards an increased reliance on science goes hand in hand with another shift to the foreground of an already well-established feature of the genre – its environmentalism. The Anthropocene evokes the landscape of fear in nature writing, and the landscape of fear provokes environmentalist

responses in nature writers. As stated above, more and more texts seem to be purposefully activist. The landscape of fear in nature writing is not meant to cause abjection so much as it encourages resistance based on often disturbing information regarding what is happening to nature. In *Xerophilia* (2008) Lynch argues that “[o]ne goal of environmentally responsible writing should be to find ways to awaken our intellectual and emotional awareness of ... overlooked species and of the ecological processes they support” (142). The lens of “environmentally responsible writing” should be recalibrated towards the functionality of systems, and towards “the dignification” of those frequently overlooked, uncharismatic organisms on which such systems critically depend. Such writing should also “exhibit knowledge of reliable information regarding the behavior and ecological role” of such organisms. He suggests that “if it is to have a literary as well as ecological dimension, such literature should employ the resources of its art to engage the environmental imagination of the reader so that these invertebrates become a part of the reader’s emotional and psychological connection to their bioregion” (142). What Lynch argues relative to invertebrates applies to the overall representation of overlooked species and places in Anthropocenic nature writing, which frequently takes form through a fusion of science and art for the purpose of motivating reader investment in the relevant species or location.

The “dignification of the overlooked” is not a new or unique strategy used in nature writing to widen the scope of reader appreciations of the natural world, but from being a fringe concern it has become relatively mainstream. The term was first coined by Lawrence Buell in *The Environmental Imagination* (1995) to denote a literary device that meant “a breakthrough of great importance to the romantics” (184). Buell mentions James Thomson’s *The Seasons*, which was both “the first English poem to make natural processes its ‘protagonist,’” and “the first major fictive work to display a heightened sensitivity to the treatment and feelings of the brute creation,” or animals (184). While Buell’s analysis mainly targets the extension of concern and empathy towards the animal kingdom, his remark about “the natural processes” is noteworthy, since these are part of the often overlooked aspects of nature that Anthropocenic nature writing foregrounds.

In *Xerophilia* Tom Lynch bases an entire chapter on Buell’s concept of the dignification of the overlooked, relating it mainly to a context of desert writing, and particularly to the human tendency towards ecophobic disdain for invertebrates. In reference to the dignification of the overlooked in the nature poetry of Ofelia Zepeda, Lynch summarizes:

These brief poems are not so much designed to impart information about these creatures and their interactions as they are designed to evoke, through imagery, the presence of these creatures and their interactions with each other in the imagination of the reader. Simply by being deemed worthy of aesthetic attention, these animals are transfigured; they are given identity and a meaningful place in our imaginative lives. Such attention grants a dignity to the overlooked. (168)

Lynch’s concern is to extend aesthetic appreciation to all segments of the natural world, such as the invertebrate kingdom. In this respect, his version of the dignification of the

overlooked echoes Scott Slovic's thoughts on the analogous concept of "appreciating the unappreciated," which he perceives as a major feature and achievement of desert nature writing in his introduction to the anthology *Getting over the Color Green* (2001). For Lynch, the extension of aesthetic appreciation to overlooked species has distinct environmentalist motivations:

Regardless of one's position on the matter, it seems undeniable that the chances of survival of such creatures are enhanced by this poetic attention. When such creatures become a part of our storied landscapes [...] they also become a part of our moral landscape, and hence must be taken into account in our moral judgments. (168)

The dignification of the overlooked can thus be considered an overt environmentalist feature of Anthropocenic nature writing. While the strategies, functions, and aims outlined by Lynch serve very well to describe how the dignification of the overlooked tends to take shape in the genre, I would add that this type of nature writing tends to focus even more emphatically on a deeper ecological sense of function and connectivity. The landscape, process or organism that such writing dignifies, tends to be selected based on particular evolutionary adaptations and services to the ecosystem of which it is part. The dignification of the overlooked in Anthropocenic nature writing thus motivates the appreciation of organisms and places for qualities that go beyond questions of what can or cannot be found aesthetically pleasing.

As Lynch's work demonstrates, engaging with the dignification of the overlooked, often means engaging with what Estok calls "ecophobia" (*Ecocriticism and Shakespeare* 2), or what Lynch refers to as "biophobia" (145). Estok understands ecophobia as "contempt for the natural world" (2). Lynch more moderately refers to "biophobia" as a dislike or distaste for certain aspects of the natural world. Many of the organisms that can be considered uncharismatic are also found by large groups to be repulsive or scary. They are, in other words, creatures that people are culturally conditioned to have ecophobic reactions to. Recently it seems that an attempt to redeem these categories of creatures has been added to the agenda of nature writers. An early and notable example of such a project can be found in Barry Lopez's *Of Wolves and Men* (1978). While it is hardly reasonable to refer to wolves as uncharismatic, Lopez points out how few other animals have suffered so directly the consequences of ecophobic mythmaking as these animals have over centuries. The book can be regarded as an attempt at dignifying the overlooked through its highlighting of neglected aspects of the lives of wolves, and its attempts to provide a rational ecological portrayal of wolves against the misinformation and irrational demonizing that wolves have been subjected to for centuries. And while wolves are creatures that have never fallen below the public radar, the project of *Of Wolves and Men* can in some ways be read as the dignification of the overlooked insofar as it draws attention to the crucial ecological functions wolves fulfill in ecosystems where people tend to ecophobically dismiss them as pests and vermin. Likewise, while one cannot often say this of Lopez's work, *Of Wolves and Men* could be classified as an early instance of

Anthropocenic nature writing, because its point of departure is the large-scale cultural-material intervention of human beings in the lives of these animals and their habitats.

In the nature writing of the Anthropocene, it is the descriptive passages of material nature writing that tend to promote the dignification of the overlooked. This is where the function and importance of often overlooked or denigrated organisms and processes are explicated, frequently aimed to produce a perspectival adjustment in the readers that provides them with a sense of the complicated and dynamic embeddedness of these organisms in the environment. The dignification of the overlooked and the preoccupation with functionality rendered in the mode of material nature writing also furthers an understanding of the “insurgent vulnerability” of the featured ecosystem or organism, to borrow Alaimo’s term. As Alaimo suggest, recognizing the ways that material intra-actions with “the wider environment” expose bodies to risk can lead to “ethical and political responses” (*Exposed* 94). It is precisely in order to elicit such responses that nature writers dramatize the “insurgent vulnerability” of overlooked organisms.

Alaimo suggests that “insurgent vulnerability” could be understood as synonymous with what she calls “a politics of exposure, in which the environmentalist recognition of having been exposed to such things as carcinogens, endocrine disruptors, and radiation arouses a political response ... which does strip off the conventional armor of impermeability that blithe capitalist consumerism requires” (94). While Alaimo refers to the exposure of human bodies primarily, Anthropocenic nature writing foregrounds the insurgent vulnerability of all nature. It brings attention to the many ways in which nature has been exposed to and remains vulnerable to the harmful dynamics that characterize the Anthropocene. Humanity is doubly at stake in these scenarios of exposure. Not only are they the perceived perpetrators of harm, but when stripped of “the conventional armor of impermeability that blithe capitalist consumerism requires” humanity is also shown to share in the “insurgent vulnerability” of other species and ecosystems. The scientific interest in ecosystemic functions, the dignification of the overlooked, and the mode of material nature writing all contribute to a “politics of exposure” in Anthropocenic nature writing that is designed to provoke activism. The confrontation with anthropogenic destabilizations and degradations to ecosystems leads to dramatizations of insurgent vulnerability that includes all lifeforms.

The emphasis on insurgent vulnerability also has to do with nature writing’s penchant for specification and particularization. Discussions of the Anthropocene are prone to positing matters of culpability at the abstract scale of an aggregate humanity. This is a scale at which individual agency and responsibility all but evaporates. The suffering of humans and non-humans also vanish from sight at these scales. Material nature writing, the dignification of the overlooked, and the emphasis on ecosystemic function in Anthropocenic nature writing are all means by which the large-scaled phenomena of the Anthropocene are grounded in the specificities of localized and individualized examples. They are mechanisms in nature writing for the concretization of environmental culpabilities, costs and distress. They foreground the ways in which humans and non-humans depend on the continued, but threatened, functionality of the various ecosystems of the earth. The scientific interest in the way ecosystems work provides information about

dynamics in nature that readers may be entirely unaware of, as well as of often unknown anthropogenic pressures on these dynamics. The dignification of the overlooked foregrounds the ecosystemic services of species and processes regardless of their charismatic values, and the ways by which their existence has become precarious in the Anthropocene. Material nature writing traces the often unseen streams of matter and their effects through bodies and ecosystems in specific frames of reference, highlighting the often long-term consequences of human behavior. When these perspectives are focused through the place or species-specific lens of nature writing, these features of the genre serve to ground many of the abstract phenomena of the Anthropocene with concrete examples.

The scientific preoccupation with the function of ecosystems encourages a change in awareness. In *Hyperobjects* (2013) Morton describes the Anthropocene as “a momentous era, at which we achieve what has sometimes been called *ecological awareness*. Ecological awareness is a detailed and increasing sense, in science and outside of it, of the innumerable interrelationships among lifeforms and between life and non-life” (128: emphasis in the original). Anthropocenic nature writing affirms “ecological awareness” of the innumerable interdependencies that characterize existence, even as it also promotes the Anthropocenic awareness of the countless ways in which these “innumerable interrelationships” are exposed to multiform anthropogenic pressures. Even as it expands its horizon to engage with environmental phenomena that span the planet, the nature writing genre’s traditional drive towards particularization and individualization leads the nature writing of the Anthropocene towards the more concrete dignification of the many potential victims as the functionality of ecosystems across the planet comes under threat. The ecological awareness of interconnection coupled with Anthropocenic awareness brings the human sufferers of environmental decline more profoundly into focus than they have previously tended to be in the genre. The politics of exposure in Anthropocenic nature writing begins to level the field between humans and non-humans, suggesting that all, to various degrees, share in the perils of the Anthropocene. Just as the dignification of the overlooked foregrounds the ways in which ecosystems and organisms are unevenly impacted by industrial humanity along fault lines of their charismatic appeal to politically and economically enfranchised human beings, such nature writing is also increasingly aware of the ways in which ecological perils, while increasingly relevant to all humans in an age without what Alaimo calls the “conventional armor of impermeability that blithe capitalist consumerism requires” (*Exposed* 94), continue to be distributed unequally among humans according to class, gender, wealth and ethnicity.

The scientific investment in the function of ecosystems thus leads to knowledge of the many ways in which humans are both disrupting ecosystems and dependent on them. The shift towards ecological and Anthropocenic awareness in nature writing consequently motivates environmental justice perspectives in the genre, both in terms of identifying various culprits of environmental damage, and showing the many different human and non-human victims. In *Slow Violence and the Environmentalism of the Poor* (2011) Rob Nixon outlines an understanding of environmental injustice as particularly impactful on the poor. Nixon asserts that environmental damage must be understood as a form of violence, and since this type of violence is predominantly characterized by effects which are distributed

across various scales of time, he refers to it as “slow violence” (2). “Slow violence” is an overlooked dynamic, according to Nixon, which “occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all” (2). Because slow violence is unperceived and unrecognized, he refers to its sufferers as “discounted casualties” (2). Nixon also affirms that recognizing these casualties must take into account both human and non-human victims. Slow violence is the type of overlooked dimension of environmental decline that Anthropocenic nature writing has begun to bring to the forefront. Because it includes the human in its descriptions of environmental precariousness in the Anthropocene’s many interconnected landscapes of fear, the human is brought into unprecedented positions of centrality in nature writing both as perpetrator and victim of slow violence. Anthropocenic insights thus change the sense of proximity of humans with regard to environmental struggles, from the preservation of wilderness as something out there and distinct from the human realm, to efforts at maintaining dynamic systems within which humanity is irrevocably embedded.

There is thus a sense in which Anthropocenic nature writing tends to personalize the links between the implied reader and the environment by underscoring the material trans-corporeal webs of attachments between them. This is often coupled with tendencies to position the reader within an evolutionary scheme, stressing the ways in which the human species, and most of its limitations and abilities, has itself emerged through material intra-action over time with the environments it has historically inhabited. The links these texts thereby highlight are personalized in the way they are linked to the human, and evolutionary, in the way humans are represented as emerging forms of evolutionary negotiations between bodies, ecosystems and places, and finally social, in the way the infrastructure of industrial societies now materially inflect all these links. Anthropocenic nature writing often individualizes slow violence by tracing the ways in which ordinary people and behaviors are implicated in phenomena that cause suffering or are themselves unknowingly exposed to slow violence. The nature writing of the Anthropocene thus positions its reader centrally within the complex entanglements it traces.

Chapter One: Confronting Environmental Change in Ellen Wohl's *Of Rock and Rivers*

There are no natural places in the sense of true wildernesses that have never been altered by humans, for humans now indirectly alter the entire planet with global warming. (Ellen Wohl, *Transient Landscapes* 1)

One of the penalties of an ecological education is that one lives in a world of wounds. (Aldo Leopold, *Sand County Almanac* 197)

Few writers of the past decades have written as explicitly to adjust the core story of American nature writing, or been as outspoken an Anthropocenic voice in the genre, as Ellen Wohl. As mentioned above, Randall Roorda sums up the traditional pattern in which “readers of nature writing, like those of popular fiction genres, seek out repeated instantiations of a certain core *story*” (3; emphasis in the original). As noted, he identifies this “core story” as “the narrative of retreat,” a story in which “the primary movement or quest is the movement outward from the human to the nonhuman – the retreat to solitude in nature – then back again in the retellings of the text” (18). For Roorda, nature writing is “that branch of literature’s human estate which deals particularly with what is not human” (1). In *Of Rock and Rivers* Wohl subverts the core story of the retreat in multiple instantiations. “The retreat to solitude in nature” inevitably leads Wohl to confrontation with evidence of human interference. Wohl permits no exceptions to this pattern of subversion. In her writing there is no longer an option of dealing “particularly with what is not human.” The multiple human impacts on nature have reached a scale at which nature can no longer be discussed or described without fully integrating this knowledge at every stage. For Wohl it is an ethical imperative to confront the actual condition of nature, that the stories we tell of nature must now acknowledge that ecological declines are pervasive everywhere, and she is convinced that work towards improvement can only proceed from this better informed baseline.

Wohl is not a nature writer primarily, but a geomorphologist who has advocated the Anthropocene as a useful concept in her scientific writing to stress the role of humans in shaping the current era.² Her orientation towards the Anthropocene is pragmatic in nature, as she is more concerned with foregrounding the scale of anthropogenic landscape changes that she has observed through a lifetime of research and fieldwork around the world, than

² See for example “Wilderness is Dead: Whither Critical Zone Studies and Geomorphology in the Anthropocene?” (2013).

with promoting a correct label for the present times. Since 2009, Wohl has published two books of nature writing that with particular force incorporate the widespread impacts of industrial humanity into the nature writing narrative of retreat: *Of Rock and Rivers: Seeking a Sense of Place in the American West* (2009) and *Transient Landscapes: Insights on a Changing Planet* (2015). Although Wohl does not use the term “Anthropocene” in her nature writing, *Of Rock and Rivers* subjects the American West to a geomorphologist’s Anthropocenic reappraisal in a way that overwrites longstanding notions in American nature writing of the West as one of the last holdouts of pristine wilderness. *Transient Landscapes* performs a similar task with landscapes all around the world that Wohl has visited in a professional capacity, but this book does not perform a similar critique of the nature writing genre as its predecessor. Central to the core story of both books is their attention to the dynamism of matter, which infers the dynamism of landscapes, which in turn infers the dynamism of the planet, as is partly indicated in the title of *Transient Landscapes*. The concept of material dynamism imparts a sense of changeability to entities commonly understood as stable – such as landscapes – and is used by the writer to make plausible the prospect that humans can have large-scale impacts on these entities.

While *Transient Landscapes* may be the more Anthropocenic text because it is a collection of vignettes from landscapes from all over the world, thereby presenting a more global sampling of places, it is somewhat limited in thematic scope, and thus *Of Rock and Rivers* is by far the more interesting text in the present context. In this book, the author’s ambitions extend well beyond that of pointing out human-induced declines in various places, although that is certainly a feature of this book too. What I intend to establish in the following is that *Of Rock and Rivers* reads like an intervention in the nature writing genre that both critiques the way landscapes are explored in traditional nature writing, and models a new way for landscapes to be described in the Anthropocene based on Wohl’s conceptions of the dynamism of matter. As we will see, Wohl’s book exemplifies many of the defining features of Anthropocenic nature writing as outlined in this study.

Situating Wohl’s Nature Writing in the Anthropocene

The shift one can argue is taking place in the core story of nature writing has ethical motivations that correlate with a shift in the way writers perceive the genre’s subject matter of nature. Roorda believes “the public function” of nature writing to be “the transmission of the land’s own dictation or counsel” (189). This is a common way for early or first-wave ecocritics to think about the relationship of nature writers to the natural world and the societal role they purportedly fulfill. In his discussion of John Muir, for example, Roorda notes how “[n]ot Muir but the place itself seems to do the writing,” commenting that “[h]is full attention seems drawn to his surroundings, and as a virtue of this, they cease to surround him” (177). Roorda puts forth that nature writers’ close relationship with nature invests their work with “an exemplary ethical character,” but that “[t]hey maintain that this ethical character is not vested in them personally, that the places they frequent are themselves equipped to give counsel” (189). He quotes what he regards as a “typical formulation” from nature writers like Gary Paul Nabhan, saying “[n]ature counts as a

model, a guide”” (qtd. in Roorda 189), and Gretel Ehrlich as stating that it is enough to “live in a place and let it tell you how to live” (qtd. in Roorda 189).

Over the course of especially the first half of *Of Rock and Rivers* Wohl sets two conflicting versions of approach to the landscape of the American West in tension with each other. This contrastive tension highlights what can be considered one of the problems with the idea of nature writers “transmitting” nature’s “dictation or counsel.” The first half of her book has a strong component of memoir within which Wohl narrates the way she perceived the region prior to her scientific training, which does not harmonize at all with what she was later able to read off the same landscapes after her completed training as a geomorphologist. Wohl’s example of how the absence and presence of scientific training resulted in two irreconcilable versions of the same landscape undermines the trustworthiness of the “dictation” nature writers are supposedly able to take from the land. The discrepancy between versions of landscape is important, because Wohl shows that where the uninformed view finds a “pristine landscape” (234), “the last remnant of a largely vanished world that I was privileged to share” (234-5), the scientifically trained view sees a “dire situation” (231) where the landscape is suffering so severe ecological declines that humans are put at risk. The first view above is clearly pacifying, transmitting a sense that all is well, but the second view is activating, sounding the alarm.

Reasoning along a slightly different trajectory to Roorda’s, Daniel Philippon has suggested that “[n]ature writing might best be defined ... in terms of its expansive subject: the interaction of nature and culture in a particular place” (*Conserving* 10). The term “interaction,” to Philippon, implies the genre’s ability to change over time,³ as the character of the “interaction” between nature and culture itself goes through changes. The emphasis in *Of Rock and Rivers* is on the way in which Wohl differs from most nature writers in perceiving “the interaction of nature and culture” in the American West, and on the altered style of writing she believes her alternative perspective should motivate. At the end of *Transient Landscapes* she notes:

My observations of landscapes around the world and my insight into the changes those landscapes have undergone as a result of human actions make it easy for me to understand that, despite the physical frailty of individual humans in the face of natural forces, together humanity can change climate, water, sediment and nutrient cycles, and ecosystems – rapidly and dramatically. I find it difficult to understand that other people do not draw this obvious inference from the proliferating examples of landscape change. (224)

The sense of humanity as a collective force that Wohl articulates above resembles what Timothy Clark in *Ecocriticism on the Edge* (2015) calls the “transpersonal agency” of humanity. Clark understands “transpersonal agency” as a feature of the Anthropocene, and describes it as “an agency that must now, for the first time, be posited ‘as operating at the universal level of the human species as a whole – a super-subject beyond all possible

³ In spite of being mostly out to discredit the genre, Dana Philips also admits in *The Truth of Ecology* that nature writing has this capacity for change (238).

subjective experience” (14). As Clark sees it, “humanity as a geological force ... is a power that barely recognizes itself as such and which is not really capable of voluntary action or planning, as it arises from the often unforeseen consequences of the plans and acts of its constituents” (15).

There is certainly a sense in which humanity figures as a depersonalized material force in *Of Rock and Rivers*, a force that interacts with nature and exerts a shaping influence on the places discussed in the book. Wohl shows that this is a force that victimizes humans and non-humans in equal measure as it meddles with nature’s own material forces at minute and titanic scales. Nevertheless, more often than not it is as if Wohl distrusts speaking for long about humanity in such depersonalized and abstract terms. While the sense of humanity as a force is intrinsic to her text, Wohl goes to great lengths to make that force specific, tracing the lines of accountability from specific environmental damage all the way back to its often many originators. Thus Wohl distances herself from the more abstract concept transpersonal agency, which does not really place accountability anywhere.

In narrative terms, Wohl’s focus on humanity’s environmental impacts is at its most transpersonal when her thinking is most deeply colored by her scientific training. This is understandable, as she outlines how a geomorphologist is trained:

I pay attention to climate, ecological communities, and human resource use, because geomorphology focuses on processes that shape landforms such as coastlines and river basins, and landforms reflect the interactions among climate, geology, plants and animals, and other factors. (xv)

The geomorphologist’s eye, as readers are given to understand, is trained towards a grand scale at which it is logical that humanity mainly registers collectively, as a somewhat depersonalized force. This impression resonates with Wohl’s commentary on her perception of an Anthropocenic condition in nature:

As a river geomorphologist, I find it largely impossible to ignore human influences on landscapes. Very few regions of Earth’s surface have not been altered by human actions within the past few hundred years, even if these alterations are not apparent at first glance. And as scientific consensus has built that people are changing global atmospheric circulations patterns and climate, it is increasingly clear that no place on Earth can be considered truly free of human influence. (xv-xvi)

At this level of perspective, Wohl sees a version of the interaction of nature and culture that in a sense nullifies Roorda’s concept of the retreat from the human as a viable dynamic in nature writing. If no place is unaltered, then retreat in the traditional sense is impracticable. What is more, the shifts Wohl perceives in the natural world are damaging, and they are thus not something from which to her mind a retreat is condonable: “The applied research in particular has gradually led me to the conviction ... that ... negative human influences on landscape are accelerating alarmingly as global population continues to explode” (xvii).

Ultimately it is this sense of alarm at the acceleration of anthropogenic impacts that brings Wohl to the genre of nature writing.

It may seem odd that Wohl turns to nature writing to convey what she has learned of these large and often abstract shifts in the earth towards an increasingly anthropogenic planet, due to her apparent skepticism to the type of core story that defines many of its narratives of retreat in the American West. However, precisely because of its penchant for specificity and its place-mindedness, nature writing becomes the lens she uses to ground her sense of planetary transformation in a far more specific sense of local transformation. This grounding, which serves to situate problems and solutions related to the Anthropocene, renders even individual contributions meaningful. Also the first-person style of nature writing provides a platform for countering Clark's notion of an aggregate humanity that is "beyond all possible subjective experience" mentioned above,⁴ by showing how the knowledgeable individual can engage in many ways with the forces of the Anthropocene from specific local contexts. The personalized and subjective format of nature writing also provides her with an outlet for her frustration at science's ideals of objectivity, which would have her "state her observations [regarding environmental issues] and leave it at that" (xvii), a professional restraint Wohl chafes at. The particularizing and personalizing thrust of nature writing is thus set in productive tension with the often more abstract and objective knowledge of science in *Of Rock and Rivers* to articulate a new core story for nature writing. This new core story is adapted to Wohl's understanding of a rapidly changing planet, and her sense of the moral imperative towards communicating these changes to others. Retreat may thus perhaps no longer be the best word to describe the nature writing posture modeled by Wohl, but as the narrative momentum is still outwards towards sparsely inhabited locations, and as the motif of reporting from these locations remains important, the label may still suffice.

From Rhapsodizing to Politicizing in Wohl's Nature Writing

The shifting core story in Anthropocenic nature writing that emerges in *Of Rock and Rivers* entails an ethical reorientation, shifting even a natural history essay such as Wohl's, which is often considered nature writing's least political mode,⁵ towards activism. Speaking in defense of environmental literature, among other things, Donna Haraway asserts in "Otherworldly Conversations, Terran Topics, Local Terms" that "[i]n the United States, storytelling about nature, whatever problematic kind of category that is, remains an important practice for forging and expressing basic meanings" (160). Nature writing represents a "storytelling" tradition that has had particular impact on environmental

⁴ Note for example Bill McKibben's symptomatic assertion in "Global Warming's Terrifying New Math" that "[p]eople perceive – correctly – that their individual actions will not make a decisive difference in the atmospheric concentration of CO₂" (np).

⁵ In his taxonomy of nature writing Tomas J. Lyon writes: "[t]he defining characteristic of the natural history essay is that whatever the method chosen for presentation, the main burden of the writing is to convey pointed instruction in the facts of nature" (*This Incomparable* 21). The essay is characterized by "expository information" that is "fitted into a literary design so the facts then give rise to some sort of meaning of interpretation" (21). This describes the design of both *Of Rock and Rivers* as well as David George Haskell's *The Forest Unseen*, as will be shown in chapter 2. The natural history essay tends to be one of the least overtly politicized modes in Lyon's classification table, where the most activist category of nature writing is "man's role in nature" (22).

thinking in America since the nineteenth century. Because so many practitioners of the genre have sought the type of retreat identified by Roorda, to places perceived as pristine, the register of a large portion of the genre's literary output has tended strongly towards the celebratory. This tendency towards celebration of intact places has made nature writing the target of much academic criticism, perhaps most memorably expressed by Dana Phillips, who satirized a genre that "flourishes" mainly "because it doesn't breathe very much of the atmosphere of the present day" (234). In sarcastic tones, Phillips asserts that "the most awestruck of today's nature writers are living in a cultural time warp; they are trying to be not only premodernist but premodern as well" (234). For Phillips "[t]his means that today's nature writers are forced to overlook the actuality of the landscape we have made for ourselves, so that they can fix their sights on more ideal terrain, which they hope to conquer and settle in spirit" (234). In other words, Phillips does not find nature writing fit as a method "for forging and expressing basic meanings," (Haraway 160). Wohl shares many of the misgivings about nature writing that motivate Phillips' critique, but the shortcomings of some authors⁶ do not distract her from marshalling the capacities of the genre to tell a story better suited to the environmental context of the present times.

Of Rock and Rivers proves that the wholesale dismissal of nature writing as a genre ignorant of its own times is specious, or at least premature. Phillips' criticism has had an enduring influence on ecocritical thought regarding nature writing, and it therefore seems incumbent to point out that the bibliography for his critique of nature writing is highly selective. His selection of source texts proves that he has not looked very hard or far outside the most popular items for texts that might disprove or moderate his assault on the genre. Several of the Anthropocenic nature writers mentioned in this study were already active at the time of Phillips' attack – such as John McPhee, Gay M. Gomez and Bil Streever – and against their work his charge that nature writers "overlook the actuality of the landscape we have made for ourselves" falls utterly flat (234). An even more conspicuous absence from his analysis is *Refuge: An Unnatural History of Family and Place* (1992) by Terry Tempest Williams, a bestselling and highly influential book of nature writing that is poignantly attuned to the particulars of an irradiated landscape humans made as a cause of breast cancer for the women in the author's family. It is disturbing that an influential and well-received academic publication can be based on what is clearly a tactical selection of primary sources. More so, since the text, while making several good points, also makes ill-conceived ones, such as, "[t]his much advantage, at least, the coelacanth and the horseshoe crab have over the nature writing tradition: better

⁶ In fairness to many of the nature writers Phillips targets in his critique, it should be noted that many of their works that Phillips focalizes were published much earlier than *The Truth of Ecology* (2003), like for example Barry Lopez's *Arctic Dreams* (1986) and Annie Dillard's *Pilgrim at Tinker Creek* (1974). While these are canonical publications in the genre and merit inclusion in most genre studies, it seems excessive to base a wholesale dismissal of the environmental merits of the genre on books that were already old at the time of Phillips' attack. Phillips nonetheless does so, holding forth "*Pilgrim at Tinker Creek* as an exemplar of contemporary nature writing" (195) in spite of it predating his text by 29 years. Using Dillard as an example of contemporary nature writing becomes doubly perplexing if one considers that Moira Farr in "The Death of Nature Writing" (1993) considered Dillard "arguably the last human being who could, in any convincing way, write about nature as though it were wholly clean" (qtd. in Philippon 396) because Dillard's text was written well before widespread awareness of climate change.

arguments have been put forward for their preservation” (238). In *Of Rock and Rivers* Wohl confronts many of the issues related to the genre that vex Phillips, but she does so without his overt antagonism, choosing to exemplify how the genre can do a better job of “forging and expressing ... meanings” pertinent to present times, rather than condemning the genre outright.

In her revisions of the conventions of the genre, Wohl turns towards its well-established features, rather than dismissing its legacy. In contrast to what Phillips seems to think, the structures for writing environmentally minded nature writing have been in place for some time. As mentioned earlier, one of my misgivings about the term “new nature writing” in an American context is that the term misrepresents the influx of environmentalism in the genre as something new, particular to the present time. While this may be accurate regarding the British tradition, it is not at all correct for the American tradition, even in the case of what could be referred to as traditional or conventional nature writing. In *Conserving Words: How American Nature Writers Shaped the Environmental Movement* (2004), published only a year after *The Truth of Ecology*, Philippon provides an overview of the long legacy of influence nature writers have had on the environmental movement in America, stressing how the two have evolved together and should not be understood in isolation. Adjusting the impressions put forward by Roorda and Phillips, Philippon argues that “[a]lthough nature writing, in the Thoreauvian tradition stresses the romantic individualist, the relationships between the nature writers and environmental organizations I discuss in this book remind us that nature writing need not necessarily be romantic or individualistic” (25). He concludes that nature writing “has had as much to say about culture as it has had to say about ‘nature’” (25). At the core of environmentalism in American nature writing, Philippon finds the two almost antonymic modes identified by Scott Slovic as “the rhapsody” and “the jeremiad” (23). As we will see, in *Of Rock and Rivers* Wohl uses these two modes to produce a form of nature writing where the retreat leads to neither romanticism nor individualism, but towards a sense of collective human investment in dealing with pervasive environmental declines.

In his more recent “Is Nature Writing Dead?” (2014) Philippon again identifies the “rhapsody” and the “jeremiad” as the rhetorical modes of much of the genre’s environmentalism. In spite of critics’ claims to the contrary, he observes that “[w]hile not all nature writing has had an explicitly political agenda, much of it has contained at least an implied desire to reorder individual and societal priorities, and so to some extent the genre shares the activist bent of its critics” (397). “The rhapsody” and “jeremiad” are often the twin dynamics in this activist disposition as he perceives it in the genre. He argues that Slovic

distinguishes between two dimensions of nature writing: the rhapsodic, epistemological mode (in which writers explore and celebrate ‘the nature of the universe and the relationship between human beings ... and the natural world’) and the mode of the political jeremiad (in which writers seek to persuade their audience ‘to adopt a new perspective by pointing out problems with readers’ current way of thinking’). (397)

As these dimensions of nature writing are activated in *Of Rock and Rivers*, the jeremiad takes on a far more dystopian quality that checks and undercuts the outbursts of rhapsodic celebration. Slovic seems somewhat wary of this potential of the jeremiad to replace the rhapsody. Both Slovic and Philippon perceive the rhapsody as the primary mode of nature writing and the source of its most valuable output. The jeremiad is considered by both as an occasional political interval in mainly rhapsodic texts. Slovic qualifies his position on the two modes: “the great advantage of the jeremiad ... is in the shock-effect, which leads to immediate, albeit short-lived awakening” (“Epistemology” 105). For Slovic, the rhapsody is the mode of nature writing with the greatest capacity for facilitating long-term ethical changes: “the more significant, long-term transformation of values is the work of writers who emphasize fundamental epistemological discoveries and whose political concerns, if any, are blurred with or deeply embedded in the epistemological” (105). Wohl’s work is predicated on the reverse assumption to Slovic’s. For her the jeremiad is the tool best equipped to give readers an accurate understanding of the landscape at hand, and thus also for facilitating long-term adjustments to their value systems.

There is a partial schism at this juncture, between Phillipon’s and Slovic’s thinking on the one hand, and Wohl’s on the other. There is no option for Wohl of emphasizing “fundamental epistemological discoveries” in ways that leave political concerns “blurred or deeply embedded.” To the contrary, these dynamics are reversed in Wohl to the point where it often seems that the rhapsody is embedded in the political concerns voiced in the jeremiad. There is no accurate way of apprehending nature for Wohl that excludes sustained awareness of human impacts. For Slovic in particular the epistemological mode is connected with the rhapsody: “I associate the epistemological mode of nature writing with the rhetorical act of rhapsody (or celebration), for the simple process of expressing deep, ingenuous interest in a subject is, implicitly, a statement of appreciation – a celebration” (84). The more deeply epistemological Wohl’s book becomes, however, the more clearly the rhapsody is displaced by the jeremiad. It is the deepening of knowledge that undercuts the potential for rhapsody in *Of Rock and Rivers*. In the first half of the book Wohl dramatizes how her initial “deep, ingenuous interest” in the American West misleads her to rhapsody, but as it motivates her education as a geomorphologist, her interest eventually also leads her to an understanding of the landscape that requires the jeremiad.

What Wohl’s work exemplifies regarding the nature writing of the Anthropocene is that, while Slovic’s discursive strains of rhapsody and jeremiad retain central positions, the balance between them has begun to shift markedly. This shift in balance towards the more overtly politicized mode of the jeremiad comes from engaging in deeper studies of the landscape than what the rhapsody performs. The political concerns of Anthropocenic nature writing can thus be considered “deeply embedded in the epistemological,” but they are overt and clear, rather than “blurred.” In the following, I intend to explore more deeply how each of these dimensions of nature writing produces distinctive and changing textual landscapes within the larger frame of thorough human-induced landscape changes. While in conventional nature writing the rhapsody for the most part produces odes to the seemingly wild parts of the world in their visually more or less untrammelled forms, Wohl intentionally downplays the potential of the rhapsody to raise environmental awareness and

adopts the mode of the jeremiad. What follows is a reading of Wohl's book as a nature writer's dramatization of the shift in approach towards more heavily politicized landscape representations that the author perceives as necessary responses to a declining environment.

From "Space" to "Place" in Wohl's American West

The subtitle of Wohl's book – *Seeking a Sense of Place in the American West* – along with the title for the first part of her book – "Discovering the West" – and the title of her second chapter – "A Sense of Space" – are suggestive in terms of Wohl's estimation of the body of literature devoted to this region. In *Space and Place* (1977), Yi-Fu Tuan points out that "[s]pace" is more abstract than "place." What begins as undifferentiated space becomes place as we get to know it better and endow it with value" (6). Implicit in Wohl's subtitle is the notion that a true sense of place has yet to be found in the American West, that it remains "abstract" and "undifferentiated." The title of the book's first half underscores this interpretation, as it too casts the West as an unknown, something to be discovered. Finally the title of the book's second chapter plays both on the common emphasis of the word "space" in terms of the geographic spaciousness authors are quick to perceive in the West, but also on the sense that understandings of the region's landscapes have yet to move beyond this superficial sense of this geographic openness.

Part of why Wohl is concerned with finding a sense of place in the American West has to do with a belief shared by many nature writers, which sits at the root of what they have often thought about as their ethical work. Nature writer Wendell Berry is responsible for the perhaps best-known articulation of this idea: "We know enough of our own history by now to be aware that people *exploit* what they have merely concluded to be of value, but they *defend* what they love. To defend what we love we need a particularizing language, for we love what we particularly know" (*The Unforeseen* 41; emphasis in the original). The task of particularizing places has been something for which many nature writers have considered their genre eminently suited, and it has often been thought of as the genre's most important activist work. In *Seeking Awareness in American Nature Writing* (1992) Slovic, for example, identifies one of nature writer Barry Lopez's purposes as that of cultivating an "intimacy" with landscape that he hopes may be extendable to his readers (16), or as Lopez puts it himself in *Arctic Dreams*: "We need a more particularized understanding of the land itself" (11). This notion that the descriptive prose of nature writing serves the function of particularizing places for readers in a way that makes them care for these locations, even if they have never visited them, represents an example of what Philippon refers to as the genre's "implied desire to reorder individual and societal priorities" (*Is American* 397). Particularizing a place is believed to increase the likelihood that readers will come to "love" and "defend" these places.

Of Rock and Rivers dramatizes two modes of particularization – that of nature writing and that of science. Right after his famous formulation in favor of particularization, Berry goes on to critique "the abstractions of science" for being "too readily assimilable to the abstractions of industry and commerce, which see everything as interchangeable or replaceable by something else" (41). Berry opines that "[t]his is a rhetoric of nowhere, which forbids a passionate interest in, let alone a love of, anything in particular" (42).

Wohl's writing suggests the opposite of Berry's point. In *Of Rock and Rivers* it is science that particularizes places with accuracy. The scientific gaze is trained and specific, uncovering a much deeper perception of the ecosystemic functions in place than what is available to an untrained perspective. Philippon, for his part, notes the increased reliance of nature writing on scientific research in recent years (402). Wohl, more purposefully than any writer considered in this study, exemplifies this trend. She writes to underscore the need for integrating science more comprehensively in descriptions of nature. What she shows in *Of Rock and Rivers* is how science serves not as a voice for abstraction, but as a tool towards particularizing and exactitude that produces an understanding of Western landscapes that casts serious doubts on the merits of the landscape descriptions of nature writing that still presents this region as pristine.

Wohl's book exhibits some of the most significant overall tendencies in current nature writing, tendencies towards change that are taking place under the pressure of increasing knowledge. Wohl summarizes her project as follows: "The entire collection of essays traces changes in my sense of place that resulted from my research as a geomorphologist and from more direct experience of specific places within the West, particularly as these direct experiences contradicted stereotypes of the West" (xviii). The text is structured to reflect the transformation of Wohl's own mindsets as a writer, from a classic nature writer to an Anthropocenic nature writer. The dawning of what can be referred to as Wohl's Anthropocenic awareness takes form in the space of discrepancy between the author's initial impulse towards rhapsodizing, and the evidence her increasingly scientific gaze discerns of what she calls "human-induced change" (28). This friction between modes of perception and particularization forms the narrative backbone of *Of Rock and Rivers*, which is split into the two halves "Discovering the West" and "Inheriting the Past." The first half of the book dramatizes the way Wohl's education as a scientist in the discipline of geomorphology profoundly altered her perception of the American West. The second half models the type of nature writing she believes to be appropriate and necessary to the altered sense of place that emerges in the process of "Discovering the West."

Wohl's Material Nature Writing

The core story Wohl constructs in *Of Rock and Rivers* takes place in a dynamic landscape characteristic of Anthropocenic nature writing, where matter itself is construed as mobile and reactive. Wohl seems to share Jane Bennett's belief that whether the world is perceived as dynamic or inanimate has ethical consequences. In *Vibrant Matter* (2010) Bennett sets up a tension between inert and dynamic perceptions of the material world that could also be used to summarize Wohl's approach: "[i]f I am right that an image of inert matter helps animate our current practice of aggressively wasteful and planet-endangering consumption, then a materiality experienced as a lively force with agentic capacity could animate a more ecologically sustainable public" (51). Wohl dramatizes the vitality of matter at multiple different scales, partly towards this end, but also simply because she has been educated to see this as a more accurate depiction of landscapes. Perhaps most surprisingly she insists on

perceiving as mobile even the very largest and most durable features of the landscape. She also holds to the intertwining of humanity in this geologic vibrancy:

Learning the desert's geologic and human history was like seeing a time-lapse movie of landscape change. I imagined mountains rising and being worn down, seas advancing and receding. At closer focus, I imagined the processes by which the mountains rose and fell: the volcanism and the faulting that sent shock waves of earthquakes in all directions, interspersed with rock-falls and landslides that brought the mountains down. I imagined Paleolithic hunters pursuing mastodon across lush savannas, and cotton farmers diverting the flow of rivers across their fields. If I could not comprehend deep geologic time, I could at least appreciate that geologic processes were ongoing, and that humans interacted with these processes in complex ways. The contemporary landscape became but one frame of a constantly changing movie. Probably the most important lesson I learned during my first years in the desert was that few shared my appreciation. (25-26)

What Wohl is doing above is a typical practice of Anthropocenic nature writing of taking into account evolutionary and geologic time, the purpose of which in this instance can be illuminated with reference to Bennett's proposal that "the claim to a vitality intrinsic to matter itself becomes more plausible if one takes a long view of time. If one adopts the perspective of evolutionary rather than biographical time, for example, a mineral efficacy becomes visible" (10). Visualization of Anthropocenic processes that one cannot detect by merely looking at a landscape represents a key aspiration of the nature writing of the Anthropocene, and of Wohl's in particular. This is a reason why such nature writing often bestrides multiple timescales, the interconnected events across temporalities beyond the immediate moment, as will be shown with reference to Wohl below.

While the passage above does not describe a particular landscape, in the pages that follow Wohl makes clear why the fact that few share her vision of the dynamic landscape is a serious issue. She starts an ongoing catalog that is sustained throughout *Of Rock and Rivers* of humans settling in dangerously active areas, prone to flooding, rockslides, mudslides, or rock-falls, because they perceive the landscape as static:

Some of the very expensive houses also backed onto picturesque collections of huge boulders and even incorporated the boulders into their landscaping. What seemed to be missing was recognition that the boulders had been produced by rockfall, an episodic but ongoing process. Similarly, houses perched next to shallow dry channels suggested that neither builder nor occupant realized that those channels would fill, overflow, and perhaps erode their banks and move sideways during any rain heavy enough to generate runoff. (28)

In *Of Rock and Rivers* the ground itself is set in motion. The above are just two of the more overt examples of how ignoring the reactive character of the American West creates potential for disaster. Living with the flawed impression of landscape stability can be

acutely dangerous: “I felt as if I were watching a loaded cannon pointed at those houses” (102). While the image of the loaded cannon may strike some as hyperbole, Wohl underscores the fact that the rate of change in a landscape is by no means as slow as one commonly imagines, but may develop at explosive speed:

Those who admire mountain scenery and wish to live in it must realize that the scenery is not static. The mountain and valleys were not created in an instant and then left unchanging, nor does change occur at such immensely long timescales that an individual human will never observe it. Large changes in the landscape are compounded of successive small changes that can be immense for a human. (102)

Like Bennet, Wohl considers the static view of matter as a cause for concern, and a misconception to be adjusted. The examples discussed so far are among the most overt engagements with the dynamism of matter in *Of Rock and Rivers*. Wohl moves towards a perhaps even more consequential environmentalism when she engages with the “agentic capacity” of matter, to borrow Bennett’s term (51), in her extensive studies of the trans-corporeal exchanges of minute materials between the bodies of various organisms in the American West.

The concept of trans-corporeality mentioned above can, as Alaimo explains in *Bodily Natures*, be understood as “[a]ttention to the material transit across bodies and environments” (16). While for Alaimo the material transits under investigation are most commonly those between human bodies and their environments, she opens the term to wider applications. In *Of Rock and Rivers* Wohl traces the “material transit across bodies and environments” as she has been trained to understand this process with reference to the landscapes of the American West and its human and non-human denizens. When writing about the increasing use of fertilizers as a result of irrigation washing nutrients out of the soil, for example, Wohl notes that this “in effect meant maintaining crops at the expense of everything else around them” (114). Her rationale for this statement outlines the transit of the fertilizers applied locally at the farm, as they migrate trans-corporeally through the landscape, activating varying consequences at widely different scales as they move along:

The excess fertilizers flowed into streams along with runoff and seeped into the underground waters. Nitrogen and phosphate caused algal blooms and depleted oxygen levels in the streams, killing off aquatic organisms. Water draining from farm fields ultimately flushed so much nitrogen into the Mississippi River system that the Gulf of Mexico began to experience huge dead zones, where the water was so depleted of oxygen that nothing could survive. Nitrogen in the wells of farming communities caused lymphatic cancer and, by preventing blood from carrying sufficient oxygen to the body’s tissues and cells, blue-baby syndrome. (114)

Here Wohl turns her focus on the permeability of landscapes and the organisms that inhabit them, and their vulnerability to the material agencies set in motion by human actions that were not intentionally harmful: “None of these consequences were foreseen or intended”

(115), Wohl emphasizes. Rather, they were part of an attempt to “create a better life” for the people of the region where they were implemented (115). Wohl attributes the problems that arose to the fact that the people who set these events in motion, “never really saw the environment that they immediately set out to change” (115). Partly this returns us to the perceptual misalignment between a view of landscapes as passive receptacles for human actions, and a view of landscapes as dynamic entities that react to human actions in ways that often go beyond human planning and intentions.

Material nature writing is more than just a means of narrating how contamination infiltrates places in *Of Rock and Rivers*. Stressing the dynamism of landscape becomes Wohl’s way of trying to communicate a better sense of what she sees as their essential characteristic to her readers. Often these portrayals have an intrinsic element of trans-corporeality to them. They also have an ethical dimension, as she provides alternative perspectives on elements of nature that are often perceived as negative, such as wildfires. For Wohl, hope is often linked with understanding trans-corporeal processes in the landscape better, as can be seen from a description of mountain slopes that have been razed by fire:

Those burned slopes that looked so lifeless from a distance were, on close view, still full of the processes by which one organism transfers matter to another. The whole drainage basin – the whole process of landscape development – constitutes a cycling of matter and energy, from the decay of radioactive elements powering the tectonic activity that created the Rockies, to the thermal energy of the sun drawing water from the oceans and raining it down to shape the drainage basins, to the energy stored in plants and released as fire, and finally, to the energy transferred from sun to plant to mouse tissue that is now being reclaimed by the beetles. Fire is a part of that constant change and cycling ... If we could remember this while admiring the magnificent scenery, we might develop an intuitive understanding of landscape processes and of our own place among them. (142)

The landscape described above is charged with agentic capacity. Far from being static, the landscape is constantly changing, through “a cycling of matter and energy.” The trans-corporeal view of these dynamic exchanges of matter serves the purpose of interlinking the landscape with all organisms inhabiting it as participants in these processes of becoming at various scales. Humans are situated in that dynamism too. Unlike much nature writing, which focuses on a psychological sense of connection that has been lost in modern times, trans-corporeality in *Of Rock and Rivers* thereby underscores that connection is a material given, whether or not humans are aware of it.

Material nature writing of the type exemplified in *Of Rock and Rivers* complements the “hegemony” of the “excessively visual” focus or “predominantly visual model” that Tom Lynch identifies as prevalent in most nature writing (*Xerophilia* 182-83). Typically, nature writing attends to, and thereby invests with a sense of importance, the aspects of the landscape that figure prominently in the human visual range. Often it also invests with importance primarily those aspects in the visual domain that are visually

appealing. As can be seen above, material nature writing trains a more polyocular lens on the landscape, resituating its focus and sense of significance to processes, transactions, and scales of being, that often fall well outside of the human visual range, and thus outside the purview of most conventional nature writing. Often the aspects of nature that are invested with a new sense of importance are those not commonly appreciated, such as fire, or logjams in rivers. Wohl notes, for instance, how obstructions such as beaver dams and logjams create zones of calm water where nutrition accumulates, making them crucial habitat for numerous riparian organisms (94, 173, 210). Visually oriented nature writing commonly takes the form of what Slovic refers to as the “psychological tradition in American nature writing” (*Seeking* 17-18) since the time of Thoreau, which “records the author’s empirical scrutiny of his own internal responses to the world” (18). Material nature writing of the type modeled by Wohl in *Of Rock and Rivers* adds a further dimension to this: Equally central to the text, as the psychological responses of humans to the landscape, are the responses of a landscape envisioned as dynamic to the behavior of humans. Wohl stresses that connection is not a negotiable feature of human lives, but always a material given, whether humans are aware of it or not. For Wohl danger arises when humans are too unaware of their interconnection with the places in which they live.

From Retreat to Confrontation in *Of Rock and Rivers*

In *Of Rock and Rivers* Wohl demonstrates how Anthropocenic nature writing often operates with an altered sense of place that does not allow for the belief in pristine places in nature anymore. Clinging to notions of pristine nature is presented as both uninformed and misinforming. Bennett proposes that “encounters with lively matter can chasten ... fantasies of human mastery, highlight the common materiality of all that is, expose a wider distribution of agency, and reshape the self and its interests” (122), and Wohl uses narrative “encounters with lively matter” for these purposes frequently in her book. Overall, the turn towards a “lively materiality” more often than not feels like a deepening of the focus on nature. This deepening could be considered part of the trend Lawrence Buell notes in *The Environmental Imagination* (1995), that an “ecocentric repossession of pastoral” is taking place in nature writing, which entails, “a shift from representation of nature as a theater for human events to representation in the sense of advocacy of nature as a presence for its own sake” (52). Material nature writing goes even further, though, in foregrounding nature not just as a presence, but as an aggregate of intra-acting agentic capacities over which there is little hope of control, and only the sketchiest overview. In *Of Rock and Rivers*, nature becomes more than a presence, it becomes an active feature in the text, and for much of the time it is the most active feature. Ultimately, it becomes impossible to consider this shift ecocentric, as this narrative refocusing constantly finds traces of humanity in its deepened focus on nature. One could almost say that nature is redrawn yet again as “a theater for human events,” to borrow Buell’s turn of phrase.

Wohl’s material nature writing thus affects the very framework regarding the project of seeking a sense of place in American nature writing. A sense of place as the term often seems to be understood in nature writing is a somewhat passive concept. While it requires the nature writer’s active engagement to attain a sense of place, the place itself in

this formulation often appears as something solid and unchanging to be sensed. In a psychological sense, once the sense of place has been attained, the writer has “mastered” the landscape, and can depart and report to his or her readers on the character of that landscape as he or she experienced it. The dynamic sense of landscape that Wohl foregrounds in *Of Rock and Rivers* suggests that this framework may not work in Anthropocenic nature writing. Especially as the dynamic place is portrayed as affected on multiple levels by large-scale human-induced changes. To paraphrase Bennett above, encounters with lively matter in Anthropocenic nature writing chastens “fantasies ... of mastery” in any form, and indicates that a sense of place is something one has to continually renegotiate because the place changes.⁷

In and of itself, the altered sense of place that comes with the intensified focus on material processes does not invite a particular tone of nature writing. It can be either rhapsodic or jeremiadic. Material nature writing in the context of the Anthropocene, however, often makes use of the mode of the jeremiad. *Of Rock and Rivers* exemplifies the way literature devoted to landscapes that are increasingly understood as changeable, or reactive, when combined with a sense of increasing human demands on those landscapes, shifts towards a tone of warning typical of the jeremiad. By attending to dimensions of landscapes that are outside of the range of the human senses, material nature writing is often able to situate burgeoning disaster amidst the visually pristine, as Wohl demonstrates in the case of the American West. Where conventional visually oriented nature writing is only able to perceive the visually pristine surfaces at scales perceptible to the human senses, Anthropocenic nature writing is almost by necessity polyocular, writing across many different scales. Such writing is often characterized by narrative trajectories that provide visual first or surface impressions of how the place appears within the range of the human senses, which is then qualified as the narration homes in on the transit of materials across the ecosystem at levels too great or too minute to be detectable by the casually observing eye. Moving between scales of perception in this way is often makes for a disquieting reading experience in nature writing as the text commonly changes from rhapsodic tones to the jeremiad. The closer one zooms in on the processes taking place in the landscape, the more what appeared healthy to first impressions is revealed as affected by industrial humanity and in a state of decline, much the same way that a microscope can reveal that the cells of a healthy seeming body are under viral, bacterial, or cancerous attack.

In “Sites and Senses of Writing in Nature” (1997) Roorda reflects on how nature writers often “come to think of writing as a mode or component of *being in* and not just reporting about a place” (394). Roorda suggests that, “such writing may function not just to record but to embody one’s presence in place (397). Two paired essays in the first half of *Of Rock and Rivers* are especially noteworthy for the way they explore two very contrastive ways of writing oneself into the same place. The essays are tellingly titled “River Days: Paradise Found” and “River Days: Paradise Lost.” While Wohl does not directly comment

⁷ Mike Tidwell, for example, writes about wetlands in Louisiana that are changing rapidly because of human interference. At the end of his time there he concludes that “the sadness that comes at the end of any meaningful journey is now compounded by the very real possibility that I will never pass this way again. Not because I don’t want to, but because the place won’t exist” (291). For more on Tidwell, see chapter 5.

on nature writing in either of these essays, it still seems obvious that when read in combination, the two texts present two models, first, conventional nature writing, and, second, Anthropocenic nature writing, and that the latter approach serves as a critique of the former. With this contrastive basis, Wohl underscores the moral necessity of a shift in nature writing from the type of story that characterizes the retreat to the type of story that represents what I call the confrontation.

As the titles suggest, both “River Days” essays are river essays. This is a suggestive choice, since the river essay has been the perhaps most iconic of all nature writing essays about the West, ever since John Wesley Powell’s records of his journeys down the Colorado River set the bar with *The Exploration of the Colorado River and its Canyons* (1875). Powell’s essay, which is sometimes considered the first specimen of river nature writing in the West, figures centrally in “Paradise Found.” His journey of exploration is a referential mainstay of the river essay, and Wohl’s first river essay follows it closely. In fact, out of the thirteen pages of the first essay that actually describe Wohl’s river journey, Powell’s prior experiences of that landscape are referenced on five, often in longer passages that precede Wohl’s own experiences of a given, or similar, location. It is highly characteristic of nature writers to parallel descriptions of their experiences in a landscape, with references to an often more noteworthy nature writer’s earlier adventures in the same location, which in this case would likely be either Powell or Edward Abbey.⁸ Also worth noting is the fact that two of the pages from which Powell is absent, speculate on the lives of the native Anasazi in that particular region, which parallels another typical feature of the river essay.

“Paradise Found” deliberately emulates the structure common to Powell and many of his literary successors like Abbey and Ellen Meloy, in that the river itself appears to set the pace of Wohl’s prose. As if dictated by nature, the narrative momentum proceeds chronologically along the length of the river, following the progress of the writer’s inflatable raft, rushing excitedly through rapids, detouring on foot up spectacular side canyons, tying up along the banks at night to rest under the open star-studded sky, and lazing drowsily along slower stretches of river. In many ways the essay reads like a checklist of what nature writers do and observe on a river journey, and there is virtually nothing in “Paradise Found” that anyone familiar with the typical format of river essays would not be able to predict in advance of reading the text. What passes for insight in the text is of highly conventional character: “This was the essential desert, clean and elemental, in hues of red and tan. To look upward was to feel my sight and spirit soaring first to one massive wall and then to the other, until my spirit expanded to fill the whole vast canyon” (43). In other words, “Paradise Found” reads as if Wohl is going out of her way to imitate the prototypical nature writing response to a river journey.

“Paradise Found” embodies what Wohl, in what is likely a snide reference to conventional nature writing, later in the book terms “adventuring in ignorance across unknown interiors” (238). The sole purpose of landscape descriptions in the second essay seems to be that of exposing the ignorance of landscape descriptions in the first. “Paradise

⁸ See for example Abbey’s *Desert Solitaire* (1968) or *Down the River* (1982).

Lost” retraces the same river journey two years later from a position of better knowledge: “My second raft trip was the beginning of reeducating myself beyond my first perceptions of the Grand Canyon as a wilderness paradise preserved from the influence of industrial-age humans” (70). The narrative pattern for “Paradise Lost” is somewhat reminiscent of the pattern in “Paradise Found,” in which the younger Wohl traces the journey of Powell, and seeks to repeat what he experienced. In the case of “Paradise Lost,” however, a slightly older and more educated Wohl traces the steps of her younger self, and where the younger Wohl affirms the experiences of Powell, the older Wohl in many ways undermines the conclusions and insights the younger Wohl drew from that earlier experience. As it proceeds, the narrative confronts signs of anthropogenic changes that disrupt the pattern of the traditional retreat and river adventure. Wohl now notes invasive species along the riverbanks (58), muses on subsurface extinctions of native fish because of the intrusion of nonnative trout (66), observes disruptions to riparian habitat (65, 67), considers the freight of toxins and sediments that “are now being mobilized and carried down toward the dam” (69), and makes bleak predictions about the effects of an already changing climate on the future of the river systems (70). Close to its end, the essay unveils that the Colorado River vanishes in an industrial landscape of fear:

In most years the Colorado River no longer flows to the sea. It is siphoned off along its way by burgeoning cities, from Denver to Las Vegas, Phoenix and Los Angeles; dispersed across thousands of acres of water-hungry crops in the United States; and finally diverted into Mexican cities and croplands. The mighty river of the southwestern deserts is no longer a river so much as a canal feeding the water where and when humans choose. (71)

Wohl’s two essays about her trips down the Colorado River mirror the thematic thrust of the two parts of *Of Rock and Rivers* entitled “Discovering the West” and “Inheriting the Past.” They can thus be seen as providing a descriptive journey from the type of nature writing she “used to” practice in “Paradise Found,” to the type of post-natural writing she thinks needs to be practiced, having reached the point of “Paradise Lost.” The two river journeys thus effect a transformation of perceptions of the same landscape from the nature writing landscape of hope to an Anthropocenic landscape of fear defined by expanding ecological devastation.

The perception of landscape that is modeled in “Paradise Found” corresponds with the type of nature writing that Phillips has criticized. According to Phillips, this type of nature writing is “*too selfish*, by which I mean that it is too preoccupied with the self as the formative and essential element of experience, and overly concerned with the self, not as an ethically responsible entity and a citizen of the world, but as the locus of what passes for spiritual life in a secular culture” (195; emphasis in the original). What seems to vex Phillips is the narrative of retreat which Roorda identifies, and which, as Slovic puts it, belongs to the tradition initiated by Thoreau’s journals, which “records the author’s empirical scrutiny of his own internal responses to the world” (*Seeking* 18). For Phillips this is not “writing about nature at all; it is, instead, writing about a response to nature” (210),

and such a focus on the self represents both “the imaginative and ethical impoverishment of contemporary American nature writing” (196). In “Paradise Lost,” however, Wohl orients the reader away from psychological appreciation of visual qualities and towards scientific appraisal of anthropogenic effects, and changes the tone from rhapsody to jeremiad.

As I have begun to indicate, it is perhaps more accurate to say that in *Of Rock and Rivers* the movement outwards from population centers leads to narratives of confrontation with the human rather than to retreat from the human. Through Wohl’s scientific gaze, evidence of human impacts surface in locations that superficially seem fit for the retreat. What Wohl addresses in the mode of the jeremiad is the variety, scale, and pervasiveness of human impacts on remote places. Coming into contact with significant human-induced landscape changes where the wilderness is supposed to be, represents a radically different experience than the retreat. Wohl’s version of the confrontation represents a version of the germinating instance that includes an unwelcome and often painful acknowledgement that environmental changes can no longer be excluded from descriptions of environments, and it thus comes with a moral dynamic that Phillips finds absent from the conventional retreat. Confrontation means facing rather than ignoring environmental problems, and for Wohl knowing about damage entails a form of responsibility for the knower:

Each time I return to the canyon country, I feel again this precious sense of peace and belonging. Now it is inextricably mixed with a sense of loss and chagrin at the changes my people have wrought in this incredibly beautiful and intricate landscape. These feelings of loss foster a sense of responsibility. Because I know what has been and is being lost, I feel urgency to communicate that knowledge to others. My only hope is that knowledge, once sufficiently widespread, will foster in all of us a sense of responsibility and a resolve to modify our society’s destructive patterns of resource use. (71)

What Wohl shows here is that for her, retreat is still pleasurable, but the option of retreat from all things human has been foreclosed because a confrontation with anthropogenic change is now “inextricable” from her experiences in nature. Her confrontation with change leaves her with both a sense of loss and a sense of moral obligation. Confrontation with change shifts the register of her nature writing from the rhapsody to the jeremiad, from celebration to environmental concern.

“Paradise Lost” is an activist essay addressing environmental crises in a dynamic ecosystem, whereas “Paradise Found” revels in a landscape perceived as preserved and unchanging. “Paradise Found,” concludes on notes of spiritual awakening and moderate environmentalism. Tourists snapping pictures of the Grand Canyon strike Wohl as “irreverent before the altar” (52). Her experience has “given ... lessons in humility and awe,” and it has “awakened an even stronger love and feeling of protectiveness toward the Grand Canyon” (52). “Most of all,” she notes, “the river trip kindled a strong desire for more river trips” (52). The prototypical example of conventional nature writing thus leaves Wohl with a generalized sense that the canyon has value, and should be preserved, but there is no specificity or issue-orientation to this diffuse sense of protectiveness. Nothing in

Wohl's retreat from the human, characterized by sustained rhapsody, is likely to stir any sense of urgency in a reader. It seems more likely that he or she will be stimulated towards taking a river trip. While that may be a positive outcome, the "urgency" Wohl experiences in "Paradise Lost" to communicate her sense of rapid decline in the same landscape makes her response in the earlier essay seem somewhat insufficient.

As the title gives away, "Paradise Lost" is mainly a sustained jeremiad, with moments of rhapsody interspersed. When Phillips critiques the nature writing "self" for failing to be "an ethically responsible entity and a citizen of the world" (195), his critique might be apt for the self Wohl portrays at the end of "Paradise Found," and this suggests that to a certain degree Wohl shares some of Phillips' skepticism towards this traditional format of nature writing. She also seems to agree with Roorda's observation that "the figure of the nature writer in retreat" is "one whose very ethos involves attending to circumstances that are *not* social, characterized by the absence or seeming irrelevance of other people" (173; emphasis in the original). But the Anthropocenic jeremiad in "Paradise Lost" emphatically addresses itself to the world, calling into question energy regimes, irrigation agriculture, and gardening practices:

A good deal of what I find tragic about these changes is the wastefulness with which we use water and energy. Do we really need to generate hydroelectricity at Glen Canyon for a region with a superabundance of sunshine? Do we really need green lawns and flood-irrigated crops in the desert if our waterstorage reservoirs drive other species to extinction? (71)

In its move towards a more politicized format, "Paradise Lost" restrains the orientation towards the self that Phillips finds so problematic in nature writing. In its place, Wohl orients her writing towards the myriad lines of interconnection that ultimately make the human and the natural inextricable from each other.

Yet there are indications that Wohl does not want to throw out the proverbial baby with the bathwater. What is at stake in *Of Rock and Rivers* is not whether or not nature writers should cease celebrating landscapes, but the question of whether they have a duty also to convey Anthropocenic awareness in their writing. As Wohl shows in "Paradise Found" it is easy to rhapsodize jubilantly in the upper reaches of the Colorado River. Yet, as her accruing expertise in river geomorphology assures her in "Paradise Lost," leaving the rhapsody unqualified creates a pacifying impression that the Colorado River is not suffering substantial ecological decline. In its ultimate consequence, Wohl thereby implies that unless tempered by the jeremiad, the rhapsody could prove damaging to the landscape being celebrated. The rhapsodic perspective in the first essay promotes a sense of the Grand Canyon as a preserved wilderness paradise. The jeremiad in the second essay reveals severe strains on the same ecosystem. Without this perspective of Anthropocenic awareness the rhapsody in this instance would clearly contribute towards further landscape declines by promoting ignorance of the true condition of the ecosystem. Knowledge, for Wohl, is the prerequisite for positive change.

Indeed, other examples show that Wohl unequivocally regards Anthropocenic knowing as a call for action: "When I learned that native fish could no longer survive in the

mighty rivers, I could hardly reconcile my new knowledge with the remote wilderness in which I had reveled at eighteen. When I learned that knowledge alone is not enough, I moved further toward political activism” (88). However, unlike critics such as Phillips, Wohl does not abandon the literary mode of the rhapsody altogether: “when I contemplate the delicate strength of rock stretched almost to the breaking point in a slender red arch defying gravity against the blue sky, I realize that all my measuring and modeling and thinking will not by themselves bring me to the heart of this marvelous landscape” (88). When Wohl’s tone shifts from rhapsody to jeremiad, this is not because the jeremiad better reveals the heart of the landscape. That is still the task of the rhapsody. Indeed, it should not be overlooked that for Wohl the descriptions of the landscape made in the tone of the rhapsody in many ways serves to temper and modify the bleakness of the passages written in the tone of the jeremiad, which might otherwise instill nothing but hopelessness in readers. More importantly, Wohl’s use of the rhapsody underlines the urgency of the jeremiad. Rhapsodic descriptions are where she outlines both the type of landscape and quality of experience that are at risk of being lost. It thus seems as if Wohl adopts writing in the tone of the jeremiad because it serves to awaken people to Anthropocenic awareness of the need for safeguarding those aspects of the landscape that are still worth rhapsodizing over from severe and ongoing environmental decline.

Wohl’s Postnatural Writing

Of Rock and Rivers sketches an alternative sense of place that closely corresponds with that of most Anthropocenic nature writing. Wohl presents an updated version of the West that is shown through chapters that are often thematic as deeply characterized by and transformed by the impacts of industrialized humanity. There is a sense throughout *Of Rock and Rivers* of her nature writing developing towards its final formation in the essay “Poisoning the Well,” where the two modes of the rhapsody and the jeremiad coexist, but the jeremiad dominates. Stretches of text throughout *Of Rock and Rivers* tend to begin in rhapsodic tones at the visual level, celebrating the beauty of the landscape, but this first impression is quickly unraveled as the mode shifts to the jeremiad to impart knowledge of the landscape unseen to the untrained eye. This somewhat dystopian tendency holds even for the most remote and visually pristine locations of the West, where the filter of scientific knowledge adds a layer of perception to Wohl’s descriptions that would otherwise omit crucial information. In this, although she herself does not use the term directly, Wohl’s nature writing is informed by the sense that all landscapes are now “postnatural.”

Many scholars trace the concept of the “postnatural” to Bill McKibben’s *The End of Nature* (1989), where he famously declares that climate change means that nature untouched by humans is coming to its end:

We have changed the atmosphere, and thus we are changing the weather. By changing the weather, we make every spot on earth man-made and artificial. We have deprived nature of its independence, and that is fatal to its meaning. Nature’s independence is *its* meaning; without it there is nothing but us. (58; emphasis in the original)

McKibben's statement is colored by the writer's sense of loss and outrage. His statement also resonates with the American type of environmentalism that focuses on the preservation of pristine places. The postnatural has often been connected with a sense of pessimism and resignation of the type voiced by McKibben. In "Contamination: The invisible Built Environment" (2002), Michael R. Edelstein formulates an equally bleak view to that of McKibben of what the postnatural entails:

We can presume that the postnatural world reflects McKibben's haunting observations about how human interference has intruded into every vestige of what used to be thought of as nature, so that we can no longer delude ourselves that such an unspoiled realm exists. Moreover, the postnatural world not only is tainted with human finger prints but has been rendered hazardous to us, to other forms of life, and even to its own continuing viability. In my definition, the postnatural world is therefore not merely a synthetic world but a contaminated world as well. (559)

Some even feel that with the impression of being "after nature" comes a loss of purpose for environmentalism, since environmentalism, at least in an American context, has often been geared towards nature in its most unspoiled condition of the wilderness. Since a wilderness can never be postnatural, Steven Vogel suggests that "The end of nature, then, once it has occurred can never be reversed" (*Thinking* 3). In such a situation, Vogel considers that environmentalism must either cease or turn towards the human, neither of which is an entirely unproblematic proposition, and perhaps not necessarily an accurate summation of the options available. In "Is American Nature Writing Dead?" (2014) Philippon points out that "McKibben's argument reflects only one side of the debate, however, because while some forms of environmental protection depend on a romantic understanding of 'nature as other,' other forms rest on an evolutionary understanding of nature as coterminous with humans" (395). Philippon's point underscores that the postnatural represents a particular problem for much traditional nature writing, since the central motif of retreat as articulated by Roorda could be said to depend on the "romantic understanding of 'nature as other.'" However, Philippon also indicates a third option to the two perceived by Vogel, when he gestures towards an environmental understanding in which nature is "coterminous with humans." (395). This is the environmental understanding articulated in *Of Rock and Rivers* and in most Anthropocenic nature writing.

The postnatural view of the American West as it emerges in *Of Rock and Rivers*, corresponds on many points with Edelstein's definition cited above. Throughout both *Of Rock and Rivers* and *Transient Landscapes* there are in fact multiple instances where Wohl voices an understanding of the natural world in its present condition that matches McKibben's articulation. Ingrained in Wohl's sense of place is her understanding that there is no part of the natural world that does not interact with industrial humanity to some degree. While this recognition fosters a sense of loss in Wohl, it does not inspire a sense of defeat, but rather of pragmatism:

We do not lack the scientific or technical knowledge necessary to sustain water supplies, water quality, and stream ecosystems in Colorado. What we lack is the collective will to implement this knowledge by imposing penalties and offering incentives that alter existing behavior and patterns of resource use. We can change, if we choose. (231)

The postnatural is represented as the frame within which restorative work must be attempted. Here Wohl identifies an important disjunction between knowledge and the implementation of knowledge. She perceives an unbridged gap between existing science and the masses, and she writes towards bridging this gap. The essential project of *Of Rock and Rivers* is the portrayal of the postnatural American West that has been revealed through science. This becomes especially clear towards the end of the book. Whereas earlier chapters engage with many myths and misconceptions regarding the American West, many chapters in “Inheriting the Past” exclude many of these alternative perspectives in favor of nature writing from the scientific perspective which reveals a thoroughly postnatural landscape. The first and most basic requirement in motivating a change of collective behavior for Wohl is to communicate why there is need of such change.

Wohl’s conception of the postnatural speaks towards the integration of the human in nature, or perhaps rather towards the acknowledgement that humans have always been integrated in nature. The epilogue in *Of Rock and Rivers* summarizes how Wohl perceives the present state of affairs, but also what she considers the way forward:

My studies of landscape changes through time, and of the role humans have played in these changes, have helped me to understand the implications of human actions across time and space. By going westward, I have freed myself of some of my misconceptions about landscape. The collective efforts of hundreds of ecologists, geologists, and other researchers in the natural sciences have gradually assembled a story of how landscapes and ecosystems function, and of how humans influence this functioning. The challenge now is to integrate the insights arising from this research into the everyday choices made by individuals and by society in order to improve our collective ability to live sustainably in the American West. We can learn to define humans as an integral part of landscape. (238)

Wohl doubly asserts the importance of “functioning” here. She indicates that environmental progress is contingent on understanding in concrete and scientific terms how ecosystems function and how humans have impacts that affect these functions. Only on the foundation of such insights can better and more sustainable choices be made. Throughout *Of Rock and Rivers* Wohl outlines the ecosystemic condition of the West with particular emphasis on the anthropogenic factors that affect its functions. In this sense she is asserting the “story” that has been “assembled” through the “collective effort of hundreds of ecologists, geologists, and other researchers in the natural sciences.

Foregrounding postnatural dynamics for Wohl is a matter of representing landscapes correctly. Learning “to define humans as an integral part of landscape” is a

matter of necessary accuracy. The “insights” from science regarding human impacts should be integrated into “everyday choices,” meaning they should become an integral component in the way we conceive of the world. The approach to nature writing modeled by Wohl in *Of Rock and Rivers*, and particularly “Poisoning the Well,” cannot tolerate the narrative of retreat in its traditional form, because it excludes anthropogenic dynamics that are vital to understanding the present integrity of the ecosystem. The rhapsody cannot occur without the jeremiad in this form of nature writing. This is not to say that the postnatural causes Wohl to turn towards the human realm entirely. Rather it sharpens her focus on human-induced impacts on landscape for the purpose of curtailing these impacts. Ultimately, one could say that Wohl does not perceive of nature as lost, but as in a state of interaction with humans. For Wohl interaction with humans is not necessarily detrimental to nature, as she finds there are many places where human intervention in ecosystems is to the benefit of the species living there. In fact Wohl frequently asserts that the interactions of humans and nature go back so far, and have been of such a scope, that efforts at separating the two are nonsensical. However, she also finds that the character of this interaction has been dangerously imbalanced for quite some time, and the need to alter a destructive pattern is what motivates her foregrounding of the postnatural condition of the American West.

While this Anthropocenic outlook may be a recent phenomenon in nature writing, Wohl believes that the condition it observes in nature has been ongoing for a long time. She notes that while scientists like herself, who study nature, often prefer to find systems that are unaffected by humanity and as close to what might be considered their natural state as possible, they are quickly coming to the recognition that in North America at least, such systems can no longer be found (234). This creates a problem when it comes to exploring the extent of human impacts, because science does not have access to an accurate baseline against which to measure human-induced changes. As she notes about the study of mountain streams: “there has simply been too little study of mountain streams to provide that basic level of knowledge” (207). Wohl’s writing is thus strongly inflected by the sense expressed by McKibben above that nature has lost, or perhaps never really had, its “independence.”

This sense of the postnatural is not what nature writers typically want to encounter in their field studies. Nor is McKibben’s sense of loss of “nature’s independence” what they want to report about to their readers, and Wohl expresses a similar frustration at the change in the conception of nature that human-induced impacts necessitate: “I know that my opinions are heavily influenced by the importance that a self-regulating natural world hold for me. My growing awareness of the long history of human impacts in the United States has been difficult, because it has forced me to acknowledge that pristine wilderness does not exist” (141). Although she would rather ignore the postnatural, Wohl’s writing is also informed by an ethics of confrontation with unpleasant truths. This necessitates a transformation of the way writers commonly portray the American West. For example, Wohl denounces a literary tradition among writers of the West of selectively “praising the beauty” of Western landscapes and ignoring the environmental pressures on them, thereby creating “expectations about the western American landscape as a national shrine of nature, freedom, unspoiled beauty, and wilderness” (97). This form of traditional rhapsody, which

is held forth by Slovic and Philippon as the rhetorical mode with the best long-term effect on environmental attitudes, is highly problematic in Wohl's postnatural version of the West.

Wohl connects the emphasis on "unspoiled beauty, and wilderness" to her own tendency in her early years in the West to "detour" around "the cities and the sites scarred by mining" (98). On her way to somewhere more visually impressive, she would rush by less visually striking ecosystems – such as the Great Plains – which are vitally important to the wellbeing of countless communities of humans and nonhumans (108). Later in her life, a better understanding of the ecological importance of the Great Plains would inspire Wohl to publish *Island of Grass* (2009) about these landscapes she so easily used to overlook. For Wohl, an appreciation of landscapes that primarily orients itself towards the most dramatic and visually stimulating aspects ultimately falls short as an adequate environmentalist stance: "The first rush of falling in love with that landscape kept me from inquiring too deeply into the extent and intensity of human-induced change" (34). The type of love that prevents inquiries "into the extent and intensity of human-induced change" is not a harmless response in the Anthropocene, as Wohl observes that there is "accelerating change as the landscape responds to human activities, and of the human ability to ignore or forget these changes" (34). When writers "detour" around the more heavily impacted areas, or around their knowledge of impacts in landscapes that look unspoiled, Wohl seems to believe that they become implicated in the ongoing decline.

For much of its history, especially since the publication of Abbey's *Desert Solitaire*, the nature writing of the west has been overwhelmingly the nature writing of retreat to "unspoiled beauty, and wilderness" (*Of Rock* 97). With the possible exception of Alaska, no place in the United States has offered a seemingly more apt terrain for a withdrawal from the human, and nature writers have never flocked to Alaska to the same extent. Wohl notes that in nature-oriented literature, the West became "a spiritual center for writers Willa Cather, Ed Abbey, and Ann Zwinger, whose eloquence attracted others" (77).⁹ In the multiple stretches of memoir that inform much of "Discovering the West," Wohl often contextualizes her own desire to move to the West, and her earliest thoughts and experiences of the region, against the way this region was portrayed by earlier nature-oriented writers, or nature writers such as Abbey and Zwinger. She even paraphrases a famous quote from Thoreau in her motivation for relocating: "And because nature was my spiritual center, I believed that to move West was to give myself a better life in a new world. Like Thoreau, by going westward I would be free" (12). The freedom Wohl refers to is from the sense of environmental decline she experiences in the East with particular force upon the destruction of one of her childhood landscapes.¹⁰

As noted above, much of the narrative tension between memoir and science in "Discovering the West" derives from the conviction on the part of Wohl's younger self that she has broken free of environmental decline because she has moved to the West. This naïve, rhapsodizing persona, and her counterpart, the matured scientifically informed voice,

⁹ Both Abbey and Zwinger are influential nature writers.

¹⁰ In the essay *Walking* (1861) Thoreau famously declares that "Eastward I go only by force, but westward I go free" (86). Wohl finds the loss of this childhood landscape so upsetting that its destruction figures as a transformative episode in both the first chapter of *Of Rock and Rivers* and the introduction to *Transient Landscapes*.

represent different forms of environmentalism. The text as a whole presents the younger rhapsodist as thinking and acting with reference to an idea of wilderness that is pristine and segregated from humans, and the scientist as oriented towards her professional understanding of landscape dynamisms that undermine the former environmentalism, dependent as it is on notions of untouched nature (13). While much of the narrative tension between these two views of the same landscape is resolved in the “River Days” essays, it receives a final commentary as Wohl paraphrases Thoreau’s quote one more time in the epilogue to *Of Rock and Rivers*: “By going westward, I have freed myself of some of my misconceptions about landscape” (238). The liberation from misconceptions that Wohl experiences comes through her confrontation with the more accurate picture of the region that science provides. Wohl offers the same service of liberation from misconception to her readers through those pages of her book that are classifiable as the jeremiad.

The transformation of nature writing that Wohl performs, from rhapsody to jeremiad, from celebration to politicizing, from retreat to confrontation, is grounded in her sense that there should be a shift in environmental thinking from a sense of nature as independent of human impact to a sense of nature and humans as coterminous. For her this is a shift towards accuracy that also entails moral obligations. After noting that “[t]he West is not a pristine wilderness, for people have been altering natural processes here for millennia” (13), Wohl makes a concession that is hard on the naïve idealism of her younger self: “So where does this leave me and others who have assumed that wilderness must be protected in isolation? The isolationist view of wilderness may have contributed to American society’s contemporary isolation from the land” (13). “The isolationist view” is highly reminiscent of the ideals behind the idea of retreat in nature writing, as identified by Roorda. As Roorda shows, this type of nature writing is built around the perception of wild places as culture’s other: “Whether in these calculated evasions of human presence [in Abbey’s writing], or in the pure retreat of the rhapsode and solitaire John Muir, the ‘essential fact’ of the retreat narrative is an essentially nonhuman world” (6). While Roorda’s reference to Abbey’s “calculated evasions” of the human has to do with Abbey phasing travel companions out of his nature writing narrative, it is conceivable, and even likely, that contemporary retreat narratives might perform “calculated evasions” of more disturbing kinds of human presence, such as contamination. The jeremiad as Wohl utilizes it is a politicized warning, which foregrounds traces of industrial humanity in the landscape, the purpose of which is to help avert further increase in such presences. Perhaps surprisingly, the jeremiad also serves Wohl to highlight the need for even more human intervention in many of these places in order to restore them to healthful conditions for both humans and their inhabitant species (210). By foregrounding the extent of decline – the degree to which the West must now be considered postnatural – the jeremiad also serves to encourage a collective and voluntary shift in behavior away from the myriad practices that are degrading the Western environment (231).

Wohl’s Template for Anthropocenic Nature Writing

While it holds for most of the essays collected in *Of Rock and Rivers*, the final essay titled “Poisoning the Well” is clearly the most thoroughly postnatural. This is where Wohl most

overtly carries out her different version of the core story for nature writing. While alternate perspectives are occasionally given room for the sake of debate in earlier essays, “Poisoning the Well” sustains unwavering Anthropocenic awareness. The essay reads like Wohl’s answer to the many issues and problems she has raised over the course of her book with environmentalism, environmental writing, environmental policies, environmental knowledge, and environmental perceptions. “Poisoning the Well” is by no means an answer that resolves all of these issues, but rather displays a form of nature writing that is more robustly scientific, has expanded its horizon, and has adapted to the challenges of the Anthropocene.

The title of “Poisoning the Well” represents a strong metaphor for human impacts on an arid landscape that is defined by the scarcity of water. This is doubly emphasized as Wohl defines “clean water” as “the lifeblood” of the region in the first paragraph of the essay, before outlining the landscape of fear that could result from drought in the second paragraph (192). While the text ostensibly follows the journey of a snowflake as it falls in the upper reaches of the Rocky Mountains, melts and travels through a representative geographic cross-section of the American West, what the narrative really foregrounds is the journey of pollutants and ripples of anthropogenic change as they pass through the landscape. What might have read as a material rhapsody thus very clearly becomes the strongest instance of the jeremiad in *Of Rock and Rivers*.

The motivation Wohl gives for “Poisoning the Well” is to share her sense that understanding landscape dynamism generates an emphasized sense of involvement that is absent from the static view of landscapes:

The flow paths of water from the mountains to the plains epitomize much of what I have come to understand about the connectedness of disparate landscapes such as mountains and plains, as well as the connectedness of humans and landscapes. We do not simply live on a landscape. We depend on it and alter it as our needs and expectations change. To trace the journey of a snowflake falling in the Rockies and then downstream to the eastern plains is to explore these connections and gain a new perspective on one’s sense of place in the American West. (194)

This is an understanding of landscape that focuses on the material with an emphasis on its vitality in a way that places humanity in the middle of the ongoing processes shaping the region. Wohl’s embedding of humans in the material dynamisms of landscape seem to follow similar motivations as those outlined in Bennett’s proposition quoted above, that “a materiality experienced as a lively force with agentic capacity could animate a more ecologically sustainable public” (51).

In *Writing for an Endangered World* (2001), Buell writes that “nowhere is [the] blurring of standard genre distinctions more striking than in contemporary works of nature writing produced under pressure of toxic anxiety” (46). While the focus on human-induced landscape changes throughout *Of Rock and Rivers* is much wider than contamination, the trans-corporeal nature writing in “Poisoning the Well” foregrounds the land’s interaction with various forms of pollution in particular, as the title reveals. In this instance, the

narrative momentum of confrontation with contamination reverses the anticipated trajectory of the narrative of retreat. Rather than moving outwards from centers of habitation towards uninhabited territory fit for the classic retreat, “Poisoning the Well” begins at the most remote point of the snowflake’s journey. From a mostly pristine location atop the Rocky Mountains, Wohl traces the snowflake’s journey downwards through different landscapes with increasingly pronounced human presences, culminating in an urbanized environment. This trajectory adds moral urgency to the essay, and politicizes its descriptions of industrial, agrarian and societal frameworks that drive the landscape’s decline. The trajectory also adds a layer of moral urgency in the sense that it dramatizes how the contamination encountered by the snowflake is often mobile, moving through multiple bodies with the snowflake as it is “continually recycled between these organisms and the river,” before finally moving through the aquifer towards the human settlements further below (230).

In *Bodily Natures* Alaimo raises the questions “[w]hat are some of the routes through person and place? What ethical or political positions emerge from the movement across human and more-than-human flesh?” (10). “Poisoning the Well” traces many of the infiltrations and potential infiltrations of human and non-human flesh that result from human activities in the West. As it becomes water, and becomes mobilized by gravity, traveling through the aquifer, the snowflake becomes the ideal narrative vessel for tracing the movement across the West of substances of which humans are often unaware. Already before it lands, the hypothetical snowflake has encountered nitrogen pollution in the air, which Wohl traces to contemporary sources such as “auto exhaust, coal-fired power plants, gas and oil wells, crop fertilizers, and livestock manure” (195), which falls to the ground in the Rocky Mountains with the snowflake to await the spring thaw. According to Wohl, researchers predict that nitrogen pollution will affect these seemingly pristine altitudes to the point where it will “kill trees and acidify high-altitude streams to the point that fish will die” (195). Past industries are also shown to be active contributors to the movement of toxins through the ecosystem in the form of cadmium, lead and mercury pollution from long abandoned mines. These substances “persist, working their way through the aquatic food web from silts and clays to insects, and from there to ouzels and fish” (200). This journey of pollution across the boundaries of bodies is deeply problematic in Wohl’s nature writing. Within the body of the ouzel, for example, these substances affect changes at the cellular level that limit their ability to function in their ecosystem: “Exposure to lead inhibits ALAD [an enzyme needed for the production of hemoglobin], which is required by all cells. When ouzels have less ALAD, and lower hemoglobin levels, it may reduce their ability to make frequent, prolonged dives for food in frigid mountain streams” (200). Eventually the toxins accumulate in the bodies of the birds to levels at which they are no longer able to survive. Rethinking the landscape in the context of its postnatural character and trans-corporeal exchanges between this system and the bodies of its inhabitant organisms thus brings to light whole sets of moral imperatives with regard for the preservation of the overall system and individual species.

As Wohl traces the movement of the snowflake closer to human habitation, the quality of the water rapidly declines as multiple toxins of diverse human origins join the flow. The direction of the snowflake’s journey means that the closer it gets to human

settlements, the more polluted it becomes. Just as the watershed concentrates the flow of water towards the river, it also serves to channel the flow of toxins along the same trajectories. As it nears urban environments the quality of the water in which the snowflake has been absorbed has deteriorated to a severely contaminated state in which fish with both male and female reproductive organs emerge. Wohl quotes a “fisheries biologist” saying “[t]his [fish with both reproductive organs] is the first thing I’ve seen as a scientist that really scared me” (229). Noting the similarities in fish and mammal biochemistries, Wohl worries over “the implications for all the plains communities that pump their drinking water from shallow aquifers connected to this river” (229). She argues that “poisoning the well” has “represented an evil and desperate deed” historically, but that now

American society is poisoning its own wells, literally and figuratively, but we have barely acknowledged this as a society or begun to effectively change the habits that cause the poisoning. For me, the poisoning of wells on the plains of Colorado is a warning sign that my society has not yet understood this landscape or how to live sustainably within it. (231)

The preposition “within” in the quotation above signals the renewed sense of place that Wohl believes American society needs in order to find ways of sustainable living. A landscape for Wohl is neither a “scene” nor “painting,” but “a dynamic system” (134), and Wohl believes in the importance of learning “to define humans as an integral part of landscape” (238).

“Poisoning the Well” thus exemplifies what is true for *Of Rock and Rivers* as a whole, and for most Anthropocenic nature writing as well, namely that nature writing that confronts the postnatural condition becomes a more deeply politicized genre. Such writing does not observe the dynamism of landscapes because this is an interesting perspective, but is motivated by an environmentalist purpose, of which understanding the changeability of landscapes is a necessary component. “Poisoning the Well,” for example, includes references not only to the metamorphosing bodies of fish caused by toxic contaminants of human origin, but also the contamination of entire river systems. Wohl’s material nature writing thus aims to make the reader aware of processes changing the landscape at both micro- and macroscopic levels. Shifting from a static to a dynamic understanding of landscape across all scales is something that figures centrally in Wohl’s drive towards an adjusted environmentalism. Emphasizing the dynamic features of landscapes can be considered a step on the way towards helping people recognize the extent to which they can be altered by human intervention, whether these changes happen intentionally or not. Emphasizing the dynamism of landscapes can also give the reader a sense of having a greater stake in what happens to them, as one might be more likely to feel concern over what happens to a dynamic system within which one is understood to be a part, than to static scenery. Moreover, while the environmental issues that Wohl addresses often happen far outside the human population centers, Wohl’s material nature writing traces the many roads these seemingly remote problems may follow to affect humans in the end.

Wohl situates *Of Rock and Rivers* firmly in the Anthropocene. Like all Anthropocenic nature writing, its terrain is postnatural because industrialized humanity has

left trace imprints on all places. On this point, the narrative voice is authoritative, speaking from a position of confidence in its overview of the best available research. There are many indications in the book of agreement with critiques of the environmental merits of much nature writing by critics such as Phillips. Nevertheless, *Of Rock and Rivers* models a form of nature writing that is adapted to the Anthropocene, and in which the core story has changed from retreat from the human to confrontation with the human. Often the text reads like a gritty confrontation with changed aspects of nature that the author would much rather overlook. Yet science has been given such a central position in the book that impulses to escape into the rhapsodic mode are always restrained by the facts supplied in the mode of the jeremiad. The retreat is no longer an adequate response to dynamic landscapes that over many decades have suffered escalating ecological declines. Confronting the West in its postnatural condition becomes the only way forward, as Wohl concludes in “Poisoning the Well”: “Now we must remain here and deal with the poisons we have spread and the landscapes we have altered” (231). Wohl demonstrates a model for nature writing that takes an unflinching look at all the best available information, stimulates well-informed actions towards the protection and improvement of what remains, and encourages an appreciation of the still beautiful and surviving ecosystems in the Anthropocene.

Chapter Two: The Dignification of the Unseen in David George Haskell's *The Forest Unseen*

The earth is not a mere fragment of dead history, stratum upon stratum like the leaves of a book, to be studied by geologists and antiquaries chiefly, but living poetry like the leaves of a tree, which precede flowers and fruit, - not a fossil earth but a living earth. (Thoreau, *Walden* 206)

In *The Forest Unseen: A Year's Watch in Nature* (2012) David George Haskell performs a partial inversion of Ellen Wohl's narrative perspective in *Of Rock and Rivers*. Where Wohl's focus was region-wide in its scope, geared towards an improved understanding of the entire American West, Haskell's narration is focused on a small, circular patch of forest floor. The geomorphologist in Wohl invested her book with a foregrounded sense of geology as a living, ongoing process with which all organisms interact, whereas Haskell as a biologist invests *The Forest Unseen* with a strong sense of the intra-action between the biological organisms and materials that comprise his circle of forest floor. Even so the texts are stylistically comparable, and the writers share a similar approach to the Anthropocene that is heavily inflected by their scientific backgrounds. Indeed, as argued above in the case of Wohl, it is by and large the scientific training of these authors that shifts them into the Anthropocenic mode of nature writing, because this expertise motivates them towards confronting the signs of environmental degradation that appear in their chosen landscapes. Signifiers of the Anthropocene thus become parts of their descriptive nature writing just as species of flora, fauna and features of topography. Both writers disclose the Anthropocene through the medium of material nature writing that is strongly informed by a sense of trans-corporeality, and thereby generate texts that have perspectival, ethical and stylistic implications for the genre.

In the case of *The Forest Unseen* Edward O. Wilson observes on the dust jacket cover that the fusion of science with literature Haskell implements "leads the reader into a new genre of nature writing, located between science and poetry" (dust jacket). While both Wohl and Haskell exemplify a movement in nature writing towards new forms and new foci, it must be noted that the intermediate space between "science and poetry" that Wilson identifies as something new, is immediately recognizable as the well-established natural history mode of nature writing. Thomas J. Lyon, for example, has argued that "nature writing is not simply romantic; it also owes much to science" (31), noting the "poetic-scientific temperament" of "accomplished nature writers" (39), and observing that "[n]ature writers have been inveterate and important synthesizers ... seeking always to express the possible meanings and implications of new data" (31). To the extent that Wohl's and

Haskell's fusion of science and lyrical writing represents anything new in the genre, it is thus only a matter of the degree to which science guides their narratives, not the fusion of nature writing with science in and of itself.

As the following will show, the nature writing genre's orientation towards the Anthropocene as a dire phenomenon does not mean that all Anthropocenic nature writing is a discourse of elegy and despair. In the discussion of Wohl's *Of Rock and Rivers* above, the dystopian inflection of the Anthropocene in nature writing was shown as a condition or situation requiring a response, not a retreat, and not a surrender. Characteristic of most Anthropocenic nature writing is a palpable sense of rising activist ambition in the face of large-scale changes in many and varied forms that are perceived as spiraling out of control. For a scientist like Haskell, activism often means intervening in the way people understand, or perhaps misunderstand, the world. The perspective that most strongly emerges in the scientifically informed nature writing of Haskell is thus of a world that resembles the one described by Thoreau above, a world that is "not a fossil earth but a living earth" (334). In this insistence on a "living earth," Haskell, like Wohl, works towards a shift from a static view of nature towards a dynamic view.

What follows will show how Haskell's version of the "living earth" provides an example of how Anthropocenic nature writers have begun to work across spatial and temporal scales, weaving together the near with the far, the small with the large, in ways that interlink the very interiority of cells with the behavior of remote stellar objects in the cosmos, for the ultimate purpose of providing a better understanding of the dynamic and complex intra-active environment that sustains human civilization, and for facilitating a deeper ethics of care and caution in the face of this poorly understood complexity, that also includes commonly overlooked aspects of the environment. The view of the living, dynamic earth that emerges exemplifies a type of ethical work that recurs in much of the nature writing of the Anthropocene, namely the foregrounding of function over form. The foregrounding of function over form often means that Haskell invests with importance aspects of nature that have not conventionally been considered beautiful or charismatic, and which have rarely occupied the narrative focus of nature writing. In this way the insistence on function over charisma in Haskell's material nature writing corresponds on many points with the phenomenon that Lawrence Buell in *The Environmental Imagination* refers to as "the dignification of the overlooked" (184). By way of the dignification of the overlooked Haskell begins an experiment with reader perceptions that challenges ecophobia, notions of scale, human imperviousness and control, and the way readers perceive the relationship between the past, present and the future.

The following will trace how three narrative dynamics structure *The Forest Unseen*: first, Haskell's perspective of a living earth with vibrantly intra-active connections that interweave all scales of biological being, second, his perspective on evolution as an ongoing process that has shaped and continues to affect the living earth at all scales of biological being, and third, his understanding of large-scale human industrial interventions that may affect all scales of biological being. In similar terms to the way material nature writing dramatizes the physicality of human embeddedness alongside all of earth's organisms in the material processes that shape the biosphere, which I designate here with

Thoreau's lyrical term "the living earth," Haskell also dramatizes the materiality of species' embeddedness in the dynamism of evolution. The day-to-day embeddedness of species in their material interactions and their negotiations of place are merely specific instances of an ongoing evolution. Just as Thoreau positions his idea of a "living earth" against notions of a "fossil earth" (*Walden* 206), Haskell writes against the common misapprehension that the evolutionary process has somehow come to an end, and that while it was active in shaping the biological present, all species have now reached their final forms. "The living earth" and "living evolution" are thus terms applied here to bring out the dynamic intra-action in the biosphere that Haskell highlights in his nature writing. In a wider sense, Haskell's three perspectives on nature can themselves be read as dignifications of unseen dynamics in the world.

Nature Writing and *The Forest Unseen*

While *The Forest Unseen* is thematically innovative, its form is conventional. Stylistically *The Forest Unseen* follows what one could call the traditional Thoreauvean model of nature writing as set out in *Walden*, in which the author observes his chosen location through a full turn of the seasons while writing a meticulous journal about his observations and experiences. Mirroring the format of a journal, the title of each of Haskell's chapters gives the date, month and main theme for the chapter that follows. The chapter title usually provides the name of the keystone species that will be the main focus, serving much the function that Ursula Heise ascribes to the media's use of "charismatic megafauna" to "synecdochically evoke the beauty and value of entire ecosystems" (*Sense of Place and Sense of Planet* 137). Rather than opting for "charisma," Haskell seems to make his choices partly based on what species best illustrates certain dynamic forces that characterize the location on a particular date.

Haskell's choice of structure is particularly significant within the framework of the nature writing genre. *Walden* is loosely patterned on the progression of the seasons. Though Thoreau actually lived at Walden Pond for more than two years, and had known the area intimately for much longer, in *Walden* this wealth of knowledge and experience is condensed into a meditation that ostensibly observes the chosen location through the cycle of a year, from spring to spring. Because *Walden* was a foundational text of the genre, the yearlong study of a place has become a traditional format of nature writing, though one might argue this reflects a general bias towards writing situated in temperate climates where there are some significant seasonal variations to observe.

There is a strategic dimension to Haskell's use of the traditional Thoreauvean model for his unconventional nature writing. The nature writer's authority has been an important issue in studies of nature writing, and has at times been seen in direct correlation with the amount of time the writer has spent on site. Ann Ronald, for example, felt compelled to take Lyon's influential taxonomy of nature writing to task because "his seven categories pertain more to written content than to characteristics of individual writers" ("Kingdom" 193). Ronald finds flaws with an approach that catalogs nature writing in terms of themes and topics, rather than basing its categories on the nature writer's themselves: "If I understand the classical system of taxonomy correctly, such groups and

subgroups should categorize plants and animals themselves, not their products. So a real taxonomy of naturalists should focus on authors rather than essays, on postures and strategies that authors display” (193). Partly as a corrective to Lyon, she therefore posits her own taxonomy of nature writing. As both a practicing nature writer and ecocritic, Ronald’s example is somewhat illustrative of attitudes often held by both scholars and writers.

The “characteristic” Ronald determines to be of paramount importance in the construction of her own classification table is the question of distance between writer and landscape, especially distance understood in temporal terms. She argues that “distance opens or closes the text for the reader and tells the reader whether or not the writer’s judgments are to be trusted” (200). Distance is understood in quantitative rather than qualitative terms here, or, to put it differently, quantity is regarded as a requisite for quality. Ronald’s taxonomy thus becomes a scale where the nature writer is evaluated mainly on the basis of how much time he or she has spent on location, which presumably reflects how well he or she got to know it: “If someone tries to write about an environment he or she sees only in haste, however, the result is far more problematic. The reader perceives neither objectivity nor subjectivity, feels no connection whatsoever” (202). In descending order of authority Ronald’s alternative taxonomy runs as follows: “residents, emigrants, immigrants, sojourners, travelers, and tourists (200). A “resident” stands “wholly inside his or her materials” (200), whereas for Ronald “it’s hard ... to take a fly-by-night tourist very seriously” (202). As this pairing of quotes illustrates, the scale Ronald constructs also overtly implies a loss of authority and believability as we progress from “resident” towards “tourist.” Ronald herself classifies these two poles in her continuum as “the ultimate insider and the ultimate outsider” (207).

Ronald’s quantitative, temporal evaluation of the nature writer’s encounter with place indicates the yearlong encounter as the minimal unit of time required on site for being capable of speaking of that place with more than partial authority, because this time unit allows for “the importance of seeing a landscape under a variety of seasons, weather conditions, and personal situations” (205). Though perhaps no longer as dominant as when Ronald wrote, this stance is nonetheless prevalent within nature writing, and the structure of *The Forest Unseen* thus provides a sense of believability to its descriptions. Having observed the location through a year means the author is recognized as someone with a requisite depth of knowledge of that place. So while Haskell’s choice of the yearlong meditation may simply be a reasonable mode for a biologist to choose when writing about a forest in the temperate zone, this is also a structure that conveys a sense of authority. However, Haskell’s writing challenges the temporal premise at the core of Ronald’s taxonomy, because it is clearly the penetrative force of Haskell’s scientific gaze and not the amount of time he spends on location that brings him to a deep understanding of the site. Thus Haskell’s writing partly undermines the type of temporal hierarchy within which he is himself favorably situated.

The guiding metaphor for Haskell’s yearlong meditation is the Buddhist concept of the mandala, based on Haskell’s personal experience of witnessing two Tibetan monks make one out of colored sand. The mandala Haskell watched – the word can significantly be translated from Sanskrit into “community” according to Haskell (xii) – was a small

temporary circle of colored sand poured by monks in circular patterns that held symbolic religious significance. The study of the mandala represents “[t]he search for the universal within the infinitesimally small,” which Haskell believes is a “theme playing through most cultures” (xii). As Haskell understands it, “[t]he mandala is a re-creation of the path of life, the cosmos, and the enlightenment of the Buddha. The whole universe is seen through this small circle of sand” (xi). Haskell appropriates this idea whereby the local is seen as a lens on the global, braiding together the near and the far, the minute and the enormous, to a patch of remnant old growth forest in Tennessee, explaining that his book is “a biologist’s response to the Tibetan mandala,” and proposing that “the truth of the forest may be more clearly and vividly revealed by the contemplation of a small area than it could be by donning ten-league boots, covering a continent but uncovering little” (xii). Scale, for Haskell, thus becomes a porous phenomenon that derives from what he considers the “perceptual wall[s]” inherent to biological existence (231-32), rather than meaningful separations inherent to the real world.

What makes Haskell’s “search for the universal in the infinitesimally small” more than synecdochal mysticism is his scientifically informed insistence on a “living earth” brimming with living, material connections. The dynamism of a landscape may be far less apparent to nature writers when they are preoccupied with their own activities, as they climb, hike or paddle through landscapes that come to seem passive in contrast. What is enacted throughout *The Forest Unseen* is thus a reorientation outwards, from the physical activities of a human narrator towards dynamic processes in the landscape. The small forest mandala on which Haskell’s narrative centers is a circle of forest floor “a little more than a meter across” (xii). The process of selecting a site for study, which writers often invest with much significance, is for Haskell deliberately arbitrary: “I chose the mandala’s location by walking haphazardly through the forest and stopping when I found a suitable rock on which to sit. The area in front of the rock became the mandala” (xii-xiii). While this may seem a flippant approach to finding a location with which to cultivate a yearlong intimacy, the implication is that this patch of forest can be regarded as readily, and instructively, interchangeable with any other patch, and thus in some sense emblematic of them all. Another important factor in Haskell’s choice of location is that it is practical for his set of rules for his project: “visit often, watching a year circle past; be quiet, keep disturbance to a minimum; no killing, no removal of creatures, no digging in or crawling over the mandala. The occasional thoughtful touch is enough” (xiv). Haskell’s preferred method is notable in the way it relies on calculated immobility, and specifically on refraining from entry, differing markedly from common approaches in nature writing which often rely on hiking, rafting, or some other form of entry and movement through a chosen setting. In comparison, the attention Haskell pays to his short stroll to and from the mandala is negligible.

Haskell’s stationary project, though he may not have intended it as such, stakes its ground in opposition to other relatively recent projects of “re-sensing place,” such as those analyzed by Tom Lynch in the final chapter of *Xerophilia*. Lynch considers how writers in the past 40 years of nature writing have been struggling to re-sense places by keeping mobile, vigorously exploring and bodily immersing themselves in landscapes by hiking

through them. Contrary to the more typical emphasis on motion and physical capability identified by Lynch, Haskell's perhaps unintentionally satirical comment cited above about "ten-league boots, covering a continent but uncovering little" (xii), in effect posits an alternative to the almost obligatory nature writing hike that was institutionalized in the genre with Thoreau's essay "Walking" (1862). Just as in the nature writing Lynch examines, Haskell's body, although stilled and watchful, remains a crucial interface through which connection with place is achieved in *The Forest Unseen*. The connections that are brought into focus, though, are physical, material, semiotic, and trans-corporeal, as much as they are visual: "When I sit or walk in the forest I am not a 'subject' observing 'objects.' I enter the mandala and am caught up in webs of communication, networks of relationship. Whether or not I am aware of it, I change these webs" (187). In acknowledging the way his presence causes responses and interactions with the landscape regardless of his own thoughts on the matter, Haskell demonstrates a more ecocentric orientation in *The Forest Unseen* than in much nature writing that preoccupies itself with the writer's responses to the landscape.

As with narratives centered on physical motion, Haskell's narration is driven by momentum, energy, and movement, but these pulses of activity are narratively relocated from the narrator and into an observed environment that "catches him up," to paraphrase Haskell. The active hiker straining through a passive landscape for the purposes of feeling psychological attachment, is replaced with a more passive observer and commentator of an active, living landscape: "The webs change me also. Every inhalation carries hundreds of airborne molecules into my body ... Most of the forest's molecules bypass my sense of smell and dissolve directly into my blood, entering my body and mind below the level of consciousness" (187). The text represents a shift of focus as compared with traditional nature writing, from the celebration of human mobility, agency, and physical achievement to the exploration of both natural and human mobility and agency.

In line with material nature writing in general, the focus also shifts from mysticism towards science. Although the mandala is a Buddhist concept to which Haskell finds equivalents in many cultures, this is to be understood as a "guiding metaphor" for his scientific approach to the forest. The author's initial supposition is that "the forest's ecological stories are all present in a mandala-sized area" (xii). Studying "mandala-sized areas" is something Haskell considers a viable scientific approach to forest biology, which is why he also has students create mandalas which they spend hours researching. In the same way that he chooses a patch of forest floor that is interchangeable and thus representative of other patches of forest floor, Haskell makes a point of universalizing the method of studying the forest in this way so that it is not seen as particularly anchored in any culture, but relevant to them all. While he notes that similar ideas have guided not only Buddhist religion, but William Blake, "Saint John of the Cross, Saint Francis of Assisi, or Lady Julian of Norwich," for whom "a dungeon, a cave, or a tiny hazelnut could all serve as lenses through which to experience the ultimate reality," he emphasizes that *The Forest Unseen* is "a biologist's response" (xii).

While he does not denigrate or reject the philosophical frameworks of any of these religions or persons, Haskell aims to convey a sense of his method as applicable and

adaptable to any cultural framework, the way scientific methods are ideally supposed to be. The research question to be answered is “[c]an the whole forest be seen through a small contemplative window of leaves, rocks, and water?” (xii), and the approach to an answer is mainly informed by the science of biology. Haskell’s mandala thus resembles the biological practice of the “mesocosm,” which according to Timothy Morton “is an ecologist’s term for a slice of an ecosystem that one has isolated in order to study” (*Hyperobjects* 193). While a typical mesocosm is more overtly controlled by the researchers studying it than Haskell’s mandala, the mandala is still a controlled space, where the behavior of the researcher is regulated by the rules of conduct set out in advance, much as they would be in a research project.

The “biologist’s response” to the mandala represents a mode of material nature writing that differs from traditional nature writing. Lyon, for example, suggests that nature writers “have without exception maintained a reverential attitude toward nature,” and that “[o]neness with nature, awe, and the spiritually potent deepening of consciousness beyond the egoistic level brought about by intimacy with an environment remain prominent” (33). Addressing this type of nature writing often forces scholars like Lynch and Lyon to use vague terms about how the connection the nature writer feels in the germinating instance is “reciprocal,” a “partnership,” or a “transaction.” A representative example would be Lyon’s discussion of how nature writer Mary Austin pursued what she thought about as “the ‘transaction’ ... between her ‘spirit and the spirit of the land’” (95), or a “flash of mutual awareness between the two” (97). Couched in the psychological terms of “spirit” and “awareness” it is hard to see how an encounter between person and land could be “mutual.” Haskell, on the other hand, makes explicitly clear how a “chemical interpenetration” takes place between person and place. This type of “chemical interpenetration” has well-known effects, he maintains, with many more to be considered and traced: “It seems participation in the mandala’s community of information may bring us a measure of well-being at the wet chemical core of ourselves” (187). Mutuality is physical for Haskell, and independent of awareness, as he changes webs of communication “by alarming a deer, startling a chipmunk, or stepping on a living leaf,” while simultaneously “the forest’s molecules ... dissolve directly into my blood, entering my body and mind below the level of consciousness” (187). Haskell’s intra-action is not with “the spirit of the land” but with the physicality or materiality of the land and its organisms.

While it may not be what Haskell sets out to do, his study of the mandala models the way Anthropocenic nature writing has begun to conceive of a porosity between place and planet. The study of the mandala in *The Forest Unseen* exemplifies the way nature writing of the Anthropocene stimulates readers to rethink their orientation towards the environment in terms of human embodiment, non-human agency, and trans-corporeality. In *Meeting the Universe Halfway* (2007) Karan Barad proposes that “[e]mbodiment is a matter not of being specifically situated in the world, but rather of being in the world in its dynamic specificity” (377; emphasis in the original). Haskell combines a sense of being specifically situated with a sense of being caught up in the “dynamic specificity” of the world. The mandala becomes a perpetually dynamic “contact zone” in Haskell’s narration, where a multiplicity of beings come into contact with each other across a variety of scales.

Donna Haraway suggests that “contacts zones are where the action is, and current interactions change interactions to follow. Probabilities alter; topologies morph; development is canalized by the fruits of reciprocal induction. Contact zones change the subject – all the subjects – in surprising ways” (*When Species* 219). The “biologist’s response” in *The Forest Unseen* bears out Haraway’s understanding of contact zones in multiple iterations, from the small scale of ticks feeding on human blood, to pesticides altering insect DNA, invoking a sense of the Anthropocene in which all organisms are joined in multiform responses to the altering “dynamic specificity” of an increasingly humanized world.

Dignifying the Overlooked in *The Forest Unseen*

When E. O. Wilson comments on the “fusion of science and poetry” in his comment on *The Forest Unseen*, he alludes to one of the characterizing features of Anthropocenic nature writing overall. The scientific grounding for the descriptions in nature writing often entails a toning down of the genre’s often somewhat romantic orientation towards the picturesque, in favor of what one might consider more pragmatic landscape descriptions, or a more scientific orientation towards function. What this entails in terms of nature writing aesthetics is a shift from surface to function. Writing that accounts for Anthropocenic pressures on the landscape often drifts towards notions of systemic breakdowns of ecological processes and fears of the necroregion or the anti-landscape. The concern in such nature writing in the face of environmental decline prompts a preoccupation with the current status of the system, which in turn motivates an increasing concern for those aspects of the system that best serve to maintain its overall health and viability. Rather than foregrounding aesthetic beauty in an observed landscape, Haskell demonstrates the capacity to find aesthetic pleasure in the processes of ecosystems.

While traditionally iconic species and features of ecosystems have been foregrounded in nature writing because they possess appeals such as drama, beauty and charisma, Anthropocenic nature writing to a much larger extent focuses on processes of the ecosystem, such as topographical features that contribute to maintaining biodiversity, or organisms that help in purifying the land of pollutants. An essay describing a wetland might for example be as focused on the water filtering properties of the place and its ability to militate against the formation of coastal dead zones, as on the impressive diving abilities of ospreys hunting for food in that landscape. Evolutionary adaptation and ecosystemic integration are other qualities Anthropocenic nature writing often looks for in its chosen species. In such writing worms, bacteria and fungi may be of equal, or even superior, narrative interest in the description of a place than for example its apex predators, because they contribute ecosystemic services without which the entire system would collapse. Even when writing about charismatic species a functional aesthetic governs which aspects of those species receive narrative prominence. Rather than dwelling on the exterior appeal of deer, for example, Haskell’s chapter on these animals considers the interior of deer intestines, the importance of the bacterial ecosystem living in its guts, the effects of its grazing on the forest community, and the contribution of deer to increasing tick populations and multiplying instances of tick-borne diseases (25-34). More importantly, such writing

moves towards an understanding of both the charismatic species and the perhaps more unsightly organisms they live alongside, such as billions of intestinal bacteria, as partners in intra-active dynamisms that together comprise the system. One environmental dimension of such writing is that it underscores in pragmatic terms that the dynamic nature of ecosystems means that one cannot only preserve the species one likes, because they are all interdependent on each other.

Lynch suggests a reorientation towards function in his study of nature writing in the Southwest in *Xerophilia*. He makes a plea for both overlooked places and organisms, and for adopting a new form of “ecoaesthetics” (180) or “ecological aesthetics” (214) that more suitably encompasses these aspects of the natural world. He argues:

Environmental writing and ecocriticism can play useful roles in redirecting our attention away from our too-exclusive infatuation with charismatic megafauna toward an appreciation for the way invertebrates and other uncharismatic microfauna contribute to the functioning of healthy ecosystems, and to the way they and their roles are represented, misrepresented, or under-represented in our literature. (143-44)

For Lynch, highlighting the contribution of uncharismatic species to “the functioning of healthy ecosystems” is a factor in helping prevent the decline of species that may be less traditionally appealing than others (168). However, the “ecoaesthetics” Lynch endorses is contingent on learning to “re-sense” places through a fuller sensual engagement that will involve all the five human senses more equally than previous nature writing, which Lynch worries may be excessively visual in its orientation towards the world (182-83). The ecological merits of environmental writing that relies on the authority of the senses has, however, been extensively criticized by ecocritics such as Dana Philips, Greg Garrard, Timothy Morton, and most recently Timothy Clark.

In *Ecocriticism on the Edge* Clark argues that in the Anthropocene “we must take issue with the work of green thinkers ... who try to defend the immediate life-world of embodied perception as a kind of norm from which we have strayed ...” (36). Clark and Lynch both agree that what is visual no longer suffices in accounts of the world, and Clark exemplifies his skepticism towards the authority of the visual with a quote from David Woods: “If my tree is dying, I notice. But the earth slowly dying is not obvious, not something I can see at a glance out of my window ... There is a gap between what I can see and what may really be happening. The glance is ripe for education” (qtd. in Clark 36). “The glance” cannot account for the functionality of entities as complex and large as the ecosystem or the biosphere. Where Clark and Lynch part ways is in their views of how to resolve the problem of visual authority. Whereas Lynch is preoccupied with supplementing the ocular approach to landscapes by including the other senses more equally, Clark opines that the entire prospect of human sensuous engagement with the world is ripe for critique: “The supposedly immediate ‘life-world’ of our unreflective perception is far from being the possible foundation of secure theorizing ... idealizing bodily immediacy as some kind of authenticity, ‘re-achieving a direct and primitive contact with the world’” (38). Because the Anthropocene is beyond human perception, and because the problems it involves are often

dismissed since they cannot be seen or felt, Clark contends that “it is now such an absorption in the immediate that becomes an object of suspicion” (39). The type of sensuously grounded ecoaesthetics proposed by Lynch is for Clark “one of the greatest obstacles to being able to think the Anthropocene” (39).

In *The Forest Unseen* Haskell demonstrates that for Anthropocenic nature writers neither of these positions are entirely adequate, nor entirely wrong. Clark’s critique provides a necessary adjustment to notions regarding the authority of the human senses. Haskell demonstrates consistently how the human sensory apparatus falls short at assessing the things that happen in, and to, the mandala. The functioning of the mandala and the forest are far beyond the scope of what the human senses are able to perceive. And yet Clark’s dismissal of the human senses as a means of addressing place does not make much sense in reference to *The Forest Unseen*, where sensory intra-action is explained as the material reality of chemical and molecular trans-corporeal exchanges that pass between various porous bodies. The existence of “perceptual walls” does not undermine the legitimacy of the sensory experience to Haskell, but defines the limits and parameters of the sensory apparatus. The senses convey information within those parameters. Sensory reactions are biological responses to concrete stimuli from the outside world. They present only one dimension of multiscale existence, but that does not mean that what information they provide should be distrusted or jettisoned. Rather the senses often provide the first impression at the scale of a human “life-world” in *The Forest Unseen*, which Haskell then augments with the aid of his hand-held magnification lens, or his scientific expertise, as the text begins to move across scales to interweave this human life-world with the narrator’s best scientific estimation of life-worlds at multiple other scales. This mobility across scales becomes Haskell’s main tool for facilitating an understanding of the highly complex functioning of the mandala. In this pragmatic, functional aesthetic, charismatic creatures occasionally figure, but they are of no more, and frequently less, narrative import than creatures commonly experienced as grotesque. Starting out in the lifeworld defined by the human senses is a crucial component in Haskell’s dignification of the overlooked, as it helps underscore the intra-action of the human scale of being with all other scales of being.

The biologist’s response to the project of studying an entire forest through a circular patch of forest floor can also be considered as a pragmatic way of finding and conveying a scientific understanding of how things work. Yet the scientist is not blind to more conventional aesthetic qualities. Haskell is very aware of the beauty of nature, but he finds conventional beauty to be only one single aspect in a much more diverse and complex field. Common ideas of beauty are also in *The Forest Unseen* considered to be “ripe for education,” to borrow Wood’s phrase cited above as Haskell often notes the visual appeal of organisms not commonly thought beautiful. Haskell uses his sensual engagement with place as a means towards a deeper ecological immersion in it. The same goes for his perception of surface beauty, which is only incidental to much of his narration. The true points of narrative interest as they emerge in *The Forest Unseen*, depend far more on a presentation of the adaptive, cooperative, competitive, evolutionary complex, or even parasitic qualities in the studied species, than they do on observing their surface and form. The ecological aesthetics practiced in Haskell’s writing is thus entwined with information

as much as description. He wrests the observing lens away from the charismatic, exceptional, and often rare creatures that nature writers tend to favor, towards the commonplace, grotesque, or overlooked beings, creatures that are often more central to maintaining the ecosystems humans appreciate than the organisms humans find pleasing to watch.

Haskell shows that the most common dynamics that surround us can be experienced as more exotic than the charismatic megafauna that readers are more accustomed to reading about. This is especially true at the scales of being in the mandala. In *This Incomparable Land* Lyon considers the narrative potency of presenting the reader with an exotic location. Lyon's focus is on Barry Lopez's engagement with the arctic, and his argument suggests that encounters with new territories, whatever they might be, may serve functions beyond mere variations of setting. He puts forth that Lopez's mediations on the arctic "frame the great question of how we should live." What enlivens Lopez's preoccupation with this question, Lyon proposes, is situating it in the arctic, because there "the environment is strange to us." The defining features of the arctic, he posits, "make a perceptual field that people from the temperate zone are not accustomed to; it is, in some true sense, a 'new world.'" In the unaccustomed "perceptual field" of the arctic, Lyon contends that people from temperate zones are given "a chance to see the world anew" (120). *The Forest Unseen* represents a rather different version of nature writing to Lopez's, but Haskell too generates a "perceptual field" through which the world can be viewed "anew."

The study of the mandala in *The Forest Unseen* "frame[s] the great question of how we should live" with reference to landscapes, beings, and relationships that are much closer to home for most people than the remote arctic, and yet in many ways no less exotic. The deciding factor of what is experienced as exotic seems to be what kind of perceptual field the author attempts to create rather than relocation to unexplored places. While it clearly counts as unconventional territory in nature writing, Haskell's forest mandala is purposefully constituted as a window that provides the opportunity for viewing the world anew: "Indeed, one outcome of my watch at the mandala has been to realize that we create wonderful places by giving them our attention, not by finding 'pristine' places that will bring wonder to us" (244). Haskell shifts the emphasis of the nature writer's role in relation to nature. Unlike writers such as Lopez, who travels to the distant Arctic to discover its exotic wonders, Haskell suggests that the wonder of places is a quality we impute to them, and thus something we can discover anywhere. While some places may be more challenging than others in this respect, Haskell demonstrates that all that is ultimately required is a certain mindset and some knowledge. The impetus in Haskell's brand of nature writing is thus not towards seeking out the world's exceptional places and beautiful organisms, but towards exploring ways of penetrating the perceptual walls that prevent us from experiencing everyday nature and ordinary landscapes and beings as wonderful. This plea for the revalidation of landscapes and organisms that writers and people tend to bypass on their way to see something more conventionally pleasing is rendered poignant by his intense focus on the important functions of these overlooked organisms, places, and scales of being.

What enables Haskell's narrative dignification of a seemingly unspectacular landscape to come across as enlivening and fresh, is first that he takes the time for a deep narrative immersion in an unassuming place. Haskell dignifies what most would overlook by spending a year in study of it. He elevates organisms most are unaccustomed to paying attention to, by transferring them into the center of narrative. Second, Haskell brings his primary narrative focus down to a scale of being beyond the immediate grasp of the human senses. Thus, rather than finding an exotic location, Haskell finds an exotic scale of perception. Most of *The Forest Unseen* takes place beyond the perceptual walls that enframe the human sensuous apparatus. Third, Haskell brings to bear his deep scientific expertise in his study of common plants and creatures, thereby providing a wealth of information that in itself opens exotic new dimensions of awareness regarding the commonplace. Fourth, Haskell enlivens the mandala through highly lyrical language, rendering information poetic, in a way that makes absorbing the stream of information pertaining to the functioning of the mandala a literary pleasure in its own right.

Haskell's study of the forest mandala relies on the three perspectives on nature mentioned above related to the living earth, the ongoing evolutionary process, and the consequences of human intervention. These are the three key ways in which Haskell's study of the mandala invites the reader to understand the world anew. The sliding movement of Haskell's narration between these perspectives on nature often emphasizes the contributions of overlooked organisms, and especially micro fauna, to the forest as a functioning ecosystem. This narrative movement establishes a pragmatic view of a small part of an ecosystem inhabited by common species that is tufted on scientific interpretation of the lives of the minute creatures and plants as they are revealed through the technological mediation of Haskell's handheld magnifying lens. . His study exemplifies the interest of much of Anthropocenic nature writing in the evolutionary adaptation of species, the behavior that enables an organism's existence, the cooperation and competition that energizes the cycling of matter and energy through the ecosystem, the physical requirements various organisms have in order to thrive in an ecosystem, how they benefit others and how others benefit them, how they alter the world and how the world alters them. This is a shift in nature writing away from the earlier preoccupation with the way nature appears and the narrator's reaction to visual stimuli, towards an interest in the way nature works, what will be required to keep it working, and how nature's ability to work is being stymied. In *The Forest Unseen* this shift involves all of Haskell's three perspectives on nature.

Ecophobia is counteracted in *The Forest Unseen* through arguments, information, and reason, rather than emotion. The perhaps most obvious result of the redirection of the nature writer's eye from a macro to a micro level, is the way it dignifies a number of organisms and processes for which most readers might experience an irrational, but instinctive, sense of revulsion, or of whose existence readers might be entirely ignorant. The dignification of the overlooked in *The Forest Unseen* has both pragmatic and aesthetic dimensions. An episode where Haskell studies a snail through his magnifying lens provides an illustrative example of this: "Through the lens, the snail's head fills my field of vision – a magnificent sculpture of black glass. Patches of silver decorate the shining skin, and small

grooves run across and down the animal's back" (51). What is immediately startling about this passage is the aesthetic appreciation Haskell clearly shows for the snail. Surprisingly, Haskell's appreciative delight is sustained, and perhaps even bolstered, when the animal does something most might find horrific:

The snail's head explodes, ending my speculations. The black dome is split by a knot of cloudy flesh. The knot pushes out, forward, then the snail turns to face me. The tentacles form an X, radiating away from the bubbling, doughy protrusion at the center. Two glassy lips push out, defining a vertical slit, and the whole apparatus heaves downward, pressing the lips to the ground. I watch, saucer-eyed, as the snail starts to glide over the rock, levitating across a sea of lichen. Tiny beating hairs and ripples of infinitesimally small muscles propel the ebony grazer on its path. (52-53)

The genuine delight Haskell displays here for the xenomorphic creature is untainted by even the slightest acknowledgement of how most spectators might react to seeing a magnified snail's head explode into writhing tentacles. The extended visual field opened by the magnification of the lens reveals the micro level of the mandala as a place for transformative bodies.

In both the first and final sentence of this chapter, Haskell refers to the mandala as "the Serengeti" (51, 53) for mollusks, and with the scale framing that is achieved through his hand held lens, it becomes, at least temporarily, possible to share his vision of the mandala as a place where "[h]erds of coiled grazers move across the open savanna of lichens and mosses" (51). Haskell's senses are insufficient to observe the details that reveal the biodiversity of the mandala:

From my prone position I see the snail pause amid lichen flakes and black fungus spiking from the surface of oak leaves. I peek over the lens and suddenly it is all gone. The change of scale is a wrench into a different world; the fungus is invisible, the snail is a valueless detail in a world dominated by bigger things. I return to the lens world and rediscover the vivid tentacles, the snail's black-and-silver grace. The hand lens helps me harvest the world's beauty, throwing my eyes wide open. Layers of delight are hidden by the limitations of everyday human vision. (53)

What Haskell underlines here is the way scale plays a part in the way humans ascribe value. At the scale of human perceptions "the Serengeti" for mollusks is merely a "valueless detail," but Haskell's descriptions enliven this overlooked scale of being in the imagination of his readers. By zooming in, he promotes awareness that important things also take place beyond the perceptual walls of the human senses.

Of more importance than aesthetics to the dignification of the overlooked is Haskell's pragmatic insistence on function and trans-corporeality, and both can be illustrated with reference to the narrator's encounters with snails. In a later chapter, Haskell muses upon the spectacle of a snail that has been crushed on a rock close to his seat: "The

crushed snail in the mandala is one stream among many in the great springtime flow of calcium from the soil to the air. Breeding female birds scour the forest for snails, greedy for the sheets of calcium carbonate on the small snail's back" (114). The supply of calcium that the snail unwillingly provides is recognized as intrinsic to the bird's ability to create eggshells. This relationship is outlined in detail, across several different scales, as the narrative passes from the gory scene of a smashed snail carcass and into the bird's digestive system where the shell is broken up into its components and absorbed into the bloodstream of the parent bird which transports it to the "shell gland" (114). Every step of the calcium's journey on its way from snail shell to becoming eggshell is accounted for. The narrative zooms in and out according to which aspect of the process of transubstantiation is of interest, at times zooming in all the way to the molecular level:

The outermost membrane [of the egg] is studded with tiny pimples that bristle with complex proteins and sugar molecules. These attract calcium carbonate crystals in the shell gland and act as centers from which the crystals can grow. Like sprawling cities, the crystals build on one another and eventually join, creating a mosaic across the surface of the egg. In a few places the crystals fail to meet, leaving an untiled hole in the mosaic that will become a breathing pore extending from this first layer of the eggshell all the way to the surface of the completed shell. (114-15)

The snail is shown as integral to processes of reproduction in another species with which few modern readers would think to connect it. But Haskell writes across many scales in a style that does not acknowledge any boundaries between them beyond those of habitual human conception. Haskell's preoccupation with the journey of the snail's calcium carbonate is far from finished with the production of eggshell:

As the young bird grows inside the egg it pulls calcium out of the shell, gradually etching away at the walls of its home, and turns the calcium into bone. These bones may fly to South America and be deposited in the soil of the rain forest, or the calcium may return to the sea in a migrant-killing autumn storm. Or, the bones may fly back to these forests next spring and, when the bird lays her eggs, the calcium may again be used in an eggshell whose remains may be grazed on by snails, returning the calcium to the mandala. (115)

As the scale of reference considered by Haskell expands, the mundane and localized contribution of a snail's shell to a bird's diet comes to matter in increasingly varied ways across great distances. Emplacing the snail as a catalyst in this process cycling calcium from one part of the planet to another through the living bodies of birds, endows the snail with unforeseen importance. Haskell stresses that without the snail's contribution of calcium the process cannot even begin (114). The study of the snail's place in the mandala thus exemplifies how Haskell's view of a living earth, where trans-corporeal transactions that cross scales of space and time are entirely ordinary and parts of the everyday

functioning of the ecosystem, also dignifies many of the planet's overlooked or despised organisms:

These journeys will weave in and out of other lives, knitting together the multidimensional cloth of life. My blood may join the snail's shell in a young bird that eats or is bitten by a passing mosquito, or we may meet later, in millennia, at the bottom of the ocean in a crab's claw or the gut of a worm. (115)

"[T]he multidimensional cloth of life" is a somewhat inert metaphor for Haskell's understanding of the living earth as a dynamic system through which the cycling of matter never ceases. The study of the snail also demonstrates how the Anthropocene adds even more layers of complexity to the already bewildering "multidimensional cloth of life," further accentuating the important participation in the functioning of the system of overlooked organisms:

Winds of technology blow at this cloth, billowing it in unpredictable directions. Atoms of sulfur that were locked into fossil plants when they died in ancient swamps are now tossed into the atmosphere when we burn coal to fuel our culture. The sulfur turns to sulfuric acid, rains down on the mandala, and acidifies the soil. This acidic fossil rain tips the chemical balance against the snails, reducing their abundance. Mother birds have a harder time bingeing on calcium and so breed less successfully, or not at all. Perhaps fewer birds will mean less blood for mosquitoes, or fewer predatory beaks? Viruses like West Nile that thrive in the wild birds may, in turn, be touched by the changed bird populations. This ripple in the cloth floats across the forest, perhaps finding a hem at which to end, perhaps floating on forever, drifting through the mosquitoes, viruses, humans, ever outward. (115-16)

The snail thus is dignified in relation to all three of Haskell's perspectives on nature in *The Forest Unseen*. First, the snail is situated in the streaming of matter and energy that comprise the networks that connect and enliven the near with the far on the living earth. Second, the snail is shown as superbly adapted to its environment. And third, it is shown that the snail cannot be removed from its place in the webs of trans-corporeal exchanges without significant disruptions following. As the Anthropocene is shown to raise the stakes for survival for the snail and the species that depend on it, Haskell demonstrates that the dignification of the snail comes with added moral weight.

The snail is celebrated for aesthetic qualities few would initially anticipate, but which Haskell's lyrical writing render believable. This extension of aesthetic appreciation to the snail is bolstered by the weight Haskell places on the snail's impressive evolutionary adaptations to its particular scale of existence. Further dignity is accorded to the snail by the author's detailed rendering of one of the several ways in which the snail figures as a thread in the "multidimensional cloth of life" across scales of size, distance and time (115). The snail, thus valued for both its function and aesthetic quality, is rendered through

descriptions that are both pragmatic and romantic. One can thus speak of Haskell's nature writing in terms of a pragmatic and romantic approach, or a romantic pragmatism. Because of these interlocking dignifications, the emerging landscape of fear that concludes the chapter, in which chemical pollution undermines the future prospects of survival for the snail, is shadowed by far greater consequences at more levels than one would assume would flow from the demise of a small creature such as the snail.

"Partnerships" in *The Forest Unseen*

As suggested above, Haskell's three perspectives on the living earth are explored primarily through the form of material nature writing with an emphasis on trans-corporeality. As in Wohl's *Of Rock and Rivers*, the narration in *The Forest Unseen* attends to the trans-corporeal dynamics of material flows passing through the landscape and ecosystem, but in *The Forest Unseen* the focus on the involvement of bodies in these trans-corporeal flows is greatly emphasized. In "The 'Environment' is Us" (2009) Harold Fromm writes of a shift in perceptions of the environment from the traditional view, held by what he refers to as "the Imperial Self": "Understood rather literally, the environment was the stuff that surrounds us: factories, automobiles, trees, skies" (95). This view has been radically changed in recent years: "The 'environment,' as we now apprehend it, runs right through us in endless waves, and if we were to watch ourselves via some ideal microscopic time-lapse video, we would see water, air, food, microbes, toxins entering our bodies as we shed, excrete, and exhale our processed materials back out" (95). Fromm's new understanding of the word matches several of Haskell's descriptions of his mandala: "Although the mandala sits in an old-growth forest, the flow of life here is powerfully affected by currents running in from the surrounding landscape" (155). Haskell points out that "[e]cological mandalas do not sit isolated in tidy meditation halls, their shapes carefully designed and circumscribed. Rather, the many-hued sands of this mandala bleed into and out of the shifting rivers of color that wash all around" (155). Haskell's understanding of place is thus defined by the flow of matter and energy passing to and from it.

For Haskell, though, interpenetration and trans-corporeality are not merely the defining features of landscapes, but also of bodies of all shapes, species and sizes in ways that make any clear demarcation between different bodies and places problematic. Alaimo argues that the trans-corporeal implies a reorientation of the subject in its relation to the world: "... understanding the substance of one's self as interconnected with the wider environment marks a profound shift in subjectivity" (20). For Haskell the shift in subjectivity and perceptions of the body that Alaimo alludes to is structural. The mandala and each body within it, are seen as intertwined and overlapping porous nodes in living ecological networks. When Haskell traces the journey of calcium from a snail's shell and through bird bodies to far-flung corners of the world, he demonstrates how bodies are themselves understood as dynamic features in place and of place. The body passes matter into the landscape which become part of the place, and matter from the place passes back into the body and becomes part of the body. This is the operative understanding of the self and bodies that Haskell employs from his earliest meditations and throughout.

The understanding of the living earth and its inhabitant organisms that emerges in *The Forest Unseen* corresponds with Barad's understanding of the world as set forth in *Meeting the Universe Halfway*: "The world is an ongoing intra-active engagement, and bodies are among the differential performances of the world's dynamic intra-activity, in an endless reconfiguring of boundaries and properties, including those of spacetime" (376; emphasis in the original). This "endless reconfiguring of boundaries and properties" within the dynamic part of an ecosystem is central to Haskell's nature writing. While the mandala is constantly reconfiguring Haskell and the other organisms in the mandala, they are in turn constantly reconfiguring the mandala. This mutual, ongoing reconfiguring is, in fact, subtly present in the first scene of arrival at the mandala in the first chapter tellingly titled "January 1st – Partnerships." Upon reaching the mandala for the first time, Haskell's first act is to pause and "inhale the rich air" (1). This first inhalation represents a first drawing in of the molecules of that place into his own body. Later passages dwell on the molecular transmission from Haskell to plants that takes place with every exhalation. Haskell also at various junctures ponders the store of information chemically communicated to his senses from his surroundings with every inhalation. Admittedly, descriptions of breathing would provide tenuous support for classifying *The Forest Unseen* as material nature writing, but more obvious examples that stress the molecular – and other – exchanges between body and place abound throughout the book.

Haskell's act of inhaling upon arrival is notable for being the first of many instances when he traces bodily exchanges between himself and the world. These interchanges also braid Haskell and the mandala's organisms together, as molecules flow on his breath out into the world, and back into his lungs to be absorbed in his blood. He muses further on how his sweat provides a necessary portion of potassium for moths which enables them to create eggs, and how his blood provides fuel for new generations of ticks and mosquitoes. The blurring of species and body boundaries is often represented by the trope of what Haskell refers to as the "amalgam." The amalgam signals how species blend together through degrees of symbiotic behavior. The first examples Haskell provides of amalgams are symbiotic beings such as the lichen: "Lichens are amalgams of two creatures: a fungus and either an alga or a bacterium" (2). Haskell outlines how symbiosis changes the individual characteristics of the two organisms fundamentally on a physical, cellular level, by joining to produce "a world-conquering union" (3). Without the other neither species is recognizable as lichen.

Haskell rapidly expands his notion of symbiosis to include the idea of coevolution and applies it at the scale of various human involvements with other species. In the first chapter Haskell interweaves his musings on the biological union of fungi and alga to form the body of lichen, with a parallel meditation on the lives of farmers and their crops. For Haskell symbioses come at different scales and in different formats. He sees interspecies "partnerships" as profoundly involved in shaping the course of not only human history, but human biology. For Haskell "a farmer tending her apple trees and her field of corn" and the lichen both represent "a melding of lives" (3). The farmer's dependence on plants is a biological and evolutionary given: "The farmer's physiology is sculpted by a dependence on plants for food that dates back hundreds of millions of years to the first wormlike

animals” (3). Domesticated plants stand in a similar relationship of dependence to the farmer: “Domesticated plants have experienced only ten thousand years of life with humans, but they too have shed their independence” (3). Shedding independence means “surrendering the possibility of drawing a line between oppressor and oppressed” (3). Questions of mastery, for Haskell, “are premised on a separation that does not exist. The heartbeat of humans and the flowering of domesticated plants are one life. ‘Alone’ is not an option” (3). While some partnerships, such as the one which melds two species to form the lichen, may seem more straightforward examples of symbiosis, Haskell insists that the various forms of symbiosis bind with equal strength: “Lichens add physical intimacy to this interdependence, fusing their bodies and intertwining the membranes of their cells, like cornstalks fused with the farmer, bound by evolution’s hand” (3). Haskell’s narrative mobility between the scales of physical size and evolutionary time in such descriptions creates a sense of narrative symbiosis between these vastly different scales. Insistently linking one scale with another in almost all his studies of various organisms imbues these linkages with a sense of life, creating the impression of a living earth that is still being shaped by living evolution at all scales of being.

In Haskell’s descriptions history itself is considered as the result of multispecies participation. Haskell describes all species as they emerge and evolve together with other species in an evolutionary process. In *When Species Meet* (2008) Donna Haraway describes her related concept of “companion species” as “coshapings all the way down, in all sorts of temporalities and corporealities” (164). For Haraway the concept of “companion species” is culturally charged because it challenges assumptions of human existence and history, which Haraway finds inherently flawed. She finds the too exclusive focus on the human as the shaping force of history problematic, and suggests that “it is the patterns of relationality and, in Karen Barad’s terms, intra-actions at many scales of space-time that need rethinking ... The partners do not precede their relating; all that is, is the fruit of becoming with” (17). As can be argued for Barad and Alaimo as well, what is at stake for Haraway is recognizing agentic capacities other than human in the shaping of the world as it emerges: “Every species is a multispecies crowd. Human exceptionalism is what companion species cannot abide. In the face of companion species, human exceptionalism shows itself to be the specter that damns the body to illusion, to reproduction of the same, to incest, and so makes remembering impossible” (165). She argues for what Mary Pratt calls “a contact perspective” which “emphasizes how subjects are constituted in and by their relations to each other” (216) and for more “naturalcultural histories” (217), and quotes Anna Tsing’s question: “What if we imagined a human nature that shifted historically together with varied webs of interspecies dependence?” (218). Haskell represents all the species he observes in the mandala as amalgams of each other. Their natures are composed of each other, and they shift together across a multiplicity of scales of being. The history of one species cannot be disentangled from that of another, or as Haraway puts it: “To be one is always to *become with* many” (4; emphasis in the original).

Another name for the new perceptual field Haskell’s nature writing generates might thus be a “contact perspective.” Haskell’s invitation to view the world anew is defined by his emphasis on interspecies dynamics that fundamentally envelop the human.

Just as Haraway argues that the domestication of dogs with their superior sense of smell may have occasioned an evolutionary reduction in the size of the human olfactory apparatus that made it possible for the human speech organs to expand and develop, thus involving canine history in the development of human language, Haskell finds that his very molecular composition is the result of other species: “Now I understand how intimately my physical being is tied into the community of life. Through the ancient biochemical struggle between plants and animals, I am bound to the forest through the architecture of my molecules” (168). Living evolution understood as a process of continuous material intra-actions between species and places makes considering humanity as apart from nature nonsensical to Haskell. Understanding the world means tracing streams of trans-corporeal contact across the porous boundaries of evolutionary “coshapings.”

Both Haraway’s and Haskell’s insistence on recognizing the agency of other than human forces in the shaping of the world can be considered a form of dignification. Like Haraway, and in even greater detail, Haskell pursues the idea of partnerships down to the smallest levels of being. Much of his nature writing is focused on the microbial level of bacteria and fungi, where everything is permeably trans-corporeal. His first chapter “Partnerships” sketches the conceptual baseline of intra-action that informs the rest of the book. In one of the chapter’s earliest examples of an interspecies partnership, Haskell homes in on mitochondria, bacteria that ages ago surrendered their individuality to inhabit the cells of other creatures: “All plant, animal, and fungal cells are inhabited by torpedo-shaped mitochondria that function as miniature powerhouses, burning the cells’ food to release energy. These mitochondria were also once free-living bacteria and have ... given up sex and freedom in favor of partnership” (4). The point Haskell is moving towards as he shifts between scales of experience and perception, is to affirm that the interlinkages between species in an ecosystem cross scales and boundaries, or as Haraway puts it: “nothing makes itself in the biological world, but rather reciprocal induction within and between always-in-process critters ramifies through space and time on both large and small scales in cascades of inter- and intra-action” (32). Haskell shows how none of the planes of existence in an ecosystem are independent of each other, as transmissions of matter move from one level to another and back again, and thus none are irrelevant to the other, no matter how small or how large: “We are Russian dolls, our lives made possible by other lives within us. But whereas dolls can be taken apart, our cellular and genetic helpers cannot be separated from us, nor we from them. We are lichens on a grand scale” (5-6). An awareness of these multi-scale bindings transfigures our understandings of the human. Even humans are symbiotic amalgams of beings that are interlinked at a trans-corporeal crossroads of indispensable exchanges. Haskell’s declaration that “alone is not an option” means that any attempt to understand a species in isolation will be flawed.

Haskell’s emphasis on intra-actions challenges what Clark, borrowing Tim Ingold’s term, calls “inversion.” According to Clark “inversion” is a concept that was “devised to critique idealistic notions of human agency that portray it in overly unitary and self-contained terms” (*Ecocriticism* 126). As Clark explains it, “the logic of inversion” misrepresents “human agency as a central, sovereign determinant of events, ascribing what are really the effects of multiple, contextual factors to the supposed act or nature of a

unitary, human agent whose actions are then understood as the outer expression of an inner intention or character” (126). Haskell’s narration undermines “the logic of inversion” in various ways, for example by downplaying human agency in order to highlight overlooked contributions from non-human sources. This tendency is exemplified in the chapter “September 21st – Medicine,” which focuses on Haskell’s brief hospitalization for heart trouble. Having come upon a familiar stream after its endangered salamander population has been raided by fishermen in search of bait, Haskell’s outrage affects his heart to the point where he has to be temporarily hospitalized (164). While the logic of inversion would probably situate all agency in the descriptions of his subsequent recovery with the doctors and nurses who diagnosed and medicated Haskell, Haskell instead situates all agency with plants: “Aspirin, originally from willow bark and meadowsweet leaves, slipped into my cells, and ... disabled the processes that cause clotting of blood. Digitalis, from foxglove leaves, bound to my heart’s cells, shifting the chemical balance, making my heartbeat stronger, surer” (165). Human agents are entirely absent from Haskell’s description of his recovery, but nature is shown as extending in unforeseen ways into places considered exclusively human: “In the hospital room, I first felt separated from nature, but this was an illusion. Nature’s tendrils penetrated the room, reaching out to me through pills. Plants twined inside me, their molecules finding and grasping mine in a close embrace” (165). Human agency is of course everywhere implied, since “nature’s tendrils” only reach Haskell through pills that humans have clearly manufactured and administered, but his choice of focus recognizes the importance of nature’s unseen agency in this situation in a way that also undermines the logic of inversion.

For Clark, “to work to undo the strategy of ‘inversion’ is to transform what seems the work of few interacting points or agents into the work of a far more multiplicitous and plural web, such as a whole ecological/geographical and biological context traced over larger spatial and temporal scales” (127). Haskell works along similar lines, describing a complex multiplicitous world of interspecies intra-action. As far as the significance Clark ascribes to tracing such contexts over “larger spatial and temporal scales” goes, this is just one dimension of the equation for Haskell, and his narration often exemplifies how the logic of inversion may be undone just as well by attending to smaller scales. While Clark’s reasoning is steered by his preoccupation with the Anthropocene as something huge, Haskell more diversely considers the Anthropocene at both the macroscopic and microscopic level. While Clark acknowledges the smaller scale in instances such as when he suggests that “the European conquest of much of the world was to a large degree an accident of microlife” (125), his perspective in such instances is on the amassed impacts of microlife at the scale of continents. Haskell’s narrative thrust is towards the sense that smaller scales and the study of specific organisms may be as instructive, or more so, even of the Anthropocene, than the imponderable scale at which Clark mainly tries to consider the Anthropocene.

Throughout *The Forest Unseen* Haskell uses the contact perspective that takes shape through the particular expertise of his field to create moments of Anthropocenic ruptures in his text at a variety of scales. The intra-active nature of life that Haskell perceives can also become an avenue for a strengthened narrative landscape of fear, as it

generates understandings of biological beings as products of the world in far more dynamic ways than many people conventionally perceive. Haraway observes that “[o]rdinary identities emerge and are rightly cherished, but they remain always a relational web opening to non-Euclidean pasts, presents, and futures. The ordinary is a multipartner mud dance issuing from and in entangled species” (*When Species* 32). Beings understood as open “relational webs” sound a particular note of concern regarding the question of just what might enter and intra-act with those webs in the Anthropocene. A passage on mosses in the chapter “February 16th – Moss” in *The Forest Unseen*, for example, begins innocently in the landscape of the past with an observation on the shaping force of living evolution: “Half a billion years of life on land have turned mosses into expert choreographers of water and chemicals” (38). After marveling for a couple of paragraphs on the contributions these “choreographers of water and chemicals” make to the forest community through their evolutionary adaptations, Haskell turns to a consideration of how these evolutionary functions of mosses take on new dimensions in the Anthropocene:

Their rough surfaces trap dust and can snatch a healthy dose of minerals from a breath of wind. When the wind carries acidity from tailpipes or toxic metals from power plants, mosses welcome the junk with wet, open arms and draw the pollution into themselves. The mandala’s mosses thus cleanse the rain of industrial detritus, clasping and holding heavy metals from car exhaust and the smoke of coal-fired power stations. (39)

As often happens in *The Forest Unseen* the passage unexpectedly leads to the environmental landscape of fear. In conventional nature writing, going deeper into nature is often considered as a departure from culture, but in *The Forest Unseen* going deeper into nature means a confrontation with the ways in which culture is substantially manifested in the chemical core of the forest mandala, affecting the daily functioning of its organisms. This constitutes a landscape of fear that is virtually undetectable to the human senses, and Haskell can only surmise its presence in the mandala on the basis of his prior knowledge of ecology and the world’s Anthropocenic condition. However, this encounter with pollution discloses the Anthropocene at the micro-level of existence. The microscopic pollution is not the Anthropocene, but it signals the Anthropocene. Encountering traces of toxification at this level suggests as much about the scale of the Anthropocene as Clark’s scaling upwards towards ever greater scalar frames. The description of how moss serves to sift water, for particulate matter at the size of dust and minerals represents an unexpected instance of the pervasiveness and insidiousness of the Anthropocene’s landscape of fear. In going down in scale, Haskell’s narrative demonstrates that all scales intra-act with each other, and the micro presence of industrial chemicals in minute organisms outline other dimensions of the scope of the Anthropocene than Clark’s expanded, continental views.

Not only does Haskell’s extended study of mosses perform a dignification of organisms that he declares “get little respect” (36), but it also illustrates how new types of interspecies partnerships are emerging in the Anthropocene. Having spent several pages pragmatically outlining the evolutionary adaptations to the environment that make mosses

expert purifiers of water, Haskell eventually ascends in scale to show how this capacity of individual moss colonies has begun to matter collectively to humans:

We usually take these gifts without consciousness of our dependence, but economic necessity sometimes jolts us out of our sleep. New York City decided to protect the Catskill Mountains rather than pay for a man-made water purification plant. The millions of mossy mandalas in the Catskills were cheaper than a technological ‘solution.’ (39-40)

Symbiosis for Haskell exists in some form across a huge variety of scales, even between entities as different and large as New York City and the Catskill Mountains, and the demands of the Anthropocene, such as the greater stress on water purification, has begun forging new symbiotic links. Attending to symbiosis thus becomes a way to further dignify the overlooked in the Anthropocene as human pressures on the land call attention to capacities of organisms inhabiting it to mitigate Anthropocenic harm. Haskell observes that in Costa Rica “downstream water users pay upstream forest owners for the service provided by the forested land” (40). This, for Haskell, becomes an instance of “the human economy” adapting itself to “the reality of the natural economy” and thus reducing “the incentive to tear up the forest” (40). A functionalistic, pragmatic approach that highlights the many complex ways in which known and unknown partnerships and symbioses bind organisms together thus has some clear environmental benefits. But attending exclusively to partnerships is not a sufficiently nuanced way of understanding the living earth in *The Forest Unseen*.

The biological antonym to symbiosis – parasitism – becomes the means by which Haskell moderates what might otherwise emerge as a too holistic understanding of nature as characterized by mainly symbiotic and cooperative trans-corporeal intra-actions. The chapter “Partnerships” importantly ends with reflections on the horsehair worm, a particularly disturbing example of parasitism. Haskell explains that the horsehair worm is an intestinal, and ultimately brain-hijacking, parasite that gestates in crickets. He outlines how the trans-corporeal nature of life sets the stage for a gruesome sequence of material events once a parasite egg has been internalized in its host cricket:

Once inside the cricket, the spiny-headed larval pirate bored through the gut wall and took up residence in the hold, where it grew from a comma-sized larva to a worm the length of my hand, coiling upon itself to fit within the cricket. When the worm could grow no more, it released chemicals that took over the cricket’s brain. The chemicals turned the water-fearing cricket into a suicidal diver seeking puddles or streams. As soon as the cricket hit water, the horsehair worm tensed its strong muscles, ripping through the cricket’s body wall, and twisted free, leaving the plundered vessel to sink and die. (6)

Haskell makes an explicit point out of informing the reader that “[t]he horsehair worm’s relationship with its host is entirely exploitative. Its victims receive no hidden benefit or compensation for their suffering” (6). As if intentionally maximizing his reader’s feelings

of revulsion, Haskell proceeds to talk of how these parasites prefer to mate in “untidy skeins of tens or hundreds of worms” (6), behavior for which they have been named “Gordian worms” (6). Haskell lets the grotesque figure of the tangled parasitic worms stand as an alternative, darker example of the trans-corporeal intermingling of all life as he understands it in *The Forest Unseen*:

Taoist union. Farmer’s dependence. Alexandrian pillage. Relationships in the mandala come in multifarious, blended hues. The line between bandit and honest citizen is not as easily drawn as it first seems. Indeed, evolution has drawn no line. All life melds plunder and solidarity. Parasitic brigands are nourished by cooperative mitochondria within. Algae suffuse emerald from ancient bacteria and surrender inside gray fungal walls. Even the chemical ground of life, DNA, is a maypole of color, a Gordian knot of relationships. (7)

Parasitism thus becomes a phenomenon that adjusts Haskell’s more optimistic observation earlier in the chapter regarding the futility of trying to discern power relationships in symbiotic intra-actions. While phrasing it this way might risk simplifying Haskell’s complex view of our place on the living earth, the sense that humans have a choice between the posture of symbiont or parasite recurs several times in *The Forest Unseen*. Although encounters with parasites are often staged as requiring a process of intellectually overcoming his instinctive ecophobia, Haskell ultimately works towards a dignification of the overlooked that also includes parasitism. One might thus consider if Haskell also works towards acknowledging and reconciling these two dimensions of the human condition.

Scale in *The Forest Unseen*

One of the most significant features of *The Forest Unseen* as an example of Anthropocenic nature writing is revealed in the author’s experimentation with perspective and scale. While Haskell’s material nature writing takes place at the trans-corporeal interspecies crossroads between permeable bodies, it also takes place in an equal condition of permeation between various scales of being. Clark considers the Anthropocene itself to be what he calls a “scale effect,” which means that “at a certain, indeterminate threshold, numerous human actions, insignificant in themselves (heating a house, clearing trees, flying between the continents, forest management) come together to form a new, imponderable physical event, altering the basic ecological cycles of the planet” (*Ecocriticism* 72). He argues that such “scale effects underlie the way material and non-cultural elements inhabit and distort what may be presented as purely cultural political issues...” (72). “Scale effects” also distort clear understandings of what can be considered ethical behavior, because “what is self-evident or rational at one scale may well be destructive or unjust at another” (73). For Clark the impetus is towards scaling upwards, which he considers a way of reappraising behavior and events in relation to larger contexts of meaning, which to his mind leads to an understanding that is better attuned to the Anthropocene.

Scale, for Clark, “forms a pervasive, decisive but almost universally overlooked structural feature of any sort of reading” (73). He considers the presupposition of scale a

“constitutive, unavoidable element of any representation, evaluation, or literary reading” (73). As a discursive strategy, what he calls “scale framing” can be a means of managing discussion: “Scale framing is ... a strategy for representing complex issues in ways that make them more amenable to thought or overview, while at the same time running grave risks of being a simplification and even evasion” (74). The primary scale of the mandala might, in the context of Clark’s drive towards the application of expanding scale framings in the Anthropocene, seem to risk both “simplification” and “evasion.” Clark quotes Emma Hughes as saying that “by giving people a boundary you are installing a sense of agency or control” (qtd. in Clark 74). Haskell’s mesocosm of forest floor, artificially demarcated from the rest of the forest floor of which it is part, might thus seem a simplifying contrivance for the sake of narrative management and control.

But Haskell is concerned with the porosity of phenomena. His narrative speeds inwards and outwards of the mandala, sliding up and down between scales. Clark argues that “[s]cale effects in particular defy sensuous representation or any plot confined, say, to human-to-human dramas and intentions, demanding new, innovative modes of writing that have yet convincingly to emerge” (80). Clark’s sweeping statement seems dismissive of literature’s potential to adequately address scale effects. But in *The Forest Unseen* Haskell’s material nature writing, informed as it is by his training as a biologist, performs a narrative integration of multiple scales of being that shows their enmeshment in each other from scales even larger than the Anthropocene and down to the scale of life as revealed through a magnification glass in the mandala. While Clark calls for, and in several chapters performs, readings of texts that address the subject matter in reference to one scale at a time, moving on to larger scale framings to see how they reframe the issues, Haskell’s narrative moves freely between scales, descriptively threading them together to highlight the lack of anything but perceptual borders between them. While lyrical and compelling, this narrative intergrading of scales is also pragmatic and functional, rendered in the narrative voice of a scientist outlining how things work materially, rather than in tones of romanticism or mysticism.

As exemplified by the discussion of Haskell’s study of snails above, small things observed in the mandala are frequently shown as significant participants in large, even global contexts. The transition between, and the interlinking of, scales in *The Forest Unseen* thus shows that Haskell’s narrative operates within the scale frames Ursula Heise set forth in *Sense of Place, Sense of Planet* (2008). In their simplest possible sense, Heise’s terms “sense of place” and “sense of planet” are virtually self-explanatory. Heise suggests it is possible to connect what might seem the two polar opposites of “a sense of place” and “sense of planet” by “imagining the global environment as a kind of collage in which all the parts are connected but also lead lives of their own” (64). Whereas nature writers have long embraced the ideal of cultivating “a sense of place” as a means of mitigating a perceived sense of cultural estrangement from nature for which they perceive globalism as a prime cause, Heise has made a strong case for why each perspective on its own is inadequate, and that an integration of the two is requisite. Anthropocenic nature writing of Haskell’s stripe implements this fusion between the genre’s classic sense of place, with an expanded sense

of planet. It is, in many ways, from the friction zone between these two perspectives in the genre that nature writing's Anthropocenic mode emerges in the first place.

As Clark illustrates, the very idea of the Anthropocene invokes the frame of macro-scale entanglements. But the term Anthropocenic nature writing also by virtue of being nature writing equally implies a strong "sense of place." Place-mindedness holds such a central position in nature writing that is almost impossible to conceive of nature writing that would not cultivate a strong sense of place. The combination of the term "Anthropocenic" with "nature writing" thus in its very name comes to imply the combination of a "sense of place" with a "sense of planet" that Heise expects from meaningful environmental writing. In such a context, Heise's words in relation to her analysis of Karen Tei Yamashita's novel *Through the Arc of the Rainforest* become applicable to Haskell's study of his forest floor mandala: "It signals not only that there is no such thing as pristine wilderness left but more decisively that there is no local geography that is not already fundamentally shaped by global connectivity" (102). Like Yamashita's Amazon jungle, the mandala is a node in the ecological network, which works at both the local and global scale. The narrative extension of the mandala beyond its borders as a piece in a global "collage" is not only horizontal, but also vertical, as well as temporal. Through his focus on living evolution, Haskell further links the mandala with both the past and the future.

The clearest example of Haskell's mobility between scales appears in the chapter "April 6th – Sunrise Birds." In this chapter, Haskell's precise sense of place is interlocked with a sense of planet, and even with a sense of solar system. As its title suggests, this is ostensibly a chapter on bird watching. From John Hay to David Gessner, nature writing abounds in examples of writing about birds. Yet few go about it in quite the same way as Haskell. After a paragraph within which sound, in the form of a turkey's startled gobble, is interestingly construed as a trans-corporeal exchange of "spongy air molecules" between the bird's throat and the nature writer's eardrum (84), Haskell turns towards a seemingly unrelated contemplation of light in similar material terms. At this point his text performs a dramatic scalar leap outwards to contemplate the behavior of photons in the core of the sun, before it journeys through the solar system, piggybacked on a traveling photon, towards the mandala back on earth:

The sun is origin of both the dawn's light and birds' morning songs. The glow on the horizon is light filtered through our atmosphere; the music in the air is the sun's energy filtered through the plants and animals that powered the singing birds. The enchantment of an April sunrise is a web of flowing energy. The web is anchored at one end by matter turned to energy in the sun and at the other end by energy turned to beauty in our consciousness. (85)

The disparate narrative threads pertaining to the acoustics of birdsong and the properties of light, travel across various scales to meet in Haskell's localized experience of dawn at the mandala. Not only does this example illustrate the consistent level at which the trans-corporeal streaming of matter and energy is an endemic aspect of the mandala, but it also

highlights how these trans-corporeal flows link the entangled contents of the mandala with objects that are unimaginably remote, unimaginably small, and unimaginably large. Thus the example above demonstrates both an interlinking of a sense of place with planet, and an emphasis on the vital importance of the communication between these scales. Haskell's aesthetic delight in morning birdsong is shown to be vitally dependent on the transfer of microscopic photonic materials that begins with combustion at the heart of a remote celestial object several times the size of the earth. The movement between discrepant scales is staggering to the point of seeming improbable, but the consistent way in which Haskell's lyricism is grounded in the biologist's knowledge, with flights of fancy being virtually nonexistent, renders even this journey between scales believable.

A later chapter titled "April 29th – Earthquake" repeats the juxtaposition of the tiny mandala with events on a grand scale. The chapter opens with a tectonic event: "The earth's belly rumbles mightily. Intestines of stone shudder past one another, untwisting their tension, grinding into relaxation. The distress is centered sixty miles away, twelve miles below the skin" (93). As suggested by the measurements provided by Haskell above, the enormity of the event is widely out of proportion with the small mandala on which narrative attention in *The Forest Unseen* is fixated. This discrepancy between scales at first stumps Haskell, as he arrives expectantly at the mandala the morning after the quake to find that it seems unaffected by the tumult: "The mandala appears entirely unmoved. If change has occurred, it is beyond my perception. The sandstone boulders sit like old monks, beyond stillness in the depth of their contemplation" (94). Haskell experiences a sense of scalar vertigo as he tries to reconcile the stillness of the mandala with the violence of the earthquake: "I have run up against a break, a discontinuity in the nature of reality" (94). So far Haskell's writing bears out Clark's perspective cited above that "[s]cale effects in particular defy sensuous representation," because it is precisely Haskell's perception that fails in this instance. He has reached what he later refers to as a "perceptual wall" (231). Haskell comments on the diffraction of scales that he encounters in terms of biology and geology:

The biological drama that plays around and over the mandala's stones keeps time in seconds, months, or centuries and measures physical scale in grams or tons. Geological reality ticks in millions of years and weighs in billions of tons. It seems that I am extraordinarily unlikely to see geology in action at the mandala, even after an earthquake. The tempo and scale of geology are incommensurable with biological experience. (94)

The fracture Haskell perceives between biological and geological events seems partly contrived when taking into account that these thoughts come to him the morning after an earthquake. The geological events that transpire in an earthquake clearly take place within Haskell's biological time frame of "seconds, months, or centuries," as underscored by his observation earlier in the chapter of how "the compression waves [spreading through the ground from the epicenter of the earthquake] rip through the earth at more than a kilometer every second" (93). Nor does the fact that his house stays upright through the upheaval

perplex him in the same way as the undisturbed appearance of the mandala. The experience of a perceptual fracture in the wake of these events is thus clearly staged in order to facilitate his further discussion of the connections between vastly different scale frames.

While Haskell concedes having reached a perceptual impasse between seemingly irreconcilable scales, his scientific perspective on living evolution enables him to move beyond the “perceptual wall” of his senses:

The earth’s slow movements seem to exist in another realm, separated from life by a wide chasm of time and physical scale. This is challenge enough for our minds. But the most unfathomable truth about the chasm is that there is a thread across, a thin connection from life’s moment-by-moment to the impossible longevity of stone. The thread is woven by life’s persistent fecundity. Tiny strands of heredity join mother to child and combine to stretch back billions of years. The strands spool every year, sometimes branching into new lines, sometimes ending forever. So far, diversification within the thread has kept pace with extinction, and the mortal biological fleas on the immortal stony gods have bought a contingent immortality of their own. (95)

Surprisingly, Haskell’s encounter with “a discontinuity in nature” ultimately leads him to the realization that there is no discontinuity between scales, merely the biological and cognitive inability to perceive or imagine continuities. The immediately observable “realities” around the mandala “form the seemingly firm walls of the mandala’s world” (95). But Haskell argues that “walls turn out to be veils. Behind the veils, across the chasm, the world is in motion” (95). While living evolution for Haskell represents the tenuous thread that anchors biological beings in geological time, his material nature writing helps Haskell envision how the mandala itself is part of the ponderous mobility of the earth’s crusts:

The mandala sits on an old river delta that, in turn, sits on an ancient sea floor. All this was uplifted and eroded. Oceans, rivers, and mountains changed places in a dance of terrifying magnitude. The mandala was shaken by an infinitesimally small finger twitch of the dance last night, a reminder of the overwhelming otherness of the physical earth. (95-96)

Despite this sense of the “otherness of the physical earth,” however, Haskell’s nature writing indicates that scale effects of commensurable magnitude may not be entirely ungraspable phenomena to writing of the Anthropocene that strives for both a sense of place and a sense of planet. In contrast to Heise and Clark, though, who often for the sake of analytical neatness operate with a sense of temporary demarcation between scale frames, Haskell’s nature writing restlessly flits between scales. Just as in the case of his trans-corporeal perspectives on bodies and places above, Haskell’s focus is on the intra-active dynamism between scales of time and space. The long sweep of geologic and evolutionary history trails behind the mandala and extends before it, and the whole living earth enfolds it.

Anthropocenic Intrusions in *The Forest Unseen*

As argued above, Anthropocenic nature writing is often characterized by the intrusion of unwelcome knowledge upon what John Elder has called nature writing's "germinating instance" (354). The germinating instance, as Elder construes it in relation to poetry, is the moment of contact between writer and landscape, the experience in nature – for example a hike, a rafting trip, or a night of camping – that sparks the impulse to produce the work of art. Elder regards this as a moment of purity that translates in relatively intact form into the texts of the most skillful nature writers. The Anthropocene is thus often realized as a disruption of this moment. This disruption comes as an apparently unsought and unwelcome awareness of some form of human-induced decline or disturbance in the landscape in question that the writer feels unable to ignore. Material nature writing, for example, often discloses its awareness of anthropogenic disturbance when it begins attending to aspects of the cycle of energy and matter at levels beyond the easy grasp of the human senses. In such writing the landscape of fear is often "discovered" as a chemical substrate in the present landscape that can only be detected through scientific investigation. Or the landscape of fear can appear within the human visual range, but still remain undetectable to untrained observers, as for example when species that belong in an ecosystem are absent because changing climatic parameters have displaced them. Likewise the presence of intrusive species may indicate a landscape of fear only to the knowing observer regarding both climate change displacements and the global homogenization of ecosystems. But such subtlety is not always required.

While Haskell's germinating instances in his old growth forest mostly have the initial appearance of being pure and pristine, they are rarely entirely free of Anthropocenic intrusions. Often these intrusions in *The Forest Unseen* require an adjustment of scale frames to become perceptible. Or they require the filter of Haskell's training as a biologist to be understood. However, a highly obtrusive and symbolically noteworthy instance of Anthropocenic intrusion is found in the chapter "August 8th – Earthstar," where the mandala is compromised by the unexpected appearance of golf balls. Thematically Haskell's chapters tend to be very loosely arranged around the species of the moment, a species that to some extent embodies salient characteristics of that particular point in the progression of seasonal changes in the ecosystem. To begin with in "Earthstar" Haskell describes in his customary manner the particulars of the earthstar fungus, misdirecting the reader into believing the fungus is to be the focus of the chapter. When he approaches the mandala, Haskell spots a pair of spheres that he at first, in keeping with his topic, misinterprets to be the heads of white fungi rising above the forest floor. Upon discovering the true nature of the spheres he reacts with predictable revulsion: "Golf balls! Like a discarded beer can in a stream or bubble gum stuck into the bark of a tree, these plastic globes seem profoundly ugly and out of place" (156). The intrusion in the visual domain is overt, even massive, within the small scale of the mandala, and stimulates only negative reactions in Haskell. From this point onwards the golf balls become the keystone feature of that chapter, embodying discomfiting characteristics of the ecosystem that situate it in the Anthropocene.

The appearance of the golf balls catalyzes a meditation on the position of Haskell as a writer when brought face to face with an intrusion from the Anthropocene. While it may seem improbable to characterize something as diminutive and concrete as golf balls as intrusions from something as massive and abstract as the Anthropocene, Haskell's narration casts them as scale travelers, whose presence in the mandala connects with an industry that produces a billion balls every year (159), and with the supplanting of diverse native landscapes with the "sanitized" monoculture of golf courses across the world that often represent a massive drain on local water resources (157). The intrusion from the nearby human realm poses an illustrative quandary for Haskell as a nature writer, "a dilemma" as he calls it, over whether he should leave the balls in place or remove them (157). Haskell's instinctive reaction is to break his rule of non-interference and remove the golf balls because they seem "out of place" in the mandala (156). He perceives them as external to the functioning of the ecosystem: "The mandala's community emerges from the give-and-take of thousands of species; a golf course's ecological community is a monoculture of alien grass that emerged from the mind of just one species" (157). The foreignness of the golf balls to the ecosystemic functions of the mandala is caused by a physical attribute as well: "They don't decompose and release their nutrients. They don't become another species' habitat. The grand cycle of energy and matter seems to halt when it reaches a dumped golf ball" (157). There is even an ethical dimension to his thoughts about removing them, since "taking them away would restore the mandala to a more natural state and might make room for another wildflower or fern" (157). Cast as a form of eternal intruders, the golf balls are initially seen as nothing but an interference of synthetic matter that will always be outside the mandala's cycling of energy and matter.

Haskell's "dilemma" of the golf balls comes to represent a watershed moment in *The Forest Unseen* in terms of Anthropocenic nature writing. Reasoning his way through the dilemma leads Haskell to a set of assertions about the entanglements in the mandala:

My first impulse, therefore, is to restore the mandala to 'purity' by removing the plastic balls. But this impulse is problematic for two reasons. First, removing the balls will not cleanse the mandala of industrial detritus. Acidity, sulfur, mercury, and organic pollutants rain in continually. Every creature in the mandala carries in its body a sprinkling of alien molecular golf balls. My own presence here has undoubtedly added strands of worn clothing fiber, alien bacteria, and exhaled foreign molecules. Even the genetic code of the mandala's inhabitants is stamped by industry. Flying insects, in particular those whose ancestors have come near humans, carry resistance genes for many pesticides. Removing the golf balls would merely tidy up the most visually obvious of these human artifacts, preserving an illusion of the forest's 'pristine' separation from humanity. (157)

Adjusting the scale frame downwards from the visual range in the above reveals a chemical landscape of fear in which the golf balls cease to be the only trace of industrial humanity in the mandala. The adjustment of scale frame also reveals the golf balls as some of the more benign human artifacts affecting the mandala. Haskell's assertion that the golf balls are

only the most visible markers of the industrial age in the mandala separates his writing from much conventional nature writing.

More conventional nature writing might find, or construct, meaning in the ceremonial removal of the golf balls from the landscape, celebrating its restoration to a semblance of its original pristine state. Haskell acknowledges that there is merit to such acts of purification: “I’ll continue removing strange plastic objects from the rest of the forest, but not from here. There is value in keeping a patina of ‘naturalness’ along hiking trails and in gardens. Our harried eyes need a visual break from the productions of industry” (158). Clearing the forest of trash symbolizes a desire to live more symbiotically with nature for Haskell. But his shift between scales above reveals that this value is mainly symbolic, creating “a patina” but achieving no real purification. Leaving the golf balls in place signifies the also worthwhile, but more pragmatic “discipline of participating in a world as it is, discarded golf balls and all” (158). Leaving the golf balls as visible reminders of a more troubling, underlying condition is a vital decision for the integrity of Haskell’s micro-level engagement with the wider world. Through the seamless blending of a recognition of the chemical contamination of place with a dystopian sense of polluted planet, Haskell makes a clear assertion of Anthropocenic awareness.

The above is also a passage that illustrates well how tracing trans-corporeal streams of matter can lead nature writing towards Anthropocenic recognitions. It is precisely in the contemplation of the trans-corporeal exchanges of matter taking place between the mandala and the wider world, and between the bodies within the mandala, that the omnipresent micro-level imprints of macro-scale industrial humanity become too noticeable for Haskell to ignore. Alaimo has claimed that “an understanding of the material interchanges between bodies (both human and nonhuman) and the environment often requires the mediation of scientific information” (*Bodily Natures* 16) and it is precisely because of his training as a biologist that Haskell refrains from acting upon his initial impulse to clean up the site. The intra-active microcosm that Haskell presents as a model for bodies in their involvement with the living earth makes disregarding the environmental landscape of fear a morally fraught proposition. Haskell’s sense of how the ecosystem is shaped by a process of living evolution makes disregarding Anthropocenic pressures on living evolution, such as the long term effects of chemical pollution, a morally fraught proposition. Haskell’s insistence on the intra-active intertwinements that connect all scales of being, makes ignoring micro-level traces of toxification a morally fraught proposition. Haskell’s awareness of the slowly manifesting trans-corporeal landscape of fear at scales beneath sensory detection renders the cosmetic act of removing the golf balls not only hollow, but also actively deceptive.

Haskell, however, is more nuanced in his approach to the Anthropocene than what one might expect from a nature writer who has just discovered that his favored landscape has been to some degree fouled. Where Wohl’s Anthropocenic awareness triggered a sense of disillusionment with humanity, Haskell perceives the Anthropocene as the consequence of capacities in humans that are not in themselves contemptible:

The impulse to purify might fail on a second, deeper level. Human artifacts are not stains imposed on nature. Such a view drives a wedge between humanity and the rest of the community of life. A golf ball is the manifestation of the mind of a clever, playful African primate ... As these able apes get better at controlling their world, they produce some unintended side effects, including strange new chemicals, some of which are poisonous to the rest of life. Most apes have little idea of these ill effects. However, the better-informed ones don't like to be reminded of their species' impact on the rest of world, especially in places that don't yet seem to be overly damaged. I am such an ape. Therefore, when a golf ball in the woods strikes my eyes, my mind condemns the ball, the golf course, the golfers, and the culture that spawned them all. But, to love nature and to hate humanity is illogical. Humanity is part of the whole. To truly love the world is also to love human ingenuity and playfulness. Nature does not need to be cleansed of human artifacts to be beautiful or coherent. Yes, we should be less greedy, untidy, wasteful, and shortsighted. But let us not turn responsibility into self-hatred. Our biggest failing is, after all, lack of compassion for the world. Including ourselves. (157-58)

Locating human achievements, whether harmful or not, within the natural world as Haskell does above, represents a way of staging these issues that is radically different from the more conventional way in nature writing of casting culture as nature's antonym. After emplacing human and other than human bodies in his intra-active vision of the trans-corporeal living earth, and after merging environments, humans, and non-humans as "coshapings" of the billions of years long ongoing partnership that is his vision of evolution, the more traditional rhetorical displacement of human products and actions to an imagined outside of these all-enveloping processes becomes impossible for Haskell. Like all Anthropocenic nature writing, his nature writing is in its ultimate consequence "nature-culture writing" in the sense that an absolute distinction between the two can no longer be meaningfully maintained. This is not to say that Haskell perceives environmental harm as something to be embraced because it is in some sense "natural." While environmental degradation is not alien to nature, Haskell stresses that it is in many ways harmful to nature.

Although Haskell's intellectual response may be inclusive in acknowledging that such behavior, even if problematic, is part of the interaction taking place in the natural world, his emotional response is outrage, and as shown in the example above of the raided salamander population, Haskell can be outraged by harmful human behavior to the point of needing medical treatment. The biologist in Haskell helps him achieve a partial intellectual reconciliation with the golf balls as an embodiment of the evolutionary achievements of "a clever, playful African primate." He finds further consolation by readjusting the temporal scale frame when he considers the golf balls to the scale frame of geology, even though he earlier found this an almost impossible frame to reconcile with the scale of biological life:

The golf balls in the mandala will continue to sink through the litter as the biological material they rest upon decays. In a few years they will hit sandstone and lodge between the jumbled boulders that underlie the

mandala. Here they will be ground to ionically strengthened thermoplastic dust. The escarpment on which we sit is receding eastward, so the golf balls will join the slow rumble of grinding rock, and the little balls will be pulverized. Eventually their atoms will settle into new rock, either in a compacted layer of sediment or in a hot pool of magma. Golf balls don't end the cycle of matter, as they seem to. They take mined oil and minerals into a new form, soar briefly, then return the atoms to their slow geological dance. (159)

The dynamism that for Haskell characterizes every aspect of the living earth triumphs over the semblance of monolithic permanence humans often perceive in plastic. Within biological time frames the golf balls become as permanent fixtures of the mandala as the block of sandstone Haskell uses for a seat. Imagining the slow destruction of the golf balls at the hands of geology may be satisfying for someone offended by their presence in nature, but read in the context of his earlier meditations on geologic time, it is perhaps more likely to interpret the description of the golf balls' projected journey through geological time as a subtle reminder that much of the damage humans do cannot be undone within any time frame to which people can meaningfully relate. This reading seems borne out by the final paragraph of "Earthstar" in which Haskell fancifully imagines that an organism capable of subsisting on plastic will spontaneously evolve. This unlikely scenario stands in *The Forest Unseen* as the only way in which the golf balls may disappear within the time scales of biological life. Thus Haskell's comment that the golf balls arrive "from a parallel reality" (156-57) can ultimately be taken to mean that they exist within time frames that are as "other" to those of biological life as what Haskell in his discussion of the mandala in relation to earthquakes refers to as "the overwhelming otherness of the physical earth" (96).

Haskell's scalar mobility creates a sense of the golf balls as what Morton in *The Ecological Thought* (2010) and *Hyperobjects* (2013) refers to as "hyperobjects." Morton's term designates "things that are massively distributed in time and space relative to humans" (*Hyperobjects* 1), and at least with reference to Haskell's perception of their time scale the golf balls fulfill these criteria. As Morton acknowledges, "[a] hyperobject could be the very long-lasting product of direct human manufacture, such as Styrofoam or plastic bags ..." (1). Several other hyperobjects of industrial origin occur in Haskell's meditation on the golf balls. "Acidity, sulfur, mercury" pollution in their own ways constitute hyperobjects with long term effects that transcend many scales, and the industrial stamp Haskell perceives in "the genetic code of the mandala's inhabitants" modulates the very course of evolution, rippling across uncounted generations and unimaginable time frames. Present in *The Forest Unseen* only in the microscopic quantities that are contained by the mandala, the multiscale dimensions of these hyperobjects create frequent Anthropocenic ruptures upwards from the microscopic to the macroscopic dispersed throughout the book. Haskell thus creates a sense of the environmental landscape of fear as existing across different scales relative to the narrative perspective, something of a hyperobject in its own right.

While the mandala is described as a fecund and flourishing place, the acknowledged presence and pressure of synthetic hyperobjects, whose scale frames constitute a dimensional otherness to biological life, generates a frequently occurring

landscape of fear in *The Forest Unseen*. The hyperobjects arrive in the mandala as travelers in the uncontrolled and ungovernable streaming of synthetic matter from industry, a process of trans-corporeal exchange that is an ongoing, relatively new feature of the living earth, and the impacts of which are accumulative. In an extended temporal scale frame Haskell perceives this new shadow dynamic as potentially disruptive to evolution itself, sometimes hinting at an anti-landscape that might emerge if biodiversity is reduced to a point insufficient to drive evolution (192-93). In “The Anti-Landscape” (2014) David Nye stresses that anti-landscapes occur across varied time scales: “Anti-landscapes ... can be ephemeral events that last only a few hours or days or they can last for generations” (19). Nye also indicates that anti-landscapes “vary greatly depending upon their physical location.... The anti-landscape is a general concept, but every case is different, based on local circumstances” (19-20). Nye’s point regarding the local specificity of the anti-landscape suggests the anti-landscape as a focus through which some discourses of the Anthropocene may be grounded in the specificity of localized destruction. While Nye does not consider anti-landscapes as multiplicitous across a range of scales of size, his emphasis on their manifestation as contingent “on local circumstances” opens up for a utilization of the concept with reference to varied scales of being that is relevant to *The Forest Unseen*. While for Nye the anti-landscape is defined by the characteristic of being antithetical to human health and wellbeing, he does sporadically reference their impact on “wildlife” (19), and thus considerations of the anti-landscape could include their inability to support more-than-human life as well. The prevalent landscape of fear in *The Forest Unseen* is that of a forest somehow losing its ability to sustain its current community of plants and animals, so the anti-landscape in question is mainly perceived with reference to non-human lifeforms.

For Haskell, the landscape of fear is twofold, manifested in specific terms as a perceived threat to the remnant of old growth forest in the mandala, or in Anthropocenic terms as a more widely dispersed threat to forests overall. Which landscape of fear emerges in a text is often determined by viewing the same type of human behavior in different scale frames. In the chapter “April 2nd – Chainsaw,” both landscapes of fear play out in relation to the felling of trees. As his chapters often do, “April 2nd – Chainsaw” begins at the scale of Haskell’s lifeworld. The first landscape of fear is created by the sound of human technology intruding upon the mandala: “A mechanical whine starts abruptly and cuts through the forest, jangling my nerves as I sit at the mandala. A chainsaw is ripping through wood somewhere to the east” (63). Fearful that someone is illegally cutting trees in the remnant old growth forest housing the mandala, Haskell sets off to investigate. The culprits turn out to be a maintenance crew clearing away dead trees next to the golf course, and to Haskell’s relief the cutting takes place above the tree line of the old growth forest. While Haskell notes with some acerbity that “dead trees evidently do not fit with the golfing aesthetic” (63) and registers his irritation at watching the team bulldoze the felled tree over a cliff and into the old growth forest beneath, the immediate landscape of fear is defused in this instance, and the localized behavior of the specific maintenance team is a source of annoyance rather than a perceived threat to the “multidimensional cloth of life” (115).

Scaling upwards begins to contextualize the initial scene of the felling of a single tree as part of a large problem. Adjusting the scale frame from the felling of a single tree to

the clearing of a mountainside presents a more troubling perspective on logging: “Stripping the mountainside of trees turns the forest soil from a moist duff to an oven-baked brick. Ground-nesting bees, wet-backed salamanders, and the creeping stems of ephemerals dry up and die in the parched soil” (63). At this scale logging creates an anti-landscape with a slow pace of recovery measured in decades and centuries. Scaling upwards further leads Haskell’s meditation from the felling of a single tree to a consideration of what Clark refers to as “transpersonal agency” (14) as he muses on the accumulative effect of myriad individual logging projects that considered in isolation may or may not be problematic, but when taken together are catastrophic.

The current attitude towards the forest, as Haskell sees it, “grows out of the values of millions of landowners, pruned and guided by society’s two clumsy hands, the economy and government policy” (65). These millions of landowners create pockets of preservation or pockets of small anti-landscapes, the latter of which in a large scale frame can be considered to have devastating effects on the forest: “The forest is shattered like a windshield by surveyor’s lines, so the diversity of these values plays out in a mosaic across the continent” (65). While individual responses among the millions of landowners may be diverse, creating a complex picture, an overall Anthropocenic tendency nonetheless presents itself to Haskell at this scale of transpersonal agency: “Despite the chaos, patterns emerge from the aggregate. We are neither an ice age nor a windstorm but something altogether new. We have changed the forest on the scale of an ice age, but at a pace accelerated a thousandfold” (65). While Haskell never uses the term “Anthropocene,” his perception of an “aggregate” impacting forests across a continent at the scale of an accelerated ice age is a clear example of Anthropocenic awareness.

The Anthropocene as Haskell describes it, is something that also has scaled upwards. He perceives two stages in the history of large-scale human-induced changes to forests in the United States:

In the nineteenth century we stripped more trees from the land than the ice age accomplished in one hundred thousand years. We hacked the forest down with axes and handsaws, hauling it away on mules and railcars. The forest that grew back from this stripping was diminished, robbed of some of its diversity by the scale of the disturbance. This was a windstorm on the scale of an ice age but similar to a tornado in its crude physical messiness. (65)

What creates the affective impact of the above is the juxtaposition of the very different temporal scale frames to produce a roughly equal scale of ecosystemic change. Framed against the ice age’s “one hundred thousand years,” the century of human logging seems greatly accelerated, “a windstorm” of disruption rippling across the North American continent.

Haskell describes how this already impressive rate of change was further scaled upwards: “Cheap oil and expensive technology have now brought us to the second phase of our relationship with the forest. No longer do we cut by hand and haul with animals or steam; gasoline engines do it all, accelerating our extraction and increasing our control”

(65). Haskell's second phase of human forestry corresponds roughly with what is often thought of as a second phase of the Anthropocene commonly referred to as the Great Acceleration. Along with the increased rate of extraction comes added layers of technological complexity, accentuating the scale of damage exponentially across a trans-corporeal horizon:

Oil's power and our minds' cleverness gave us another tool: herbicides. In the past, the forest's regenerative power limited our ability to direct the land's future. The forest would burst back, prepared for the ax by millions of years of wind and fire. Now 'chemical suppression' is the tool of choice to knock back trees whose genes tell them to resprout. Machines clear the forest, cutting then bulldozing the remaining 'debris.' Then the helicopters move in and rain herbicides on the remnants, forestalling a resurgence of green. I have stood at the center of these clear-cuts and seen no green to the horizon in nearly every direction: an arresting experience in Tennessee's normally lush summer. (65)

Seen through the specificity of the demarcated mandala, two conflicting temporalities emerge in the essay – a pairing of geologic and evolutionary time on the one hand within which biological life has flourished, and Anthropocenic time on the other, within which life declines. Anthropocenic time is made possible by a rupture.

The living earth is characterized by the interspecies partnerships in place, which over time are understood by Haskell as ongoing evolution. For Haskell, humans occupy a dual position, which is in one sense internal to the process of evolution, but in another external to it. Haskell notes how in the past evolution shaped human ingenuity and human ingenuity gave humanity tools. The earliest tools such as "fire" and "clothes" created what Haskell refers as "comfort," and with "comfort" came a rupture: "comfort sidestepped natural selection" (20). Comfort freed humanity from the implacable laws of natural selection, producing "less suffering and fewer deaths" (20). While these are positive outcomes to the partial independence of humans from evolution, that same independence is what allows humans to unintentionally trigger the Anthropocene through the use of other tools, such as the "herbicides" referred to above.

In spite of occasionally noting the asymmetry between the scale of evolutionary time and that of geological time, Haskell notes that there is also a certain symmetry that links them. While geology changes the earth at staggering scales of time and space, it does so mostly at a rate with which evolutionary time keeps pace. Haskell emphasizes how ecosystems have the built-in evolutionary resiliency to accommodate shifts at the speed of geologic time. Yet a historic fracture in the flow of time occurs when humankind first picks up tools and technology is born. At that moment, as Haskell sees it, humanity is given the capability of stepping out of evolutionary and geologic time, or perhaps more correctly, the capability of defining "a different evolutionary path" (20) in which the potential for Anthropocenic time is created. The Anthropocenic view on time in *The Forest Unseen* is itself further divided by a fracture into two very different, clashing temporalities: On the one hand there is the accelerated speed with which changes can be wrought by human tools

(65), calling to mind Nye's observation that "highly technological societies can create anti-landscapes quickly, even suddenly (*When the Lights Went out* 131). On the other hand, one must also reckon with the temporality of consequences and recovery, in which speed must often be measured in millennia (66). The temporal fault line dividing the Anthropocenic speed of damage from the evolutionary pace of recovery is the gap from which narrative landscapes of fear bleed forth.

Dignifying the Living Earth in *The Forest Unseen*

Lyon suggests that new conceptual fields open up new frames in which to consider "the great question of how we should live (120). Somewhat similar to Haskell's considerations of symbiosis and parasitism discussed above, Lyon considers "the choice between domination and democratic membership" as "the major ethical motif in American nature literature" (120). The messy, complex, and bewildering stream of intra-action across bodies and scales of time and size that is envisioned through Haskell's contact perspective, does not encourage such neat categorizations of potential views of nature. In one important sense, the very idea of having an attitude towards nature is done away with by Haskell, since he does not acknowledge an external position to the natural world. Humans are always already enmeshed in the living earth, and as such there is only the option of behavior from within webs of connection that already hold us. Morton characterizes this as "ecological awareness," which to Morton "is a detailed and increasing sense, in science and outside of it, of the innumerable interrelationships among lifeforms and between life and non-life" (*Hyperobjects* 128). Symbiosis and parasitism represent behavior within the ecosystem that all its organisms transition between at all times. Insofar as Haskell ever simplifies matters to a choice between symbiosis and parasitism, which behavior is prioritized is at best understood as a matter of degree. Both parasitism and symbiosis are endemic to all forms of life, as Haskell presents it, and so neither can ever be done away with.

The perceptual field that most significantly frames the question of how to live in *The Forest Unseen* is the contact perspective that discloses the living earth. Haraway argues that "touch ramifies and shapes accountability" (*When Species* 36), and viewed as a contact zone between multitudes of organisms, the mandala presents a mesocosm of a planet defined by touch. The activism in *The Forest Unseen* thus takes form in a complex perceptual field shaped by the science of biology where thinking in terms of easily separable behaviors towards nature such as "dominators" or "democratic members" does not really work. Barad insists that "[a] humanist ethics won't suffice when the 'face' of the other that is looking back at me is all eyes, or has no eyes, or is otherwise unrecognizable in human terms. What is needed is a post-humanist ethics, an ethics of worlding" (392). Haskell's three perspective on the world as outlined above form a material, intra-active dynamic within which his ethical perspectives, like Barad's, cannot be merely anthropocentric, but must be defined by contact and touch. Barad's perspective on "ethics" is a part of her "agential materialism," and in many ways approaches the complexity and uncertainty at work in the ecological awareness being shaped in *The Forest Unseen*: "Ethics is therefore not about right response to a radically exterior/ized other, but about

responsibility and accountability for the lively relationships of becoming of which we are part” (393). In *The Forest Unseen* all organisms are interior to the living earth and ongoing evolution, and there is never the option of not participating in these dynamics: “We cannot move without vibrating the waters, sending into the world the consequences of our desires” (212). The Anthropocene itself is an indicator of how massively humans influence the living earth far beyond human intentions and desires. This is as true for Haskell of activities intended to benefit non-human organisms as it is for actions known to be harmful.

In the chapter “November 15th – Sharp-shinned Hawk” Haskell considers a large-scale human effect on bird migrations that was at first believed to be a negative manifestation of the Anthropocene: “This autumnal flow of south-bound sharp-shinned hawks has dwindled in recent years” (211). While scientists initially suspected pollution or habitat destructions as the possible culprits of dwindling hawk migrations, the cause, while anthropogenic, turned out to be curiously benign: “more sharp-shinned hawks are choosing to stay in the frozen northern forests rather than head south for the winter. These lingering hawks survive by loitering around human settlements, making use of a remarkable new arrangement in the ecology of North America: the backyard bird feeder” (211-12). While bird feeders may seem inconspicuous installations in backyards that have little impact on the world beyond that of providing a few birds with a nutritional advantage in the winter cold, Haskell portrays the bird feeder as what Clark calls a “scale effect.” As mentioned above, Clark views scale effects as the result of human behavior that, while individually insignificant, may collectively constitute “a new, imponderable physical event, altering the basic ecological cycles of the planet” (*Ecocriticism* 72). Haskell describes how bird feeders have significant impacts on “ecological cycles” at large scales:

Our love of birds has created a new migration. This novelty is a west-to-east migration of plants, not a north-to-south migration of birds. The productivity of thousands of acres of former prairie land is shipped eastward, locked in millions of tons of sunflower seeds. These dense stores of energy are trickled from wooden boxes and glass tubes, adding a steady, stationary source of food to the otherwise unpredictably shifting winter food supply of songbirds in the eastern forest. Sharp-shinned hawks are therefore provided with a dependable meat locker, turning the forest into a home for the winter. Bird feeders not only augment the forest’s larder but, more important, they gather songbirds into clusters that make convenient feeding stations for hawks. (212)

While intended as a form of symbiosis in which humans trade seeds with the birds for the reward of aesthetic pleasure, the process as Haskell portrays it is not without a significant component of parasitism.

The symbiotic relationship is powered by “[t]he productivity of thousands of acres of former prairie land,” and 212 pages into the ecological meditations of *The Forest Unseen* it seems unlikely that readers will fail to be aware that this signals a great loss of habitat in the west. Of more local relevance, perhaps, is the way the transportation of huge quantities of seeds from west to east implicates the symbiosis in global warming, a scale effect of the

Anthropocene that Haskell at different junctures worries already has, and will have, a variety of significant impacts on the mandala and the ecosystems in the east. The activity of stocking one's bird feeder is thus shown to matter differently in various scale frames. What may be considered the benign and beneficial interaction of an individual with animals in his or her backyard at the local scale of a human lifeworld, begins to be more complex the further out one scales from the immediacy of a human perspective. Because of the intra-action between scales, Haskell thus shows that in the Anthropocene the ethical significance of an activity is also contingent on scale framing, and thus not something that can be determined with the level of surety implied in relationships such as "domination" and "democratic membership." The bird feeder is clearly an aspiration towards "democratic membership" and a source of "domination" both.

The activity of stocking one's backyard bird feeder in Tennessee thus at least on some levels fails to consider and behave responsibly towards what Barad, as cited above, refers to as "the lively relationships of becoming of which we are part," while it certainly attends to some of their more localized and easily graspable variants. Behavior that is an expression of individual generosity, care, and appreciation, nonetheless ripples across the intra-active complexity of the living earth, modulating lively dynamics in unplanned and unintended ways:

The expression of our yearning for the beauty of birds sets off waves that circle outward, washing over prairies and forests, lapping onto the mandala. Fewer migrant hawks from the north make life a little easier for the hawk in the mandala. Winter becomes less dangerous for songbirds also, perhaps edging up winter wren populations. More abundant wrens may nudge down ant or spider populations, sending an eddy into the plant community when the spring ephemeral flowers offer their seeds to be dispersed by ants, or into the fungus community when a dip in spider numbers increases fungus gnat populations. (212)

Haskell's emphasis that no behavior takes place on the living earth that does not ripple outwards, upwards, and downwards from the instigating organism across hard to predict scales, is key to the ethical drive of *The Forest Unseen*. Part of that cautionary equation underscores: how far science itself is from being able to predict, understand, or even analyze the sheer complexity, variety, and magnitude of such ripples. To a significantly greater extent than Wohl, and particularly in the concluding chapters of *The Forest Unseen*, Haskell tempers the authority of his biologist's response by stressing how far science is from anything but the most superficial understanding of the complexity of even such a small mesocosm of nature as the mandala.

While trans-corporeality is the most overt way in which Haskell explores Barad's "lively relationships of becoming" that envelop and shape humans, ongoing evolution is another equally forceful way of exploring ethics in *The Forest Unseen*. Living evolution has consequences for how humans imagine their biological kinships with the rest of the living earth. Haskell ponders this kinship in many ways, particularly in terms of the mental

faculties of non-human organisms, and their ability to experience joy, or perhaps particularly suffering:

Darwin's claim is that all life is made from the same cloth, so we cannot dismiss the effects of jangling nerves in caterpillars by claiming that only *our* nerves cause real pain. If we accept the evolutionary continuity of life, we can no longer close the door to empathy with other animals. Our flesh is their flesh. Our nerves are built on the same plan as insect nerves. Descent from a common ancestor implies that caterpillar pain and human pain are similar, just as caterpillar nerves and human nerves are similar. Certainly, caterpillar pain may differ in texture or quantity from our own, just as caterpillar skin or eyes differ, but we have no reason to believe that the weight of suffering is any lighter for nonhuman animals. (144-45; emphasis in the original)

Considering evolution within a certain temporal scale frame enfolds human and caterpillar history and biology in ways that create a surprising ethical bridge between two seemingly very different organisms. Evolution pries open "the door to empathy" by undermining what Haraway refers to as "human exceptionalism" (*When Species* 11), and what Clark thinks about as "the logic of inversion" (*Ecocriticism* 126). For Haraway, "human exceptionalism" is "the premise that humanity alone is not a spatial and temporal web of interspecies dependencies" (11). Haskell's rewriting of the human in terms of "a spatial and temporal web of interspecies dependencies" does away with human exceptionalism and inversion. What Haskell enacts through his study of how humans and caterpillars are braided together by ongoing evolution is a perhaps particularly surprising instantiation of what Haraway, borrowing from Freud, refers to as the Darwinian wound to the "self-centered human subject" (11). At work is an overall dignification of non-human life grounded in this example of the misery of a caterpillar under parasitic attack, a gruesome aspect of nature that according to Haskell caused a theological crisis for Darwin (144).

Within the stream of ongoing evolution, Haskell is reluctant to consider any particular ability as the sole purview of humans: "The idea that consciousness is a humans-only gift likewise has no empirical basis: it is an assumption" (145). While the living earth underscores the material, physical enmeshment of organisms in ecosystems, living evolution implies a strength of historic and biological kinship between species that discourages special status for any being affected by this process. Both the living earth and evolution represent horizons to knowledge over which science has barely begun to peek, and Haskell emphasizes that within this space of uncertainty, much of what many hold to be fact is little more than assumption. The trans-corporeal dynamism of the living earth and the historic dynamism of evolution bind organisms in partnerships across scales and temporalities that makes thinking in terms of human exceptionalism irrelevant:

But even if the assumption [that consciousness is a humans-only gift] were correct, it would not resolve Darwin's ichneumon challenge. Is suffering greater when pain is embedded in a mind that can see beyond the present moment? Or, would it be worse to be locked in an

unconscious world where pain is the only reality? A matter of taste, perhaps, but the latter option strikes me as the poorer one. (145)

In a widened biologist's perspective, the differences between humans and caterpillars are more insignificant than the similarities. The space of uncertainty opened up in Haskell's narration encourages proceeding with caution and care, since he suggests that the scope of what is unknown dwarfs the scope of what is known (241). The process of orienting oneself towards Barad's "lively relationships of becoming of which we are part" that is exemplified in *The Forest Unseen*, is guided not by baseless assumptions of exceptionalism, but by the well-founded awareness of trans-corporeal and evolutionary partnerships.

In articulating what she refers to as a "posthuman environmental ethics" in the final section of *Bodily Natures*, Alaimo suggests that such an ethics "denies the human the sense of separation from the interconnected, mutually constitutive actions of material reality, thrusting us into an evolutionary narrative ..." (157). The denial of exceptionalism, and the movement into webs of connections and active evolution outlined by Alaimo, characterizes the biologist's response to the living earth and to living evolution in *The Forest Unseen*. Alaimo touches on a dynamic of such an ethics that resonates in relation to *The Forest Unseen* with particular force when she argues:

The messy, multiple, material origins of this posthuman may suggest an environmental ethics that begins from the movement across – across time, across place, across species, across bodies, across scale – and reconfigures the human as a site of emergent material intra-actions inseparable from the very stuff of the rest of the world. (156)

"[M]ovement across" is perhaps the most important feature of the perceptual field in Haskell's material nature writing, and of material nature writing in general. Haskell bases his representation of the mandala on an understanding of the world that resonates with Barad's assertion: "We are of the universe – there is no inside, no outside. There is only intra-acting from within and as part of the world, in its becoming" (396). This understanding guides his vision of the living earth, and it is presented descriptively through the narrative movement "across time, across place, across species, across bodies, across scale," as Alaimo puts it. All features of biological being, all scales of biological being, and all processes that bear on biological being, are seen as viscous and porous, rather than discrete. Within this perspective of a dynamic, intra-active world, human-induced change ramifies with particular intensity.

The ultimate dignification in *The Forest Unseen* is arguably of all the underexplored creatures and dynamics with which our existence coincides, and on whom it ultimately depends. Morton argues that while our increasing knowledge of aspects of the Anthropocene such as "global warming" mean the end for many ideas, new understandings are also created: "The essence of those new ideas is the notion of coexistence ... We coexist with human lifeforms, nonhuman lifeforms, and non-lifeforms, on the insides of a series of gigantic entities with whom we also coexist: the ecosystem, biosphere, climate,

planet, Solar System. A multiple series of nested Russian dolls” (*Hyperobjects* 297-98). Examples of Morton’s “non-lifeforms” are radioactive waste, toxic waste, and climate change. Haskell renders a sense of the ongoing and future coexistence with the consequences of human industrial behavior that shape the landscape of fear. The impact of large-scale human industrial interventions that may affect all scales of biological being, seems even more sinister when understood as an aggregate of forces acting unpredictably and harmfully on a living earth and active evolution, rather than on evolution understood as process of the past that has little contemporary relevance. The uncontrolled modification of the living earth and ongoing evolution that the Anthropocene implies is made to seem especially dangerous, since Haskell has so consistently situated humans within those processes.

Dignifications take place within all of the three perspectives on the world that shape *The Forest Unseen*. The view of a living earth with vibrantly intra-active connections that interweave all scales of biological being, gives the impression of a dynamic contact world where “touch” between organisms and places “ramifies.” Ramification itself is construed as dynamic, rippling across the living earth in unpredictable, often untraceable, and often incomprehensible ways. On the living earth, ramification becomes a scale traveler, moving between scales of biological existence in ways that massively undermine the sensuous lifeworld of humans as a comprehensive enough perceptual apparatus. The view of evolution as a living process that has shaped and continues to affect the living earth at all scales of biological being, suggests the extended temporal dimension of the partnerships and parasitisms that shape the living earth. Living evolution suggests that not only are species participants in the shaping of the present, but co-shapings of their partnerships in the past, as well as partners in the making of their shared future. The view that large-scale human industrial interventions in the living earth and living evolution may affect all scales of biological being, suggests that certain types of behaviors – and responsibilities – are particular to the human. More precisely, it suggests that humans have the ability to disrupt the functioning of the living earth and living evolution. The dynamism of the living earth and living evolution in turn suggest how the consequences of human interference may spread through scales of size, distance and time in ways that no one can predict.

Chapter 3: Nature Writing and the Anti-Landscape in Erik Reece's *Lost Mountain*

The morning wind forever blows, the poem of creation is uninterrupted; but few are the ears that hear. (Thoreau, *Walden* 57)

Every valley shall be filled and every mountain and hill brought low. (Luke 3.5)

Late twentieth- and twenty-first century American nature writing has become increasingly and strategically attentive to the emergence of what could be called environmental landscapes of fear. The landscape of fear in nature writing is a landscape of detrimental human alterations to nature, which in its ultimate manifestation may become an example of what Serenella Iovino calls the necroregion, or David Nye terms the anti-landscape. The term anti-landscape underscores the human dimension of environmental destruction, emphasizing the ways that such landscapes cease to function with reference to human use, habitation and infrastructure. The concept of the necroregion has a stronger emphasis on ecosystemic unraveling and the impacts for nonhuman life as the bioregion declines. While Ellen Wohl and David George Haskell exemplify nature writing of moderately to significantly impacted landscapes, Erik Reece's *Lost Mountain: A Year in the Vanishing Wilderness: Radical Strip Mining and the Devastation of Appalachia* (2006) is structured around the emergence of an outright anti-landscape or necroregion. Reece's nature writing is thus more overtly shaped by the environmental landscape of fear than the work of either Wohl or Haskell. In *Lost Mountain* the landscape of fear, more than nature itself, figures as the subject of Reece's nature writing.

Unlike Wohl and Haskell, Reece is not a scientist by trade. He is an associate professor at the University of Kentucky, where he teaches writing. Prior to the publication of *Lost Mountain* Reece had published one volume of poetry titled *My Muse Was Supposed to Meet Me Here* (1992). *Lost Mountain* was originally intended as a collection of rhapsodic poetry devoted to eastern forests, but the urgency of communicating what the process of researching the book had revealed about the environmental impacts of mountain top removal on Appalachian forests eventually took precedence.¹¹ *Lost Mountain* can thus be regarded as a narrative of confrontation with the Anthropocene that sprang from the author's unsuccessful attempt at the movement of retreat from the human. This thwarted desire for retreat is reflected in the spatial movement in *Lost Mountain*, which is often

¹¹ Reece eventually edited an anthology of poetry on eastern landscapes in *Field Work: Modern Poems from Eastern Forests* (2008).

seemingly outwards from centers of habitation towards nature, but leads more often to encounters with the anti-landscape that has replaced, or is in the process of replacing, nature. The shock of unwelcome contact with the Anthropocene is built into the structure of the book, as significant parts are purposefully designed like a thwarted experiment in traditional Thoreauvean nature writing. The approach in *Lost Mountain* is thus similar to the core story of conventional nature writing in a superficial sense. Reece spends a year, from September to September, in observation of the same mountain. What makes *Lost Mountain* Anthropocenic nature writing has very little to do with its format, but everything to do with where that format is applied. While the nature writer stays in place, observing the mountain through the turn of the seasons, the mountain itself is removed and replaced by an anti-landscape or necroregion. The emphasis on the victimization of humans in adjacent communities to the destroyed landscapes is strong throughout *Lost Mountain*, so the following will rely more heavily on the term anti-landscape than necroregion.

While an environmental landscape of fear is a common component in most, if not all, Anthropocenic nature writing, it is less common to take the landscape of fear as the primary point of departure. *Lost Mountain* represents a dystopian type of nature writing that observes how the landscape of fear gradually eclipses, and eventually extinguishes, the ecological landscape of hope exemplified by the forests of Appalachia. The focalizing of this dystopian narrative is established from the start as Reece makes explicit his intention of observing Lost Mountain's destruction. The outlook in *Lost Mountain* is thus unusually bleak for nature writing as it becomes mainly an elegy or requiem to a landscape that cannot be saved. The types of resurgence from ruins that Anna Tsing traces with reference to matsutake mushrooms and heavily logged forests in *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (2015) has no realistic outlook in the anti-landscape that will replace the ecosystem on Lost Mountain. Even so, *Lost Mountain* is only dystopian in its insistence that once incurred, the damage of the anti-landscape is irrevocable. In spite of its bleak subject matter, the nature writing of the Anti-landscape functions as an incentive for activism, rather than as a paralytic. The following explores *Lost Mountain* as an exemplar of the tendency in Anthropocenic nature writing towards increasing environmental activism and environmental justice activism. Unlike more traditional nature writers who often pursue solitude and retreat from the human, Reece seeks out the lines of confrontation between nature, humans, and cultures of extraction and dispossession.

While the rhapsody figures strongly at times in *Lost Mountain*, it is a receding dynamic that eventually gives way completely to the jeremiad, just as the retreat must surrender to the confrontation with impacts. Large-scale anti-landscapes and the industries that create and profit from them are the true subjects of the narrative of confrontation in *Lost Mountain*. The author thus explores two categories of the landscape of fear. One is the outright anti-landscape that strip-mining emplaces atop Kentucky's mountains. The other is the inhabited fringe of this landscape, the porous, extended zone of overlap encircling the strip mine, where the anti-landscape bleeds into and mingles with healthier and often inhabited landscapes in what I refer to as an anti-ecotone. Nature writer Kelby Ouchley defines the ecotone "as a transition area between two adjacent ecological communities"

(*Bayou-Diversity* 123). Because ecotones provide habitat for species from both “ecological communities” and sometimes also for species that only inhabit the ecotone, they are usually sites of enhanced biodiversity, places of special ecological value. The overlap zones between anti-landscape and intact landscape described in *Lost Mountain*, however, are characterized by species depletion, sedimentation, toxification, and multiple other forms of ecological degradation. Here the “edge effect” that for Donna Haraway makes “contact zones” and “ecotones” “the richest places to look for ecological, evolutionary, and historical diversity” (*When Species* 217) has the opposite effect, creating degraded habitat. The problematic situations that arise in the anti-ecotone are mainly traced through material nature writing with a focus on how the natural dynamism of the Appalachian range is replaced by new and uncontrolled industrial dynamisms. These industrial dynamisms occasion new conditions of what Tsing refers to as “precarity” – “the condition of being vulnerable to others” (20) – for both humans and nonhumans. The material nature writing in *Lost Mountain* thus links with environmental justice concerns over the deliberate endangerment of Kentucky’s poor for the sake of profit.

Genre, Focus, Textual Strategies and Political Stance in *Lost Mountain*

Speaking of Edward Abbey’s *Desert Solitaire*, Thomas J. Lyon summarizes its plot structure as follows: “The plot, loosely, is separation into solitude, attempted initiation, and return: classic” (112). This “classic” structure for nature writing is the exact plot structure to be found in many parts of *Lost Mountain*. Stylistically speaking, Reece’s book is thus perhaps the most straightforward of the works selected for analysis as it also tends towards environmental journalism. It has even won the Sierra Club’s David R. Brower award for environmental journalism. Simultaneously, it very clearly anchors itself in the nature writing tradition by mimicking its format and referencing and quoting notable nature writers and environmental thinkers such as Wendell Berry, Thoreau, E. O. Wilson, Aldo Leopold, Jared Diamond and Rachel Carson. The foreword is written by Berry, the model for the book is taken from Thoreau, many parts overtly reference Carson’s *Silent Spring* (1962), its ecological vision is inspired by Aldo Leopold (1973), and analysis of Berry’s poem “The Mad Farmer Liberation Front” inspires its articulation of environmental ethics (234).

Like *Silent Spring*, *Lost Mountain* is geared towards a specific environmental concern more than the celebration of a specific location or animal. The book is part of a tendency in Anthropocenic nature writing towards more polemic issue- or event-oriented writing. In this sense, we can see it as an example of the inclination in Anthropocenic nature writing towards shifting from the more timeless writing exemplified by works such as Thoreau’s *Walden* (1854), Henry Beston’s *The Outermost House* (1928) and Barry Lopez’s *Arctic Dreams* (1986), towards books such as Carson’s *Silent Spring* (1962), directed towards specific problems of specific times. Like Carson’s Anthropocenic writing on the harmful effects of uncritical applications of the pesticide DDT, Reece’s nature writing represents a form of activist contribution to the struggle against strip mining, also known as mountaintop removal. Reece’s writing, like Carson’s, is issue- and event-oriented, and it is thus inflected by activism and immediacy.

The activist ambitions of the work mean that communication is privileged over literary flourish, and that the literary flourishes the text does contain, must be read in terms of its political agenda. The chapter structure of the book bears this point out very clearly. Every other chapter reads almost as an independent essay in its own right, has its own title, and is devoted to a topic pertaining to the wider socioecological ramifications of the coal industry. These chapters represent thematic excursions that serve to enrich the context of the more narrowly focused meditations that take place on Lost Mountain itself. In between these thematic sections are twelve journal entries from Lost Mountain, exemplifying monthly installments in the yearlong meditation of nature writing. The titles of these sections only give the month and the location. While these journal entries anchor *Lost Mountain* in the nature writing tradition by using both its most conventional form and its structure, the Anthropocenic changes taking place at lost mountain serve to undermine the traditional function of the retreat. Typically, every journal entry of a retreat would represent a step further in the author's project of connecting with place. At Lost Mountain that dynamic of the retreat is attempted parallel to a major industrial endeavor, part of whose overall objective is the physical removal of the place the nature writer studies. Because of the strip mining going on at Lost Mountain, the journal entries written there effectively become a form of timer. When the timer begins, Lost Mountain is an intact bioregion. Each subsequent month sees a visit by the narrator to a less intact ecosystem. When the timer ends, Lost Mountain has fully become an industrial anti-landscape or necroregion. With the steady encroachment of the landscape of fear upon Lost Mountain, the conventional journal format of nature writing, with times and dates, comes to serve as a countdown to Lost Mountain's eventual destruction.

Although some initial parts of the journal sections of the book may seem designed as earnest attempts at conventional retreat patterned on the popular Thoreauvean journal format, Reece's position in *Lost Mountain* is deeply political. He is not only reporting on an issue, but has emphatically taken a side. His approach as a writer is that of Rob Nixon's "writer-activist" (*Slow* 5). *Lost Mountain* is intended as a jeremiad rather than a rhapsody, and as a confrontation rather than a retreat, as Reece emphasizes in his introduction: "It is the story of how the richest ecosystem in North America is being destroyed, and how some of the poorest people in the United States are being made poorer by a coal industry that operates with little conscience or restraint" (5). This declaration positions Reece as writer-activist. An important task of Nixon's writer-activist is precisely that of rendering visible the links of harm that bind victims and perpetrators of environmental damage, which Nixon refers to as "slow violence" (2). The environmental injustice which Nixon refers to as slow violence, "occurs gradually and out of sight," and is, "dispersed across time and space" (2). This is "an attritional violence" that poses particular rhetorical and representational challenges for it to be understood as violence at all. The structure of Reece's book, and his use of genre, indicates some of the ways by which the author overcomes these challenges with reference to strip mining in Appalachia.

The various sections of the book underline the urgency of the situation in different ways. Fourteen chapters of the book in different ways focus on the human sphere. They are most often situated in the inhabited margins of what I refer to as the anti-ecotone. Different

landscapes – forests, farmland, towns, and anti-landscapes – overlap in these chapters. Different genres also overlap in these chapters as Reece combines nature writing, environmental journalism and autobiography in a hybrid format. This format provides *Lost Mountain* with an element of investigative reportage in which Reece interviews local residents, attends and reports on public meetings, reports on industry rhetoric, policy and lawmaking, provides an overview of environmental history and injustice in Kentucky, follows experts into intact landscapes, meets with industry representatives in the anti-landscape, and so on. The tempo in these chapters is different from the chapters of more straightforward nature writing, and this contrast highlights the contemporary urgencies of the issues reported. The pacing in these chapters to some extent breaks *Lost Mountain* out of the sense of timelessness that often characterizes the sense of place provided in nature writing.

There is a different timescale at work in the twelve chapters of more straightforward nature writing. Here Reece underlines that processes that shaped the forest over millennia are still active agents in the present. There is a sense of the present landscape's vital and ongoing connection with the deep past. Reece introduces the reader to a diverse landscape whose history stretches past the ice ages into unperceivable temporal distances. However, even here the act of strip mining disturbs the often stately pacing of nature writing as the slow pace of nature clashes with the rapid speed of industry. Reece shows that this ancient landscape is being converted into anti-landscape so rapidly that massive changes are observable on a day-to-day basis. There is thus a significant sense of temporal rupture in the sections of more typical nature writing as well, simply because the enduring landscape dynamics of Appalachia are subjected to massive industrial accelerations.

The final, most overt structural strategy in *Lost Mountain* for visualizing often unseen or unknown dynamics is the use of photography. In the span of the first two pages, by way of two photographic illustrations preceding any comment from the author, *Lost Mountain* deliberately flips its focus from a scene of natural integrity, to an utterly devastated necroregion. The first picture exemplifies the landscape in its natural condition preceding human intervention, and the second shows a mining landscape where all sign of life has been scraped away. The use of photographic illustrations in *Lost Mountain* is extensive and strategic. The photographs are also evidence of the blurring boundary lines between certain forms of activist nature writing and environmental journalism. There is no commentary affixed to these photographs. They are simple pictures that show the biological version of Appalachian landscapes, and the industrial versions of Appalachian landscapes. The landscape alterations from one version to the other are so extensive that commentary is unnecessary. The pictures thus present in more rapidly appreciable format the change from ecosystem to anti-landscape that is more gradually chronicled through the nature writing of *Lost Mountain*. Turning from page one to page two essentially gives away the complete trajectory of the book in two images.

There are two chapters between each photograph in *Lost Mountain*, one chapter of nature writing and one chapter of environmental journalism. The pictures thus roughly create a visual bracket containing both nature writing and environmental journalism, which

may be due to simple editorial practicalities, but the deliberate positioning of the photographs also seems to underscore the connections between what is observed in nature-oriented chapters, and what takes place in those journalistic passages more focused on the human realm. The first page of *Lost Mountain* presents a full-page photograph of an apparently pristine waterfall coming down into an unspoiled lagoon, with a hillside covered in healthy trees rising up behind it. The scene is idyllic and intimate, as if the nature writer is sitting next to the lagoon, enjoying a lazy summer afternoon of unspoiled solitary contemplation. However, as you flip the page, you are immediately confronted with another photograph. This one presents a remote aerial view of complete desolation, a sprawling industrial necroregion, or anti-landscape, spreading cancerously within a receding, distant frame of green trees, pushed out to the margins of the picture by the blight erupting from within. In the distance can be seen other mountaintops, veiled by clouds, untouched so far, but apparently next in line. Through a trick of photographic perspective, giant natural features come to seem small and imperiled against a vast wasteland.

Reece's use of photographs exemplifies the experimentation of Anthropocenic nature writing with different forms and formats of expression. Nixon refers to the "mongrel blends of word, image, and video" that increasingly characterize the various forms of environmental representation, pointing out the merging of styles, formats, and different media he perceives as becoming increasingly popular with environmental writers as a response to the complexity and scope of environmental challenges (279). While books of nature writing are no strangers to photographic illustrations, these have predominantly been of the coffee table variety. In such books, the images are not necessarily directly connected to the subject matter of the text, but serve to give a visual cue as to its general setting. Reece's pictures, on the other hand, as indicated above, participate very actively in his polemic. Through his illustrative juxtaposition of ecologically intact mesophytic forest with the blotches of dynamite-blasted desert that in some places have replaced it, Reece visually accentuates the aesthetic tension between the region's natural beauty, and the devastation that the coal industry is replacing it with. The images are starkly contrastive. Similar contrastive tensions inform his rhetoric and landscape descriptions throughout *Lost Mountain*.

In *Lost Mountain* pictures thus serve similar strategic aims as the famous photographs of the special cabinet meeting that the president of the Maldives, Mohammed Nasheed, called prior to the Copenhagen Climate Summit in 2009, namely of representing the incremental landscape of fear in emotionally compelling ways. Nixon interpreted the picture of the Maldives cabinet meeting as a "premonitory landscape prefiguring the consequences, on a global scale, of wasted foreknowledge. The scene serves as a preview of the aftermath" (265). Previewing the aftermath with the hope of galvanizing resistance in the present, is one of the most basic motivations behind Anthropocenic nature writing's increasing preoccupation with the landscape of fear. In combination, the two photographs preceding *Lost Mountain*'s first chapter present a premonitory landscape that foreshadow the book's dystopian conclusion. This premonitory landscape not only highlights actual damage in the present landscape, but also visually invokes further devastation in the landscape of the future as the assured consequence of continuing apathy and inaction.

While the two pictures are without commentary and not directly linked to the introduction and the chapter succeeding them, other pictures in the book often work together with the long stretches of environmental journalism. Here they help emphasize the complex web of long-term risk and destitution that the spreading anti-landscapes of Kentucky weave around the region's remaindered people in the anti-ecotone. An illustrative example of this would be the chapter on the perils of reckless coal transportation. Reece's assertions that coal trucks are deliberately overloaded, driven by doped-up and overworked drivers, who recklessly endanger innocent bystanders and sometimes even cause fatal accidents, are made all the more poignant by a photograph in the book showing a simple white cross placed by the roadside, while large trucks roar by in the immediate background at such breakneck speeds that they are blurred in the picture (164). Again, different scales are effectively set in tension against each other. The cross, serving as a modest token of human loss and mourning, is counterpoised with the large, inhuman machine, conveying a sense of the most likely culprit in the fatal accident marked by the cross. The textual strategies, use of photographic images, and the variations of genre, thus in different ways enforce the environmentalist focus and political stance in *Lost Mountain*.

The Dignification of "Damaged Goods" in *Lost Mountain*

While there are many predictable sources of contention and injustice to be explored in a book that is oriented towards the production of anti-landscapes, such as the destruction of habitat, pollution, and poverty, Reece singles out a more unexpected source of injustice by targeting the spatial structuring of environmental discourse. In broad terms, Reece problematizes the American tendency to think about preservation in terms of pristine wildernesses, which Reece perceives as hugely influential in national environmental politics. The downside of structuring environmental discourse in terms of the preservation of pristine places is the way this discourse dismisses from consideration places that do not retain wilderness characteristics because, as Reece puts it, they can be considered "damaged goods" (185). This amounts to a spatial cataloging of places by measures of pristinity, where everything inside the wilderness is worth preserving, but anything outside can be sacrificed. Because it can be considered "damaged goods," Lost Mountain, is, to Reece's mind, doubly lost in the sense that before it was destroyed by the mining industry, it was lost from preservationist discourses that might have saved it, because these privilege what is perceived as unspoiled places. The loss of consideration in environmental discourse thus both preceded and enabled the later physical removal of Lost Mountain.

Reece's skepticism towards the focus on wilderness in American environmentalist discourse is early exemplified through the integration of features characterizing the American west in his descriptions of landscapes of the American east. In doing so, Reece makes the most iconic American wilderness, namely that of the American west, stand as a visual referent to the anti-landscape. On his first ascent to the summit of Lost Mountain, Reece has a view of several anti-landscapes that used to be former mountaintops:

I can see to the north thousands of acres – former summits – that have been flattened by mountaintop mining. Where there were once jagged,

forested ridgelines, now there is only this series of plateaus – staggered gray shelves where exotic grass struggles to grow in crushed shale. When visitors to eastern Kentucky first see the effects of mountaintop removal, they often say the landscape now looks like the Southwest, a harsh tableland interrupted by steep mesas. I too have traveled through Arizona and New Mexico in the late spring, when ocotillo and Indian paintbrush are in bloom, and I understand the allure of that harsh landscape. But this is not the desert Southwest; it is an eastern broadleaf forest. At least it should be. (12)

While the above references actual transformations of eastern landscapes, there is also a symbolic way of reading it. The image of southwestern landscapes spreading across and displacing eastern forest, can be interpreted as commentary on the way the wilderness discourse centered on the American west has forced from consideration other types of landscapes. Read thus, the above signifies both the visual characteristics of the anti-landscape that displaces eastern landscapes, and the ideology that at least in part justifies their displacement. The comparison is not incidental in the book, but recurs in multiple iterations: “I came to see up close what an eastern mountain looks like before, during, and after its transformation into a western desert” (13). What Reece ultimately problematizes by conceptually linking the west with the anti-landscape, is the celebration of one landscape ideal at the expense of others. In *Of Rock and Rivers* Wohl argues that pioneers precipitated ecological disasters in the west by trying to impose landscape ideals from Europe and the east on an arid environment for which these ideals were unfit. Reece seems to caution against a reverse trend in which wilderness ideals appropriate to the landscapes of the west prove damaging when used as the measure of what merits preservation efforts in the east.

In *Slow Violence* Nixon critiques the preoccupation with wilderness in environmental writing, nature writing, and deep ecology, as well as in American environmentalism more broadly: “a prodigious amount of American environmental writing and criticism makes expansive gestures yet remains amnesiac toward non-American geographies in which America is implicated, geographies that vanish over the intellectual skyline” (239). Nixon refers to this by the term “spatial amnesia” (238). He suggests that when writing within the frame of the wilderness, American environmental writers tend to forget or downplay the extent of damage perpetrated elsewhere. He suggests that Americans “have a history of forgetting our complicity in slow violence that wreaks attritional havoc beyond the bioregion or the nation” (239). Nixon also references Gary Snyder’s assertion that “wilderness restoration would require ninety percent fewer humans” (239) as an example of the problematic bias in wilderness writing. This bias can be understood as a nationalist and environmentalist essentialism that starkly devalues anything spatially located outside of the wilderness. Nixon regards this as a spatial categorization of people and places into degrees of disposability determined by their proximity to wilderness: “Typically, here, the human cull begins with those dispensable, anonymous, invisible inhabitants who reside in ‘the world beyond,’ never with any culling of the poetical, wilderness-expanded egotistical male self” (239). Wilderness writing, according to Nixon, suffers from “a failure of geographic imagination” (240). The western frame obscures from

sight global and national layers of complexity, suffering and injustice, and can be considered a form of “superpower parochialism” (240) with problematic designs on the world: “Together these wilderness crusaders assumed that the United States represented the environmental vanguard and that wilderness preservation – as philosophy and practice – needed to be universalized” (254). Such universalization of the wilderness paradigm seems precisely what gives Reece cause for concern in *Lost Mountain*.

In *Lost Mountain*, Reece seems to indicate that the type of spatial amnesia Nixon describes with reference to America’s troubling international role is equally operational within the national context as well. American ideals of purity and non-interference have, according to Reece, occasioned an attitude towards the wounded Appalachian range that he sums up as follows:

The argument goes like this: These ignorant people have already trashed their mountains. They dumped their garbage at the heads of hollows and run straight pipes from their toilets into the streams. Thus, *it’s already fucked up anyway*. Why not mine it? It’s just a little more waste in the hollows, a little more acid in the streams. Such a conclusion, though it goes largely unspoken, is shared by many urban people when they think of the mountains of eastern Kentucky, and it suggests one of the reasons so little attention was paid to the slurry pond break in Martin County. (184; emphasis in the original)

The failure of Appalachian landscapes to measure up to wilderness ideals devalues them in the national imaginary. Because these lands can be considered impure, and thus external to the category of wilderness, their ecosystems and human inhabitants become “dispensable, anonymous, invisible,” in Nixon’s sense above. The precarity of these peopled landscapes, in Tsing’s terms, is increased by the failure of the broader public to care, or even talk about them because they fall outside the public’s understanding of what types of landscape deserve preservation. Effectively these landscapes and people simply disappear from view in environmental discourses that are structured around the preservation of wilderness.

In exploring these dynamics of neglect in *Lost Mountain* Reece also performs a form of dignification of the overlooked. His concern is with emphasizing the abiding ecological values of places that exist outside the legally drawn and politically recognized boundaries that demarcate wilderness reservoirs. *Lost Mountain* problematizes what the privileging of seemingly pristine uninhabited wildernesses does to the inhabited places that cannot so easily be considered within that discursive framework:

Yet the perception of this land and these people as damaged goods persists. As novelist Silas House has pointed out, every major mudslide in California received national media attention, yet the constant mudslides caused by valley fills in Appalachia are ignored. A nation of editorialists can get exercised about the environmental consequences of drilling for oil in the Arctic National Wildlife Refuge, but the much more destructive effects of mountaintop removal seem nowhere near their radar. Recently, Sonoma State University’s annual Project Censorship report listed

mountaintop removal as one of the top ten underreported issues of 2005.
(185)

To Reece's mind, branches of environmentalism with a primary concern for the wilderness have failed the peopled landscapes of Appalachia, partly because they were inhabited, and partly because they had been suffering decades of industrial intervention. In this, Reece voices concerns he shares with many nature writers of the Anthropocene, that environmental discourses governed by ideals of purity tend to channel activism away from the people and places that need it the most. The purpose of the dignification of the overlooked ecosystems of Appalachia in *Lost Mountain* is to emphasize the great ecological wealth that remains in spite of the significant damage that has been inflicted. Another part of the dignification of Appalachian ecosystems has to do with its emphasis on the many human communities that are put at risk through industrial recklessness combined with national neglect. In the narrative framework of *Lost Mountain* conventional wilderness ideologies come to seem unsuited to the complexities that define the Anthropocene and therefore ethically problematic.

Reece substantiates the way he thinks about wilderness and environmental injustice with reference to an environmental disaster that befell the town of Inez. He refers to Inez as the location for "the nation's largest man-made environmental disaster east of the Mississippi" (128). The event in question took place when "a coal slurry impoundment broke through an underground mine shaft and spilled over 300 million gallons of black, toxic sludge into the headwaters of Coldwater Creek and Wolf Creek" (128). Reece maintains that the catastrophe was "thirty times the size of the *Exxon Valdez* disaster, though you wouldn't have known it by reading the *New York Times*. For months following the Martin County disaster, the *Times* didn't print one word about it" (128). While interviewing a resident of the town of Inez about the disaster, both Reece and the interview subject infer connections between the lack of coverage and the way Americans think about wilderness and charismatic fauna: "'We're just not quite as cute as those otters.' In other words, Prince William Sound was a pristine waterway. But the Appalachian Mountains and their people were already considered damaged goods" (129). The troubling implication of Nixon's and Reece's observations is that there appears to be what amounts to a quiet arrangement between environmentalists and corporations: As long as enclaves of wilderness are preserved in national parks and in the west, there is a tolerance for degradation and environmental injustice in the east.

Ecological Icons in *Lost Mountain*'s Landscape of Fear

As an activist text, Reece's exposé of the coal industry and mountain top removal is very effective. One of the responses *Lost Mountain* is calibrated to elicit in its readers is outrage at the destruction of vulnerable beauty and biodiversity. The structure of the narrative which creates value-charged tensions between types of landscape is overtly exemplified through the book's use of photography, as discussed above. The first chapter of the book – "The New Canary" – sets up similar tensions between beauty and the anti-landscape, biotic abundance and its destruction, as the photographs mentioned above. The opening statement

is highly value-charged: “It is, for my money, the most beautiful songbird in North America” (6). The “songbird” that Reece selects as his icon for representing what is at stake – the cerulean warbler – links *Lost Mountain*’s “The New Canary” with the more famous use of birds as icons of both ecosystemic health and decline in *Silent Spring*’s “A Fable for Tomorrow.” Here Reece tries to tackle what Nixon has identified as one of the great challenges for writer-activists in the Anthropocene, namely that of finding icons that can represent the slow violence and the often invisible toll of modern industry and business practices. If, as Nixon says, “capitalism’s innate tendency” is “to abstract in order to extract” (41), then one of nature writing’s capacities to resist this force must surely reside in what Slovic has identified as its quest for a “particularized understanding” (*Seeking* 151). The first chapter of *Lost Mountain* therefore begins with a concretization of what the “lost” in *Lost Mountain* entails, a particularization designed to counterweigh the diffusive power of the words the mining corporations use to mask the exact nature of what is being destroyed. But this concretization is less an exercise in objective science than a carefully calculated act of narrative strategy, designed to emotionally position the reader in a state of receptiveness to the author’s environmentalism.

Reece’s first textual strategy for portraying the ecosystemic abundance of the Appalachian Mountains is through the use of the charismatic cerulean warbler as an icon to stand for the entirety of the ecosystem. In *Xerophilia* Tom Lynch describes this common strategy in both nature writing and environmental discourse as follows: “In search of images to invoke and represent biodiversity, some writers emphasize plants or animals that are endemic to a particular place, seeking to make them representative emblems of a community’s distinctive bioregional place-based identity” (172). This literary device represents both a particularization, and a generalization. Its primary function is to provide an imaginative “node” that can serve as a focal point for “local environmental protection efforts” (173). Lynch writes: “Threats to such emblems can then be felt as threats to that community’s identity, provoking, it is hoped, suitable public outcry” (172). The selection of such an icon tends to be directed by impulses that are the opposite to those motivating the dignification of the overlooked. This has to do with pragmatism, as communities are unlikely to rally around the icon of a slug, no matter its vital ecosystemic contributions. The icon is generally selected on the basis of broadest possible appeal through conventional charisma. This form of representation is not an unproblematic simplification, as it structures the imagery and discourse for the preservation of complex ecosystems that relate to the world in multiple, diverse, and complex ways, in terms of their superficial function as home for charismatic organisms or picturesque features. As part of Reece’s efforts to dignify the overlooked ecosystems of Appalachia, he thus uses textual strategies that both particularize and simplify, and are to some extent the antithesis of the dignification of the overlooked.

At first the opening chapter reads like conventional nature writing structured as a narrative of retreat to the habitat of the cerulean warbler. In the chapter Reece accompanies an ornithologist and her assistants into the woods in an effort to catch a glimpse of the elusive bird. However, already in the second paragraph it becomes clear that the chapter on the cerulean warbler will also take the form of a confrontation with strip mining: “What makes her work so pressing is that cerulean warbler populations across Appalachia are

plunging – down 70 percent since 1966” (7). Reece makes clear what is causing this population crash: “And it is no coincidence that those forty years have also seen the most extensive destruction of Appalachian forests by strip mining” (7). Thus a tension is set up between the lifeworld of the cerulean warbler and transformation of that world into anti-landscapes for the sake of profit. In Tsing’s terms, this is a tension between “first nature,” which means “ecological relations (including humans),” and “second nature,” which designates “capitalist transformations of the environment” (viii), in a conflict that potentially excludes the prospects of “third nature,” which means “what manages to live despite capitalism” (viii). Where Carson wrote of the detrimental impacts of the pesticide DDT as the cause of a future “silent spring” without birdsong, Reece’s premonitory landscape predicts similar future silences in Appalachia, with strip-mining as the cause. In the span of barely a page, the text thus transitions from rhapsodic meditations on the charismatic little songbird, to jeremiadic concern over its survival in the landscape of fear, and from uplifting retreat into a non-human environment to a confrontation with the human imperilment of that environment.

Anthropocenic nature writing is almost always invested in highlighting the ecological cost to the industrial transformation of landscapes into economic profit. Having made his point, Reece quickly pulls back from the landscape of fear to re-emphasize the beauty of songbirds in the landscape of the present. In presenting a hopeful version of the present landscape, an illustrative example of what the landscape can still be like before humans interfere with it, he hints at an alternative future to the one staked out by the mining industry. This landscape of hope is a place where the precarious survival of frail creatures is still possible: “Just above my head hung a tight little sack of a nest, dangling from just a few strands of grass looped over a thin branch. It was no bigger than a tennis ball, but it held the brood of a red-eyed vireo” (7). The description above repeatedly stresses the fragility of the bird’s nest in order to emphasize how easy it would be to destroy. The nest is a “tight little sack,” held in suspension by “a few strands of grass,” dangling from a “thin branch,” and “no bigger than a tennis ball” (7). The description is of course intended to highlight the contrast between this almost implausibly frail existence and the violent industrial process of strip mining that the reader has already been made aware poses a threat to it. Balanced against each other are two projected versions of the same landscape – one of hope, and one of fear. It is an efficient way to stack the essay’s rhetorical deck. The future can contain the beautiful, vulnerable bird, surviving through its superb adaptations to the ecological landscape of hope, or it can be overtaken by the encroaching landscape of fear, where readers are assured the bird’s survival is unlikely.

Vulnerability is, however, not the only feature of the songbird the text addresses. Moving on from the nest of vireos, the narrator hears “three fluty notes, followed by a quick trill – the cerulean warbler” (7). Stressing the musicality of the songbird in the landscape of hope is calibrated to contrast with its anticipated silence in the landscape of fear. Birdsong thus takes on a double function. It highlights the potential for Caronesque silences in the Anthropocene, but also underscores what is present, and yet still unattainable and unknown in this landscape. As they listen to the singing bird, the ornithologist speaks about how it eludes knowing: “‘There’s not a lot of good hard information about them,

because they are so hard to study” (7). Reece continues to enumerate all the things that remain unknown about cerulean warblers. This may be read as an example of nature writing’s love for mysteries and the unknown, but it seems more likely that this represents a deliberate invocation of previous wilderness writing. Notably, it may be a deliberate nod to Edward Abbey’s hunger for a wilderness that is “untouched by the human mind” in *Desert Solitaire* (242), something Abbey concluded could mainly be found in the deserts of the west. There was a quality to the desert, Abbey argued, that “the human sensibility cannot assimilate, or has not so far been able to assimilate” (242). The dearth of scientific certainty regarding the warbler in this view becomes a marker of its wildness, a suggestion that the Appalachian range in the east may possess some of those qualities Abbey found so praiseworthy in the west.

Another typical trope of Anthropocenic nature writing that Reece invokes through the cerulean warbler is the history of its better known cousin, the canary, which is also rooted in the Anthropocenic history of coal mining in the Appalachian range. As Reece explains, this bird was also made famous because of what was implied by its potential silence: “Miners once took caged canaries into the underground shafts because these birds were especially sensitive to odorless methane gas, which leaked from coal. When too much methane accumulated in a mine shaft, the canary stopped singing” (8-9). As Reece’s chapter draws to a close, silence is turned into precisely such a signal, a marker of risks: “Far fewer cerulean warblers are now singing in Appalachia. Their silence, like the canary’s, is also an indication of much larger problems” (9). The decline of the cerulean warbler thus represents the overall decline of Appalachian ecosystems in *Lost Mountain*.

There are several instances like this in *Lost Mountain*, where Reece makes a temporary icon of a charismatic animal represent the overall plight of Kentucky’s mountains. Sometimes, as in the case outlined above, Reece’s meditations on the icon structure an entire chapter. At other times the icon is briefly dealt with in a matter of paragraphs. In each instance, though, the icon temporarily becomes a node around which the environmental drive of the argument is centered, as the animal is made a stand-in for the whole ecosystem. Such use of icons is a key feature of environmentalist nature writing, as Lynch observes (173). Lynch suggests they are meant to serve as “representative emblems” around which readers can organize their overall concern for the biodiversity at stake (172). As noted above, Lynch suggests that “threats to such emblems can be felt as threats to that community’s identity, provoking, it is hoped, suitable public outcry” (172). For Reece, the creature, or sometimes plant, briefly becomes the narrative focal point where different time scales, value systems, economies, and mindsets are brought together, contrasted, and contextualized. Yet, although these icons play a significant rhetorical part in helping visualize the environmental abundance, as well as the abundance of environmental loss at Lost Mountain, Reece also expands and diversifies his view of Lost Mountain. The limited particularization and dignification of the ecosystem that the icon signifies is expanded through the comprehensive dignification and particularization of longer sections of more widely focused nature writing.

Cessation Moments in *Lost Mountain*

As noted above, *Lost Mountain* is characterized by the contrastive tensions that emerge in landscapes where ecosystems are being turned piecemeal into anti-landscapes. Reece makes use of various strategies for providing a sense of these tensions. He sets up a narrative movement in the text which constantly crosses back and forth between different types of moments. There are some uplifting moments in ecologically sound landscapes, landscapes of hope, where attention is devoted to what is perceived as the bountiful capacities of nature to provide life in an abundance of forms, what you might, paraphrasing Thoreau, call creation poems (*Walden* 57), or what Reece calls “creation stories”:

There is something rewarding about finding the source of any river. Here is one particular creation story, and you can bear witness to it. And this is the story in its purest form. There have been no redactions, no spurious insertions. This is a story you can trust. It comes straight from the source. (107-08)

What I will call the creation moment depicts nature’s agency working on its own without known anthropogenic interruptions. This is a rhapsodic moment, suitable for the conventional retreat of nature writing. The reason why I refer to these as “moments” rather than “poems” or “stories,” is that, while Reece thinks romantically of natural phenomena as stories and poems in their own right, in *Lost Mountain* these instances more frequently take the shape of descriptive vignettes focused on certain locations rather than stories.

There is a sense of precarity in the creation moments in *Lost Mountain*, because they tend to be bracketed by disturbingly dystopian moments. The landscape of fear presses on the creation moments, especially as the book progresses towards its dystopian conclusion. These darker moments are set in places that are visibly damaged or where damage is projected soon and thus already present in the author’s imagination. Here attention is focused on the industrial disruption of nature’s capacities and the dissolution of its life webs, what I will call cessation moments. The creation moment, then, is defined by nature, and the cessation moment by industry. Reece’s narration crosses back and forth between such moments, mostly in ways that mirror the typical passage of Anthropocenic nature writing from rhapsody to jeremiad, or retreat to confrontation: “What is not rewarding is to hear machinery rumbling above the source of that stream” (108).

Typically, the creation moment will feature Reece observing relatively intact patches of Lost Mountain, or other parts of the Appalachian range, describing various aspects of the abundance of life that the region is capable of producing. The cessation moment often takes place at the same, or at a comparable, location, some time later, after the mining industry has begun its work, and features Reece observing what happens when an ecosystem is transformed into an industrial and economic landscape. Thus, while the creation moment features a landscape of hope, where the processes of nature still operate without significant interruptions, the cessation moment showcases a late stage of the landscape of fear, or even the full realization of the anti-landscape, as exemplified in a scene where Reece strolls the borderline between forest and mine: “The sharp contrast between these two landscapes, heightened by the fall color and the gray mine site, gives me

the strange sensation that I am standing on the edge of Creation, on a thin membrane between the world and the not-world” (208). The terms creation and cessation are appropriate to highlight the extreme contrasts Reece draws between one of North America’s oldest and most biodiverse ecosystems and one of North America’s worst types of anti-landscape. In the anti-landscape, the ability of the land to generate life has literally been removed. In order to expose the deeply buried seams of coal, the vegetation and soil have been scraped away down to the bedrock and dumped at the bottom of valley fills. The bedrock itself has been pulverized into shale which covers this organic material from which life could potentially spring. The processes producing life have thus literally ceased in the anti-landscape, and there is no human time frame in which they can be realistically expected to begin anew.

Movements back and forth between descriptive creation and cessation moments is especially, but not exclusively, characteristic of the journal sections of *Lost Mountain*, which contain the bulk of its most straightforward nature writing. The discursive framework of the book itself also traces the transformation of an ecological landscape of hope into a necroregion or anti-landscape, as it begins with a creation moment but ends with the cessation of life at Lost Mountain: “but whatever this landscape becomes, the mountain is gone for good. Its trees are gone, its topsoil is gone, and its forest-dwelling species, many nearing dangerously low numbers, are gone” (209). As noted above, Reece has stated that his initial objective when traveling to Appalachia was to be inspired to poetry by its ancient ecosystems, but in the anti-landscape he encounters towards the end of his book he concludes dismally that “[h]ere there is little left to identify with, nothing that seems the proper subject of poetry” (210). Reece thus shares Lynch’s concern in *Xerophilia* that damaged landscapes will fail to inspire nature writing in the future (116-17). While *Lost Mountain* shows how the mining industry in Appalachia displaces flora, fauna, and people, the main function of the text may well be to thus showcase the eventual displacement of the germinating instance of nature writing itself. Once the mining industry has done its work, Reece finds nothing left capable of inspiring “poetry,” which indicates that the potential for the germinating instances that give rise to nature writing is at risk of going extinct alongside Appalachian forests.

While Reece is often pessimistic, many of the landscapes of fear addressed previously in this study nonetheless leave hope for recovery in some form or other. Tsing writes towards formulating ways of living in the ruins that capitalism leaves behind across the world. Lynch likewise considers finding ways of writing about resilience in damaged landscapes as a potentially productive environmentalist mode in nature writing. Wohl and Haskell write in the hope that timely intervention may still turn the tide of environmental destruction before the full realization of the anti-landscape or necroregion. However, the type of anti-landscape Reece describes suggests that there is a threshold of destruction beyond which all of the above investments in resurgence become impossible. Tsing, Lynch, Haskell, and Wohl all stake their projects for resurgence on what Tsing calls third nature, the organisms that manage to survive capitalist exploitation (viii), but at Lost Mountain there is no third nature. Here second nature, which is “capitalist transformations of the environment” (viii), has scraped the world down to the bone, leaving no option of even the

most limited resurgence. This is an anti-landscape that darkly transcends Nye's description of it as someplace incapable of supporting human infrastructure (*When the Lights* 131). It is a landscape that reflects the emphasis on death in Serenall Iovino's concept of the necroregion as a place that has passed beyond realistic hopes of recuperation ("Restoring" 102).

In *Slow Violence* Nixon introduces the concept of "displacement without moving" (19). He argues that in addition to exploring the more typical understanding of refugees as involuntarily displaced from their "places of belonging," slow violence must be explored in relation to those that because of the industrial transformations of their homes are effectively made "refugees in place." "Displacement without moving" thus "refers rather to the loss of land and resources beneath them, a loss that leaves communities stranded in a place stripped of the very characteristics that made it inhabitable" (19). While Nixon's use of this concept with reference to its impacts on communities will be explored further below and in the next chapter, "displacement without moving" is also in many ways precisely what happens to the nature writer at Lost Mountain. The overall movement from creation to cessation story was determined from the start through Reece's selection of Lost Mountain, a place scheduled for mountaintop removal, as his locus of attention. It is a site that, although some work has begun, very early in Reece's year of observation retains many characteristics of the type of "place to which nature writers escape ... land unaffected by humans," as it has been defined by Scheese (6). Over time, though, the deliberate application of the Thoreauvean retreat experiment to Lost Mountain ultimately strands the nature writer in "a place stripped of the very characteristics" that made it worthy of retreat, to borrow Nixon's formulation above. This is not an incidental interpretation of *Lost Mountain*, but very clearly a planned outcome of Reece's approach.

According to the conventional wisdom of the genre, the Thoreauvean project Reece performs of studying Lost Mountain through the cycle of a year should position the nature writer into an ideal state of knowing. But at Lost Mountain the creation stories devoted to the experience of nature in the germinating instance become increasingly fragmentary because the germinating instance is literally being undermined as bulldozers and dynamite erase the landscape. While faithfully visiting the exact same locations, the author is shifted out of a landscape he understands, a landscape whose shape, hydrology, and biotic communities are typical of the American east, and into an unfamiliar landscape he finds superficially reminiscent of the American west. However, unlike the landscapes it mimics, this simulacrum of the American west does not sustain an ecosystem. Nothing Reece knew about the landscape at the beginning of *Lost Mountain* is relevant to the landscape at the end of the text. Reece's yearlong study passes from knowing into unknowing, and from nature writing into nature unwriting. The cessation moment thus ultimately implies the cessation of nature writing itself because there is no nature left to write about at that location.

Reece's use of the Thoreauvean approach thus outlines a crisis for this method in the Anthropocene. The objective of the retreat, which is nature without human interference, is shifting so fast and so massively that practitioners of the retreat are doomed to become "refugees in place." However, if the retreat is supplanted with confrontation, this indicates a

way forward for the genre. Reece exemplifies some of the work to be done to adapt the genre to the Anthropocene through his utilization of creation and cessation moments. Juxtapositions of different versions of landscapes, and transitions between these juxtapositions, continue to be Reece's main means of making his case. However value-charged the prose of these descriptive juxtapositions may be, the method still lends a mask of journalistic objectivity to what could otherwise seem excessive exhortation. There is often the pretense of letting the material, the landscape, speak for itself through the narrator's descriptions. A creation moment precedes a cessation moment, and the contrast between them often seems to make its own statement of value.

The effect of such switches between contrastive but geographically juxtaposed places can be a reeling change in perspective from a vibrantly alive ecosystem to an anti-landscape devoid of life. In the early chapter "Coal: An Autobiography," Reece performs a shift from a grounded to an airborne perspective. First the author provides a partial creation moment, experienced from his perspective as a hiking, vacationing naturalist:

A couple of summers ago, I spent one month exploring Robinson Forest, the largest contiguous forest in Kentucky. The state's purest streams flow from its watersheds, which are home to over sixty species of trees. Hiking and writing, sketching and wading, I conducted my days in various states of what E. O. Wilson has called 'the naturalist's trance.' I didn't have to read billboards or drive past miles of fast-food architecture. I didn't have to look at anything ugly or man-made. (17)

What Reece represents above is a nature writer frolicking in the customary setting of the retreat. "Hiking and writing" in the "naturalist's trance" is an appropriate enough summation of this approach to landscapes, which Nixon refers to as "[a]n influential lineage of environmental thought" that "gives primacy to immediate sensory apprehension, to sight above all, as foundational for any environmental ethics of place" (14). We can see the primacy of sight bound up with ethical valuations in Reece's paragraph above where he stresses that he does not have to "read billboards," see "fast-food architecture," or view things that are "ugly" and "man-made." His eyes can preoccupy themselves with large forests and the "purest streams." Nixon quotes venerable proponents of this ocular "lineage of environmental thought" such as George Perkins Marsh saying "'the power most important to cultivate, and, at the same time, hardest to acquire, is that of seeing what is before him'" (14) and Aldo Leopold asserting that "'we can be ethical only toward what we can see'" (14). However, Nixon also he raises the question of "what perspectives ... do hegemonic sight conventions of visibility obscure?" (15). The flyover in *Lost Mountain* provides an answer to Nixon's question by staging the contrast between grounded and airborne perspectives.

Nature writers of the Anthropocene often seem to use the flyover to shift between scales. In the foreword to *Environmental Humanities* Richard Kerridge identifies acts of "zooming in and zooming out" (xvi) as crucial for imaginatively engaging with the Anthropocene. Shifting between scales of perception can involve "withdrawing to the point from which humanity is visible as a single geomorphic force, and then zooming back in,

perhaps further than before, to make necessary distinctions between rich and poor, privileged and dispossessed” (xvii). After spending days in what to the hiker’s eye seems a nature writer’s paradise, Reece is challenged by a scientist to come fly with him to view the same area from a different vantage. For the first few moments of their flight, aerial observation seems to bear out what the conventional hiking perspective has impressed upon him, but then he observes an abrupt switch between types of landscape:

And then the color drained away, the trees dropped back. I suddenly was watching a black-and-white movie. All I could see below me was long gray flatland, pocked with darker craters and black ponds filled with coal slurry. It wasn’t just here and there – the desolation went on for miles.
(17)

The shift of perspective from a hiker’s view to a pilot’s view wrenches the reader from a creation moment to a cessation moment as the plane passes from a landscape of hope and over the anti-landscape. The transition thereby retroactively rewrites the landscape of hope that gave rise to Reece’s pleasurable experience of spending “days in various states” of the “naturalist’s trance” (17), as a landscape of fear, part of an anti-ecotone where the anti-landscape is just out of sight even though the traditional nature writer is oblivious. The juxtaposition of the ignorant creation moment with the informed cessation moment makes the former seem an instance of what Clark in *Ecocriticism on the Edge* refers to as the “transcendental stupidity inherent in embodiment” (38). The embodied scale for Clark “is inherent to the intelligibility of things around us, imbued with an obviousness and authority it takes an effort to override” (38). Scaling up is one way of overriding the authority of the immediate sensuous realm, and the result in *Lost Mountain* returns us to Nixon’s question of what “hegemonic sight conventions of visibility obscure” (*Slow* 15), and suggests that in the complicated times of the Anthropocene traditional visual approaches to landscape in nature writing may become a source of ignorance rather than insight.

Obviously, the flyover in Anthropocenic nature writing is not meant to suggest that a grounded ocular approach can be sufficiently expanded by an airborne ocular approach to landscapes. It rather represents one aspect of the type of multi-perspectival approach that nature writers find necessary in order to meet the particular challenges of writing about the Anthropocene. Reece’s flyover unmasks how vulnerable ocular approaches, or any single-perspective approach to the study of landscapes, can be to deliberate manipulation. As a hiker Reece is incapable of seeing the distant damage that surrounds the landscape he enjoys. He believes what is actually a cessation moment to be a creation moment. Later in the text he informs the reader that the coal companies often deliberately leave in place green buffer zones precisely in order to thwart most cursory, single-perspective, and mainly ocular, studies of the landscape. With the simple juxtaposition of different perspectives, and by making the reader transition between them, Reece shows that in the Anthropocene a multi-perspectival approach is required to safeguard against such deliberate ploys to mask the industrial damage to landscapes, and break from what Nixon refers to as “perceptual habits that downplay the damage” (15). The example seems to imply that nature writing will need to utilize many unaccustomed

strategies for addressing a world in which corporations not only manipulate image and discourse, but materially manipulate the structure and appearance of the land itself in order to hide the true impacts of their enterprises.

The main point of the flyover in Anthropocenic nature writing is to call to attention what is otherwise out of sight, or what is missing from the impression that is readily available through the senses of the hiker. Nixon argues that

Writer-activists can help us apprehend threats imaginatively that remain imperceptible to the senses, either because they are geographically remote, too vast or too minute in scale, or are played out across a time span that exceeds the instance of observation or even the physiological life of the human observer. In a world permeated by insidious, yet unseen or imperceptible violence, imaginative writing can help make the unapparent appear, making it accessible and tangible by humanizing drawn-out threats inaccessible to the immediate senses. (15)

The cessation moment in *Lost Mountain* brings into focus landscapes of fear that are geographically remote, that have been concealed from view by a deliberate green buffer zone, or which manifest as chemicals in the air or drinking water, or merely as spreading ecological absences as species vanish. The challenge of what Nixon calls writer-activism is to “offer us a different kind of witnessing: of sights unseen” (15). The landscape of fear that Reece encounters is, like most environmental landscapes of fear, characterized by absences of extinguished species and new chemical presences. In the anti-landscape, representing these absences or “sights unseen” is a straightforward matter, since the emptied spaces lie immediately adjacent to places that are still characterized by an abundance of the life forms that have vanished. Framed as it is by the untouched green forests, the anti-landscape of strip-mining is visually striking and the cessation of ecological processes is obvious. A conventional ocular approach to such a place provides a lot of the relevant information. The cessation story in the anti-ecotone is more complicated. It is in those places that still look green, as if the creation moment continues uninterrupted, that dealing with absences and “sights unseen” becomes more challenging. In these places, the landscape of fear is sometimes merely signaled in reduced biodiversity, declining numbers of species and individual organisms. The chemical traces of the anti-landscape also pose challenges for which the ocular approach cannot suffice. This is why the cessation moment in *Lost Mountain* is also strongly inflected by material nature writing.

Material Nature Writing, Anti-Ecotones and the Anti-landscape in *Lost Mountain*

In *Lost Mountain*, the landscapes of Appalachia are all in different manners affected by their various degrees of proximity to the anti-landscape. Even when the author visits locations of seeming natural integrity in Appalachia, there is still a sense that such writing takes place in a boundary zone alongside industrial projects and landscapes that are inimical to the region’s future thriving. Similarly, when he visits towns and communities, there is a sense of tension that results from the troubling nearness of the anti-landscape. In order to highlight the permeability between them, the landscapes near the anti-landscape can

fruitfully be described as existing in an anti-ecotone with the anti-landscape. The ecotone is a site where two or more ecosystems come into contact. What is known as the “edge effect” between these zones makes them sites of increased biodiversity (Haraway, *When Species* 217). What I refer to as anti-ecotones in *Lost Mountain* are the spaces of overlap between the outright anti-landscapes and their surrounding landscapes. These spaces of overlap occur between the anti-landscape and the surrounding forest, farmland, or communities. Such spaces would tend to be environmentally degraded by their overlap with the anti-landscape. The term anti-ecotone also infers that these are not passive proximities between adjacent, but separate localities. Rather, they are actively harmful zones of contact.

Like Haskell’s and Wohl’s, Reece’s nature writing is informed by the author’s sense that landscapes are dynamic rather than passive. In *Lost Mountain* it is, however, notable that the landscape whose dynamism most actively shapes narrative is the anti-landscape. The anti-landscape is “agential” in *Lost Mountain*, to borrow Barad’s term (132-85). It can send rockslides and mudslides crashing down the sides of mountains toward schools and towns. It leaches toxins into aquifers. It spreads absences throughout Appalachian ecosystems as species statistics tumble and many species vanish. It infiltrates and transforms human bodies causing cancers and numerous other ailments. It has politicizing and divisive effects on communities, causing frictions from the level of family units to local governments. Just as in an ecotone, the overlapping systems are affected by each other, but in the anti-ecotone these effects are all detrimental.

The effects of the anti-landscape spread into its surroundings through various channels and with different results. The anti-ecotone can thus be considered what Alaimo refers to as a “trans-corporeal” landscape (*Bodily* 48). She suggests that the effects of a trans-corporeal landscape are traceable throughout both human bodies “and the wider environment” (48), and this is especially true of the anti-ecotone in *Lost Mountain*. Reece insists on tracing the trans-corporeal dynamics of the anti-landscape well beyond the specific geography of the visible scar. Although he studies its local impacts most closely, Reece acknowledges that the anti-landscape of strip mining also has global reach through its double role in accentuating climate change, both through the felling of mesophytic forest which absorbs and stores significant amounts of carbon, and through the excavation and burning of fossil fuels which discharges carbon.

In “Nature, Post Nature,” based on the work of philosopher David Wood, Clark argues that one hallmark of the Anthropocene is “the *loss of externality*” (82; emphasis in the original). Clark quotes Wood who suggests:

Now there is no outside, no space for expansion, no more *terra nullius*, no *Lebensraum* no slack, no ‘out’ or ‘away’ as when we throw something ‘out’ or ‘away.’ ... Yet so much of our making sense, let alone the intelligibility of our actions, still rests on being able to export, exclude, externalize what we do not want to consider. When that externality is no longer available, we are in trouble. (qtd. in Clark, 82; emphasis in the original)

The concept of the trans-corporeal anti-ecotone underscores that the remaining forests and the human settlements near the anti-landscapes in *Lost Mountain* have no true or secure separation from the nearby anti-landscape. Reece dramatizes the ways that the anti-landscape affects both its surroundings and the atmosphere. Even though it has been situated out of sight of human settlements, hidden behind concealing swathes of more intact landscape, it is shown to be an ongoing factor of concern. He addresses the way he is himself perceived by some as “an *outsider* ... the worst kind of elitist” (64; emphasis in the original) in terms reminiscent of Wood’s above: “ecologically there is no outside” (65). For Reece, the far-ranging consequences of the anti-landscape collapse the gaps that separate local issues from global concerns: “*there are no sides*, and ... there are no sides because there is no *outside*. This small planet is all we have, and to continue on our current course will be to ensure that we all become outsiders” (213; emphasis in the original). The anti-landscape is a local matter in *Lost Mountain*: “The coal industry has left central Appalachia a scarred and toxic landscape” (67). But the anti-landscape is also a global concern: “It is time – and given rising temperatures and melting glaciers, there isn’t much time – to revive the land and the people’s quality of life” (67). While the anti-ecotone references the anti-landscape itself and its more immediate vicinity, landscape transformations of such formats as those addressed in *Lost Mountain* reverberate across a multiplicity of scalar frames in ways that involve everyone.

Alaimo argues that thinking in terms of the trans-corporeality of bodies and environments challenges notions of autonomy and externality:

The traffic in toxins may render it nearly impossible for humans to imagine that our own well-being is disconnected from that of the rest of the planet or to imagine that it is possible to protect ‘nature’ by merely creating separate, distinct areas in which it is ‘preserved.’ In other words, the ethical space of trans-corporeality is never an elsewhere but is always already here, in whatever compromised, ever-catalyzing form. (*Bodily* 18)

Thinking in terms of trans-corporeality and pollution has consequences for the way we perceive places and our position in relation to them. Thinking in terms of the anti-ecotone underscores the porosity of seemingly safe places to adjacent harm in ways that are not always obvious. These modes of thought bring the anti-landscape into troubling proximity, even when it seems safely located away from the human sphere atop mountains. Many human communities in *Lost Mountain* draw water from aquifers into which the anti-landscape leaks chemicals. Clark argues that “[t]he end of ‘externality’ means that the consequences of human action do not go away anymore” (82), which is a cause for concern when those consequences are dynamic, toxic, unlivable anti-landscapes that intra-act with their surroundings such as those described by Reece.

There is maladjustment between the temporalities of nature and the anti-landscape in *Lost Mountain*. The realm of nature is ancient in what, according to Reece, “may be the oldest mountain range in the world” (11). The pace of transformation emanating from this landscape is measured in eons: “[O]ver hundreds of thousands of years, the Appalachians were responsible for reforesting most of North America [after the Pleistocene ice ages]”

(35). The changes emanating from the anti-landscape are of similar scale, but measure in days, weeks and months: “What stood here two weeks ago was not a mixed mesophytic forest, not yet. But it would have become one. Instead, the industrial equivalent of an ice age glacier will soon scour Lost Mountain, and the hopes of any kind of forest will be gone” (36). The anti-landscape also implies another temporal rupture between the pace of change, and the speed of recovery. While change is abrupt in the anti-landscape, recovery is slow to the point of being impossible. This is because industrial humanity inflicts the damage, but leaves it mainly up to the slow pace of nature to reforest the damaged landscape.

The cessation moment in *Lost Mountain* portrays the material dynamism of the anti-landscape in several different ways. Some cessation moments describe darkly transformative landscapes that seem to be rapaciously devouring their greener surroundings:

Because the landscape shifts so quickly beneath the force of the explosives and dozers, a sense of vertigo sets in as I wander around these unnatural formations. Where last month I walked a ridgeline, this month, in exactly the same place, I’m standing on a black plateau, and it’s hard to even remember what the original contour looked like. I know it was here, I know there were a few trees left. Now there’s nothing. Everything that once stood here now lies a hundred feet away, down in the massive hollow fill. I stretch out my arms and slowly turn full circle. My throat tightens and my breath suddenly becomes short. I cannot see one living thing. (126)

Reece’s understanding of the speed of anthropogenic damage to the Appalachian range increasingly oppresses his creation moments with a sense of precarity and urgency that is especially disorienting when applied to mountains, which are transcultural emblems of durability: “For the first time I approach the summit with a real sense of urgency. I may not see it again. Next month, these capstones may be gone, these chestnut oaks erased” (171). The ridgeline in question has “been standing longer than the Himalayas” (125), but the anti-landscape emerges from the accelerations and temporal disorders made possible by explosives and industrial machinery.

Other cessation moments focus on anti-landscapes after their function as raw material for capitalist extraction has been concluded. These are less overtly dynamic cessation moments, because here, after perhaps some cursory efforts at so-called “reclamation” (37), the anti-landscape has been left behind in a more or less stabilized condition. These versions of the anti-landscape have in a literal sense crossed over from industrial time and back to the tempo of nature. However, these landscapes are only returned to the temporality of nature once everything that made them able to sustain nature has been removed. The tempo of nature is thus the only natural principle that seems at work here, as Reece reports: “Scanning the reclaimed portions of the Starfire Mine site, I can see hundreds of acres of rolling savanna, planted with lespedeza, an exotic legume imported from Asia, one of the few plants that will survive in this shale” (38). The savanna will not

be able to sustain the local ecosystems it has displaced “for another thousand years” (39), but even such seemingly inert variations of the anti-landscape conceal dynamic intra-actions with the surroundings. What Reece refers to as the “edge effect” of the strip mining anti-landscape – “the creation of smaller woodlots with an increased circumference” (42) – disrupts predator and prey dynamics and reshuffles species distributions in nearby forests. In an ecotone, the edge effect is what makes the ecotone especially abundant, but in the anti-ecotone the edge effect makes the landscapes impoverished.

Cessation moments focus on the materiality of anti-landscapes in obvious and more intricate ways. Much of this material nature writing describes the obvious and dramatic reshaping of the physical contours of the mountains:

On the western side of the mountain, orange and yellow fuses wind through the black beds of coal like broken spiderwebs. Only a few dozers are working down below, grading the rubble of the valley fill. Haphazard mounds of black and gray rock are piled everywhere. Empty explosive boxes litter the site. I step over fissures in the ground where spoil has been piled back over empty pits and compacted. So much spoil has been piled around the pits here on the west side of the mine that I can work my way around to the back of Lost Mountain without being seen by the dozer operators. But when I start to climb my usual path to the summit, I realize with a shock that the entire eastern ridge side, where last month I was so tangled in blackberry briars, is nearly gone. All the vegetation has been shaved away, and a dozer has cut a long scar all the way up to the summit. The oak-pine forest that once surrounded the mountaintop is now only a narrow strip of trees. What was once a gently sloping ridgetop is now a long vertical rockface, dropping hundreds of feet and jutting out over the gray shelves below. (171)

The obvious material alterations of the landscape are so dramatic that they overshadow many of the more sinister aspects of the landscape transformations that are going on. In a very visual sense the anti-landscape of *Lost Mountain* is “a wasteland, a dead zone, a man-made desert” (209). What makes these descriptions of the anti-landscape especially poignant is similar to the strategy previously defined as characteristic of Haskell’s perceptual field, namely what Alaimo refers to as “movement across.” For Alaimo, the formulation of a new posthuman ethics might arise from paying attention to movements across bodies, scales, species, and place (*Bodily* 156). Attention to the “movement across bodies, scales, species, and place” contributes to the sense of environmentalist urgency in *Lost Mountain*, but the most significant contribution to its environmentalism comes from the simple movement from a creation moment to a cessation moment. The physical juxtaposition of the grey and black anti-landscape in its most absolute form with the green landscape with seemingly intact ecosystems creates a contrastive tension between value-charged polarities that is consistently effective. On top of this comes the sinister trans-corporeal dynamic of toxins leaching from the anti-landscape into its surroundings in entirely unplanned ways, without oversight, sufficient safeguards, or control. Reece argues that the anti-landscape is a source of air pollution and water pollution, in ways that for

example drive up the prices of clean water in Eastern Kentucky. Even more problematically, the anti-landscape is structurally unstable. The threat of devastating and toxic avalanches represents a long-term hazard within the anti-ecotone.

Material Nature Writing and Environmental Justice in *Lost Mountain*'s Anti-Ecotone

Through its focus on the victimization of humans the cessation moment in *Lost Mountain* foregrounds matters of injustice that are often absent from conventional nature writing. As previously noted, the turn towards the human in the nature writing of the Anthropocene is twofold. Partly, and most obviously, it is a turn towards acknowledging the human impact on the landscape and, accordingly, it includes humans as relevant to the germinating instance, which is instanced in Wohl, Haskell, and Reece. Often, this turn towards the human is negatively focused on humans as a source of ecological destruction. The human is thus most commonly the subject of the jeremiad and the confrontation. But, as the following will show, the turn towards the human is also a turn towards a concern for the ecological wellbeing of the biosphere that is inclusive of human beings, which entails a departure from previously more common attitudes of dismissiveness towards all things human as part of the movement of retreat. In *Lost Mountain* the cessation moment leads to such a concern for the present and future wellbeing of humans and nonhumans alike.

In *Lost Mountain* the future wellbeing of humans and nonhumans is made uncertain by the anti-landscape. The anti-landscape and its more extensive anti-ecotone are the products of large-scale industrial restructurings of the dynamics of landscapes. The anti-landscape is an entirely new, and the anti-ecotone is a partially new, landscape where a functioning ecosystem used to be. The anti-landscape is completely defined by humans, and the anti-ecotone can be wholly, but is more often partially, humanized. Some of the processes of nature have been replaced with new processes. Other natural processes are ongoing, but industrial interventions in the material composition of landscape have changed the impacts and outcomes of these processes. This may erroneously suggest a sense of human dominion and control over these landscapes when it is in fact the opposite that is the case. Far from being a source of mastery over nature, the human intervention that causes anti-landscapes and anti-ecotones is to be considered a trigger for the destabilization of material dynamics from their preexisting circumstances. The drastically rearranged landscapes give rise to new, unintended, unpredictable, unstable, unnatural, uncontrolled material dynamisms and intra-actions. The replacement or derangement of the dynamics that sustain the ecosystems of Appalachia results in volatile and massively altered parameters which may be entirely different from the parameters within which human habitation in these places can be considered advisable. The anti-landscape and the anti-ecotone thus call into question the prospect of future human thriving in the same way that they do nonhuman thriving.

The anti-ecotone is where humans and ecosystems come into contact with the anti-landscape. Haraway perceives "contact zones," which she equates with ecotones, as agential (*When Species* 217). She describes them in dynamic terms as "where the action is; and current interactions change interactions to follow. Probabilities alter; topologies morph; development is canalized by the fruits of reciprocal induction. Contact zones change the

subject – all the subjects – in surprising ways” (219). The positive inflection of Haraway’s description here depends on her preoccupation with the potential for mutually productive intra-actions of different species in contact zones. Haraway often perceives such contact as predominantly positive. However, if the type of “contact zone” in question is an anti-ecotone such as those of *Lost Mountain*, contact becomes perilous, and Haraway’s description begins to suggest more sinister potentials. If dangerously unstable anti-ecotones are equally agential and share the potential to “change the subject” that Haraway attributes to more positive versions of “contact zones,” then disturbing implications also arise as to what those changes might entail. Notably, the type of change Reece most often foregrounds in *Lost Mountain* is from creation moment to cessation moment.

A sense of lost stability such as characterizes *Lost Mountain*’s anti-ecotone also informs Teresa Shewry’s assessment of perspectives in contemporary environmental literature:

Environmental writers today emphasize the loss of much precious stability, including that of the temperature zone in which the planet exists. Their stories are heavily oriented towards tracking the processes by which environmental difference emerges across time, or ‘watching the world change.’ (*Hope* 30)

The anti-ecotone in *Lost Mountain* is characterized by loss, change, and disruptions of ecosystemic stability, geological stability, biodiversity, economic prosperity, human and nonhuman health. The spreading anti-landscapes and anti-ecotones also result in the resource depletion of the region for the financial benefit of mainly outsiders. “Tracking changes” in *Lost Mountain*’s anti-ecotone often becomes a matter of tracking visible and invisible threats and consequences for both local ecosystems and communities. Shewry argues for recognizing the long-term implications of environmental declines: “Environmental loss is not just a dimension of the past and present world. It heavily occupies futures projected in scientific research and other sites” (14). “Environmental loss”, whether it is conceived in Nixon’s terms of “slow violence” or not, is a particular environmental justice concern because it impacts most significantly, albeit not exclusively, along lines of poverty, ethnicity, gender, and forms of political disenfranchisement, by setting in motion “certain future trajectories,” as Shewry puts it, for impacted individuals, places, and communities, that often “cannot be halted” (15). The people and organisms inhabiting the anti-ecotone in *Lost Mountain* will be forced to deal with the multiple problems arising from their troubling proximity to the unsecured and unstable anti-landscape for all their foreseeable future. Troublingly, as Reece indicates, it seems that the people of Appalachia have lost much of their voice at a time when they need it the most: “The poor have disappeared from the culture at large, from its political rhetoric and intellectual endeavors as well as from its daily entertainment” (198). The foreclosure on the future is thus partly enabled through disenfranchisement in the present.

The limited horizon of future opportunity that environmental degradation produces runs counter to Shewry’s understanding of the future as a site of “openness” where “[h]ope is always inseparable from awareness of risk, or of potential dangers” (15). A future made

by environmental destruction is often a future that in Shewry's mind has already somehow been actualized in the landscape of the present, because through destruction "life within certain parameters has been foreclosed" (15-16). Reece expresses similar concerns regarding the anti-landscape as an ongoing source of foreclosure on the prospects of the population of Appalachia. Continuing on the present course will leave the populace of Appalachia "three-way losers," because when the mining companies are done, "[t]he minerals are gone, the money is gone, and the land has been despoiled" (204). They will be left in the trans-corporeal anti-ecotone to inhabit a future that will be characterized by increased local and global risk: "There will be more dangerous floods and more mercury in the water, more damaged wells and more dangerous coal trucks, more carbon in the air and fewer trees to sequester it" (225). The rise of the anti-landscape in Appalachia thus precipitates a geometrically disproportionate decline in its prospects as a landscape of hope. The detrimental impacts of the porous anti-landscape reach far beyond its geographic circumference.

In Lost Mountain the long reach of the anti-landscape into the realm of humans is most overtly illustrated in sections of environmental journalism dealing with landslides. The anti-landscape threatens landslides from unstable valley fills, or worse, from poorly secured slurry ponds filled beyond capacity with toxic mining wastes:

Still, if one pond break was responsible for 125 deaths at Buffalo Creek, it's hard to fathom what even a minor earthquake would do to the 225 slurry ponds that sit above old mine shafts. In Kentucky, most people have no way of even knowing where these huge ponds are – no public maps exist – and almost none of the permitted ponds have emergency plans on file, as is required by law. The worst-case scenario might involve a 250-foot-tall dam that holds back slurry at a Massey operation in Whitesville, West Virginia, right above the Marsh Fork Elementary School, where two hundred students are enrolled. (129)

Repeatedly in *Lost Mountain*, the hidden anti-landscapes and their peculiar risks, spatially remote from the everyday lives of people atop the mountains that from a distance may seem healthy and unspoiled, are brought imaginatively into proximity with their potential victims through envisioned "what if" scenarios that create the perception of an anti-ecotone. The "what if" scenario implied in the quote above, for example, plays on the fear of hidden dangers, and seems to indicate that the deadly disaster in the past could be replicated 225 times in the future. Locations that to all appearances seem disconnected are made relevant to each other through imagining the potential dynamism of matter. As it is presented in the text, the mining companies' method for storing waste out of sight atop mountains and above habitation thus comes to seem a reckless and willful endangerment of human lives once material agency is taken into account. Shewry writes: "A number of scholars describe hope as an awareness of the promise and openness of the future that takes form in people's connections with other beings, forces, and processes" (61). The challenges may seem insurmountable for hope to take shape in an anti-ecotone that includes 225 insecure toxic ponds alongside vast swathes of strip mined anti-landscape.

As Reece portrays them, the anti-ecotones are zones of particular risk for human beings. There are threats of instant calamities, as in the example of the collapsing slurry ponds above. There are also the threats of slow, long-term effects. Sometimes dangers in these diverging temporalities arise from the same situation, as for example when Reece traces the long-term toxification of the land that resulted from the slurry pond collapse above the town of Inez. The long-term landscape of fear is often trans-corporeal and focused on the ways by which harmful matter from the anti-landscape may be absorbed into the cellular tissues of the people who inhabit this porous fringe between intact and destroyed landscapes. While Reece mainly describes the potential for large-scale immediate catastrophes at the scale of towns and communities, the long-term trans-corporeal aspect of the anti-ecotone is often foregrounded by zooming in closer to examine the impacts on individuals.

The chapter “Was it All by Design?” compellingly exemplifies how Reece often relies on the intimate focus on testimonies from victims and witnesses to foreground matters of long-term environmental injustice. Here Reece is guided through an anti-ecotone by Teri Blanton, a former victim of the coal industry turned local activist, who argues that corporations have turned much of Appalachia into “a toxic dump” (44). Much of the concern in “Was it All by Design?” is thus with the precarity of the body itself in the anti-ecotone. Jane Bennett suggests that

[t]he activity of metabolization, whereby the outside and inside mingle and recombine, renders more plausible the idea of a vital materiality. It reveals the swarm of activity subsiding below and within formed bodies and recalcitrant things, a vitality obscured by our conceptual habit of dividing the world into inorganic matter and organic life. (50)

In *Lost Mountain*’s anti-ecotone “the activity of metabolization” that mingles internalities with externalities illustrates the “vitality of matter” at terrible cost to its human inhabitants. As the chapter title indicates, the perils of exposure to vital materialities in the anti-ecotone are not considered accidental by Reece and Blanton, but rather a form of what Nixon considers slow violence.

The trajectory of Blanton’s personal narrative as relayed in *Lost Mountain* follows the structure common to the book’s sections of nature writing which pass from creation moments to cessation moments. Reece indicates that he understands her story as the equivalent of “a real education in environmental corruption and smashmouth class warfare” (45). The setting of the chapter is the town of Dayhoit. References to Blanton’s past of growing up there are tinged with idyll: “It was the kind of community where neighbors shared their coal in the winter, and on a rare piece of flat land, one man, Millard Sutton, grew enough vegetables to feed nearly everyone in Dayhoit” (45). The brief description gives what amounts to a pastoral creation moment centered on a sense of a supportive community in a productive and bountiful rural landscape. Returning to Dayhoit after living in Michigan for eleven years, Blanton discovers that the landscape has been changed. In “Toxic Discourse” Lawrence Buell considers the trope of “betrayed Edens” as a signature feature of environmental writing on pollution such as Carson’s *Silent Spring* (*Writing* 37).

This is also a feature of Blanton's personal cessation story, as she argues: "I moved back to Harlan County thinking I was bringing my children home to a safe place ... Instead I brought them to a chemical wasteland" (46). Such contrastive tension between what the landscape was and what it is transformed into runs throughout *Lost Mountain*. As Blanton's story exemplifies, these contrasts between past ecosystemic integrity and present environmental decline are used to highlight the environmental injustices suffered by residents of Kentucky at the hands of the coal industry.

In Blanton's case Reece shows how the anti-ecotone has been extended around her home. What initially leads her into confrontation is concern for the safety of her children: "she phoned the highway department and asked for someone to clean up the large puddle of black water and coal sludge that stood in front of her trailer where her children caught the school bus" (45). The coal company resorts to intimidation rather than restoration, sending "a coal truck to slowly circle Blanton's trailer all day" (45). Eventually, though, it turns out that the trans-corporeal anti-ecotone Blanton inhabits is far more insidious than the visible pollution above ground:

Since moving back to Dayhoit, Blanton's two children had been constantly sick. Sometimes, after bathing, they would break out in what their doctor called 'a measles-like rash.' But they didn't have the measles. The groundwater that fed their well had been poisoned with vinyl chloride, trichloroethylene, and a dozen other 'volatile organic contaminants,' or VOCs. On a three-acre plot a half-mile from Blanton's home, the McGraw-Edison Company was rebuilding mining equipment. In the process, they sprayed trichloroethylene-based degreasing solvents on transformers and capacitors. They piped PCB-laden transformer oil directly into Millard Sutton's large garden. They even sprayed it on the dirt roads of the next-door trailer park to, as they said, 'help keep the dust down.' They were just being good neighbors. (46)

Various disturbingly vital, yet inorganic materials have been introduced to the community of Dayhoit in the passage above with results that are written into the organic skin of children. The passage above represents the complete toxification of the rural idyll that supposedly characterized Dayhoit in the past, right down to the poisoning of its water and food source. Blanton experiences what Buell refers to as "the shock of awakened perception" (35) as the environment of her memory, to which she believed she had returned, is unmasked as a dangerous anti-landscape filled with new agentic materials. Here in the new anti-ecotone the potential for "the outside and inside to mingle and recombine" to borrow Bennett's terms, is disturbingly rendered "more plausible" by the evidence of children being harmed (50). The slow violence of disregard and deliberate pollution is shown to impact those most vulnerable and least able to take precautions against this dangerously trans-corporeal landscape.

Reece's descriptions of Blanton's personal experiences with corporate disregard for people's safety from pollution are typical of many environmental justice struggles. Buell writes that "the environmental justice movement (of which campaigns against toxic

dumping have been the catalyst and remain the centerpiece) has increasingly been led by nonelites, more often than not women, including a strong minority presence” (32). His summation could also describe Blanton’s personal trajectory towards becoming a leading activist in Appalachia. Buell argues that toxic discourse is often structured in terms of “moral passion cast in a David versus Goliath scenario” (40), which also characterizes the way Reece reports Blanton’s story: “In the media, we were portrayed as these hysterical housewives who didn’t know what we were talking about” (46). Eventually Blanton’s activism yields results, and Dayhoit is declared a Superfund site, an official designation that is almost synonymous with the term of anti-landscape. However, having her community recognized as an anti-landscape does not end the pattern of recklessness, slow violence and injustice. The approach to cleanup, as Reece reports it, compounds both injustice and trans-corporeal endangerment: “The EPA excavated five thousand tons of contaminated soil from around the plant, then trucked it to Alabama, where it was stored next to a poor African-American community” (46). Rather than remedy an injustice, the problem is thus exported and imposed on a community with perhaps even less access to political agency and representation. Back in Dayhoit, a pump is installed to vaporize the contaminated groundwater which creates a permanent contaminated fog that encloses the residences of the people of Dayhoit in a cloud of airborne rather than waterborne chemical agencies: “I knew they were going to poison me and my kids all over again” (47).

As seen in the examples above, the primary trans-corporeal means by which the anti-landscape of strip mining in *Lost Mountain* infiltrates the anti-ecotone is through water. Water mobilizes the toxins of the anti-landscape and carries them into adjacent landscapes. Shewry writes:

Water not only enlivens but sometimes also undermines and complicates the literary writers’ efforts to evoke promising, open futures, in its expansive trajectories around, above, and into the planet, its changeable forms, its capacity to destroy and sustain life, and its often hurtful entanglements with economy. (61)

Water becomes the most common physical avenue for the toxins of the anti-landscape into human and non-human bodies. The focus on water in *Lost Mountain* creates an environmental landscape of fear that can be both subtle and overt. Sometimes the harm is visible as a discoloration in the water, and the effects on the people of the region are dramatic. At other times the groundwater is subtly infiltrated by undetectable toxins and the symptoms of poisoning manifest gradually over time. The more overt toxification of the water is reflected in a drive Reece and Banton make along a creek on the way to Dayhoit:

The road followed Ewing Creek, running brown from recent rains. And then, as we followed it farther upstream, the water turned orange. Blanton pointed for me to pull off at rusting cattle gate, where a sign read MOUNTAIN SPUR COAL COMPANY. We got out and climbed the gravel road that led to an abandoned strip mine. A nasty orange syrup called acid mine water was pouring out of a pipe that drained an open

mine pit. Blanton lit a cigarette. 'I grew up on this creek,' she said. 'I grew up walking these mountains and I've watched them crumble before my very eyes. It just makes me angrier and angrier knowing that these people can operate in such a manner and get by with it.' (47)

The "nasty orange syrup" Reece and Banton observe is a visual indicator of the water's "hurtful entanglements with economy" in Appalachia, to borrow Shewry's formulation above. "Hurtful" becomes an understatement of the catastrophic effect of this liquid from the anti-landscape on the communities in the anti-ecotone. As they follow the creek, a dystopian string of commentary from Banton paints a bleak picture of human prospects on the fringes of anti-landscapes: "Everyone in that house died of cancer" (47), "[s]he lived next to what we called the killer well ... Everyone who lived around that well died" (49), "[a]lmost nobody in Dayhoit lives past fifty-five" (49), and "[l]et all of your family members and friends die around you and see if you don't get emotional" (49). These are bleak examples of what Bennett refers to as "[t]he activity of metabolization," which in these cases render visible the vital materiality of the toxins emitted by mining corporations through human fatalities. Shewry writes: "Water links people to the past through its cyclical movements and physical return to places where it once existed, but also because past water-related injustices reverberate in the present world" (66). In the anti-ecotone of *Lost Mountain*, water becomes the medium by which the anti-landscape permeates ecosystems, homes, and disastrously, human bodies. While the human endeavors that created the anti-landscape may be years in the past, the material dynamism of the anti-landscape in combination with water and "the activity of metabolization" continues to make the past "injustices reverberate in the present world" of *Lost Mountain*.

Reece represents the situation in Dayhoit as a typical, rather than an isolated, situation for Appalachia. His more journalistic chapters cover many similar stories of residents suffering exposures to the anti-landscape. The hazards of the anti-ecotone, as Reece portrays it, are the product of a neoliberal business model that conceals costs, evades responsibility and monopolizes the profits. Reece refers to the corporate strategies for displacing accountabilities as "an elaborate shell game that keeps them in business and free from responsibility to the land or local landowners" (47):

It works like this: The three men own one company that remains in good standing with state regulators. Then they set up smaller companies with names like Limousine Coal, Master Blend, and Mountain Spur. These operations lease equipment from the 'good' company, and post a small bond that will supposedly cover the cost of reclamation should the company declare bankruptcy. Which is exactly what they do. The shell company forfeits its bond, which is never enough to complete the reclamation, and local communities are left with cracked foundations, a contaminated creek, poisoned wells, and steep slopes that pour mud down when it rains because there is no vegetation to hold the soil in place. (48)

The corporate executives responsible for the numerous deaths, shattered landscapes and ruined lives listed by Banton thus not only go free of liability, but profit handsomely from their actions. Reece emphasizes that the infliction of the anti-landscape with all its attendant

problems must be regarded as deliberate, rather than accidental: “I realized that the most sinister part of this whole sad story is that it was all done intentionally. A multinational corporation hid in a hollow of one of the poorest counties of one of the poorest states, and knowingly dumped hundreds of deadly chemicals right on the ground” (50). Banton voices her suspicions that the entire state has been deliberately disenfranchised to pave way for such types of exploitation:

‘We were fueling the whole United States with coal,’ she said of the region’s last hundred years. ‘And yet our pay was lousy, our education was lousy, and they destroyed our environment. As long as you have a polluted community, no other industry is going to locate there. Did they keep us uneducated because it was easier to control us then? Did they keep other industries out because they can keep our wages low? Was it all by design?’ (50)

Reece neither confirms nor denies Banton’s suspicions, noting that it sounds like a “conspiracy theory,” but then adds a list of terminal casualties of the mining anti-landscape, before concluding the chapter with the statement that “[t]he White Star Cemetery is a collection of terminal facts” (50).

Reece’s book thus also raises questions of authority in the landscape of fear: who speaks, who is heard, and who hears? Ultimately Reece seems to challenge Nixon’s sense of optimism regarding the efficacy of the writer-activist’s role in confrontations with slow violence. *Lost Mountain* deals extensively with the inability of the writer to make his voice ring out efficiently against the strong and rehearsed rhetoric of the mining industry. Reece also describes the challenges of addressing an audience with the perplexingly mixed loyalties that characterize even the victims in Appalachia’s anti-ecotone, and the successful ways by which the mining industry generates a public polarization of views that occurs throughout all the strata of Appalachian society. However, Reece also insists on the consistent and intrusive dynamisms of the new landscapes that the mining industry has created as a condition whose gravity continues to worsen regardless of discursive contestations. The trans-corporeal materiality of the anti-landscape itself thus becomes the dominant voice in *Lost Mountain*. Through its many infiltrations of the anti-ecotone, the anti-landscape refuses to be materially or discursively contained. Bennett refers to “the quarantines of matter and life” as troubling cognitive structures that “encourage us to ignore the vitality of matter and the lively powers of material formations” (vii), but the anti-landscape in *Lost Mountain* breaks down such quarantines through its multiple intra-actions in the anti-ecotone. The anti-ecotone thus ultimately becomes a space in which the destructive material agencies of the anti-landscape assert themselves, often in the flesh of the many human and nonhuman bodies that have no option but to inhabit this toxic and porous fringe.

Chapter Four: The Anthropogenic Landscape of Fear Accelerated in the Nature Writing of Louisiana

And here you can feel all that like no place else. This is where it is happening, where you can experience the shuddering of the death pangs. Welcome to the future. While the rest of the country may not know it yet, down here they're already living inside it. (David Gessner, *The Tarball Chronicles* 150)

With reference to various anthropogenic impacts on its ecosystems, Timothy Clark argues that “Australia stands out as a particularly stark exemplar of the challenges of the Anthropocene” (*Ecocriticism* 116). The following chapter makes similar assertions about coastal Louisiana as a place where the Anthropocene has been accelerated. A corollary of this situation is that some of the most intriguing examples of Anthropogenic nature writing focus on the extensive environmental problems of the vast and rich wetlands in Louisiana. The nature writing of this region occupies an advanced position in the emerging field of Anthropogenic nature writing. Here the shift from narratives of retreat to narratives of confrontation, arguably an overall tendency in the genre, has come much further than in the nature writing of most other regions. In Louisiana the confrontation with the Anthropocene has become the dominant core story, at least for the foreseeable future.

Clark’s reasons for analyzing Australian history are relevant in Louisiana’s case as well: “An Australian test case recommends itself because that country’s modern history is, more legibly than elsewhere, not just a history of human beings” (116). I would suggest that Louisiana’s Anthropogenic nature writing is “more legibly” than nature writing elsewhere shaped by its focus on the interaction of human and non-human agencies in a specific landscape. The lines of causality that bring forth this focus in nature writing about Louisiana are also unusually clear. Large-scale environmental disasters in the dynamic wetland landscape of Louisiana stimulate literary responses that shift the focus in the genre from rhapsody to jeremiad. Because the landscape is so dynamic, the effects of human interference tend to manifest more swiftly and in more easily perceivable ways here than in most ecosystems. While the environmental crises that define the Anthropocene are predominantly attritional and cumulative phenomena that are hard to detect and emerge over time, the susceptibility to change in the coastal wetlands of Louisiana makes the effects of human endeavors detectable in a far shorter span of time and at far large scales, which is why one can say that the experience of the Anthropocene has been accelerated for those who live there.

In addition to the unusually dynamic character of the landscape, there are three main reasons why much of Louisiana's nature writing has moved further into the Anthropocene than nature writing elsewhere. These reasons are: catastrophic coastal erosion, Hurricane Katrina and the Deepwater Horizon oil spill. Public awareness of the scope of coastal erosion, the impacts of Katrina, as well as the Deepwater Horizon spill, all took place over a relatively short period of time. Each consecutive environmental problem was of a different character than its predecessor, with the result that each crisis brought to light new environmental dynamics and vulnerabilities, rapidly expanding the scope of the Anthropocenic awareness among the region's nature writers. The particulars of each disaster stimulated a sense among writers of Louisiana as a post-natural region where the function of the region's ecosystems could no longer be considered without taking into account the effects humans were having on those ecosystems.

In the following I identify three phases of Anthropocenic nature writing about Louisiana. Each phase is defined by its predominant focus on one of the three major environmental upheavals the region has experienced. The first phase of nature writing about Louisiana is thus regional in focus and oriented towards the issue of coastal erosion. The second phase is characterized by a more global perspective ushered in by Hurricane Katrina and concerns over global warming. The third phase of nature writing about Louisiana is focused on the trans-corporeal landscape of fear following the Deepwater Horizon oil catastrophe. After some reflections on the material character of Louisiana's landscapes grounded in Nancy Tuana's concept of "viscous porosity," the following chapter chronologically reviews the characteristics of each of the identified phases of Anthropocenic nature writing about Louisiana.

The timeline for the first phase of Anthropocenic nature writing about Louisiana is more open-ended than the succeeding phases. Gradual coastal erosion is a different category of environmental disaster than both Katrina and the Deepwater Horizon blowout, and the first phase thus lacks the clearly defined beginning of the second and third phases. The earliest texts used extensively here as representative of the first phase are Bill Streever's *Saving Louisiana? The Battle for Coastal Wetlands* (2001) and Mike Tidwell's *Bayou Farewell: The Rich Life and Tragic Death of Louisiana's Cajun Coast* (2004). However, the environmental phenomenon of coastal erosion which Streever and Tidwell both address had been ongoing for many decades since the very first engineering attempts at controlling the flooding of the Mississippi (Tidwell, *The Ravaging* 36-37). Earlier texts, such as Gay M. Gomez's *A Wetland Biography: Seasons on Louisiana's Chenier Plain* (1998), address the same issue. Even earlier, John McPhee devoted a third of *The Control of Nature* (1989) to the matter of coastal erosion in Louisiana. Although significant scientific studies of coastal erosion took place already in the 1960s (Tidwell, *The Ravaging* 37), Tidwell indicates that there was a relative lack of public response to early reports on the issue, suggesting that it was not until "the mid-1990s" that there was both "rising public and scientific" awareness (41). This is likely why a number of notable books of nature writing entirely devoted to the topic began to emerge in the nineties. The period from the late nineties to 2005 was the time when narratives of coastal erosion crystallized into their clearest form before the arrival of Hurricane Katrina changed environmental

preoccupations in Louisiana. This is why the earliest texts selected here are from this period.

The second period of Anthropocenic Louisiana nature writing begins in the aftermath of Hurricane Katrina in 2005. The primary texts studied from this period are Bill McKibben's "Year One of the Next Earth" (2006), Susan Zakin's "A Corner of the Fallen World" (2006), and Mike Tidwell's *The Ravaging Tide* (2006). The third phase of Louisiana's Anthropocenic nature writing begins after the Deepwater Horizon oil spill in 2010, and the primary texts from this period are Terry Tempest Williams' "The Gulf Between Us" (2010), Rowan Jacobsen's *Shadows on the Gulf: A Journey through our Last Great Wetland* (2011) and David Gessner's *The Tarball Chronicles* (2011). While there are publications in many genres addressing the environmental phenomena that define the various phases, there is so far relatively little nature writing, and the selected texts are the ones I have deemed most exemplary of these phases. All of the phases are to be considered open-ended because the environmental concerns that define each phase continue to be of importance in each successive phase. Coastal erosion is still a serious and ongoing issue in phase two and three, and the aftermath of Katrina plays a part in the unfolding events that shape phase three.

This chapter treats the nature writing of Louisiana from the late nineties to the present as a form of instructive microcosm of the way Anthropocenic nature writing emerges through attending to the complex interplay of humans and the environment. In the span of relatively few years, dramatic events in the real world modified the Anthropocenic awareness in the nature writing about Louisiana in ways that highlight how these dynamics emerge in the genre more broadly. This particular period in Louisiana's history represents a time when an inhabited region was intensely affected by three different large-scale environmental issues in ways that had tremendous impact on nature writing. Because these landscapes were inhabited, Louisiana's nature writing was early led to environmental justice perspectives that included humans as both victims and culprits in the unfolding landscapes of fear. The three different region-wide environmental catastrophes also very rapidly propelled nature writing about Louisiana forwards through expanding stages of Anthropocenic awareness – from material nature writing about anthropogenic change that is predominantly bioregional, to an expanded view that takes in the region's material entanglement in Global Warming and global petroleum capitalism, to a further expanded view that takes in the trans-corporeal dimensions of the oil spill as they impact the bodies of humans, plants and animals. The study of nature writing about Louisiana over this environmentally turbulent period of time thus provides insights into the overall emergence and development of Anthropocenic awareness in the genre.

I will argue that a central motif in each of these phases is the Anthropocenic notion of what Rob Nixon has called "displacement without moving" (19), which he describes as

a more radical notion of displacement, one that, instead of referring solely to the movement of people from their places of belonging, refers rather to the loss of the land and resources beneath them, a loss that leaves

communities stranded in a place stripped of the very characteristics that made it inhabitable. (19)

Each of the three phases of nature writing identified here can be said to introduce a potential cause for such “stationary displacement” in the nature writing about Louisiana, each new cause adding to what was considered in the previous phases. Whereas the first phase focuses on the potential for catastrophic coastal erosion to displace many of Louisiana’s residents, the second phase expands this fear by examining the ways in which global warming may exacerbate the already existing problems, and the third phase examines the ways that pollution and toxification following the oil spill threaten lives and lifeways in Louisiana.

The “Viscous Porosity” of Louisiana’s Landscape and Nature Writing

Because their writing is situated in such a dynamic landscape, the nature writers of Louisiana work almost consistently in the mode of material nature writing with an emphasis on the material processes that are shaping the parameters of ecosystems and human existence in the region. The specific properties of this Louisiana landscape similarly inform the understanding of the interaction of the natural and the social implied in Nancy Tuana’s concept of “viscous porosity.” In her text “Viscous Porosity: Witnessing Katrina” (2008) she argues that “[T]he separation of nature and culture has impoverished our knowledge practices” (208), and suggests that her concept of “viscous porosity ... involves recognizing the interaction of nature-culture, genes-environment in all phenomena” (209). The nature writers in the various phases likewise portray a condition of porosity and interaction between natural and social phenomena. Tuana suggests that viscous porosity “helps us understand an interactionist attention to the processes of becoming in which unity is dynamic and always interactive and agency is diffusely enacted in complex networks of relations” (188-89). The nature writers of Louisiana often portray the region with “interactionist attention” to its processes. They write with a foregrounded sense of the viscous porosity between natural and human agencies, and between wetland ecosystems and human settlements on the Louisiana coast. More precisely the nature writers of Louisiana write with an understanding of the landscape itself as both viscous and porous. There is both openness and resistance to the trans-corporeal processes in the shifting figurations of loose river sediment and vegetation that constitute the wetland landscape. The material nature writing of Louisiana works within a landscape in which matter is both prone to, and partly resistant to, rearrangement under the shaping force of the river, the ocean, and humans.

Tuana’s article focuses on post-Katrina New Orleans. While her concept has wider applications, “viscous porosity” provides particularly useful terminology for explaining the unusual material conditions of the Louisiana wetlands: “*Viscosity* is neither fluid nor solid, but indeterminate between them” (193-94; emphasis in the original). This is precisely how Louisianan scientist and nature writer Bill Streever describes this landscape, as neither completely liquid, nor fully solid, but “viscous,” as intermediate between the two: “Everything is moving, sinking, shifting” (*Saving* 61). He describes a landscape that is

defined by its active impermanence, where the ground is always accreting or subsiding, “coming,” “going,” “silting in or washing out” (49), and maps cannot be produced swiftly enough to keep apace of the changes. He outlines how the soil is so close to being liquid that there are underground currents – flows of soil within the land itself – yet is firm enough for him to walk on. Nevertheless he also writes about land that is so close to being water that his boat can pass through it “with a mixture of plowing, cutting, and floating” (57). This is viscous territory reminiscent of Tuana’s understanding of the concept:

At the same time, ‘viscosity’ retains an emphasis on resistance to changing form, thereby a more helpful image than ‘fluidity,’ which is too likely to promote a notion of open possibilities and to overlook sites of resistance and opposition or attention to the complex ways in which material agency is often involved in interactions, including, but not limited to, human agency. (194)

Yet Coastal Louisiana is also porous, because as much as the place is defined by its viscosity, it owes this consistency to the multiple flows that pass over, under, and through it. Tuana suggests that “attention to the porosity of interactions helps to undermine the notion that distinctions, as important as they might be in particular contexts, signify a natural or unchanging boundary, a natural kind” (194). The wetlands of Louisiana are portrayed as porous in this sense too. They are conceived by nature writers like Streever and Tidwell as profoundly Anthropocenic places because they have emerged in their present form through the complex interactions of various human and natural agencies over time.

Such a sense of “the porosity of interactions” animates the unusually intense sense of dynamism that Louisiana’s nature writers attribute to the material configuration of the landscape itself. Each successive phase of nature writing brings to bear an overview of the porous interactions that define the region that is extended beyond the outlook of the previous phase. The phases of Anthropocenic nature writing of Louisiana are defined by environmental disasters, and each new disaster highlights different consequences of unplanned human modifications to the dynamic landscape system. The landscape of the earliest Louisiana nature writing – like the conditions encountered by John James Audubon in the early nineteenth century and Lafcadio Hearn in the second half of the nineteenth century – has already been lost in the first phase of Anthropocenic nature writing about Louisiana. The sense of place underlying the recent phases of nature writing is of a heavily engineered cyborg landscape, teetering between recovery and the necroregion.

Yet, even as Tuana’s article provides such useful tools for grappling with the issues facing Louisiana, it is mainly focused on what happened in the city of New Orleans, and thus she remains silent on what nature writers consider some of the most pressing issues facing the region as a whole, New Orleans included. Tuana thus parallels most post-Katrina literature and journalism in dealing with what nature writer Mike Tidwell in *Bayou Farewell* (2003) calls “the deathbed symptoms of an ailment” (343), rather than engaging with the “ailment” itself. This “ailment,” with all its complex foreseeable and unforeseeable

consequences, is quite simply the loss of matter, the departure of soil. In his afterword to the post-Katrina reissue of *Bayou Farewell* Tidwell explains:

Seventy-five years ago, an area of land as big as that state [Delaware] – barrier islands and forested ridges and unbroken marshland – existed between the Gulf of Mexico and Louisiana’s major coastal cities and towns, including New Orleans. Now, thanks to the levees of the Mississippi River, all that land has turned to water. There is very little that’s natural about these appalling ‘natural disasters.’ We, as a nation, created the watery paths that allowed Katrina and Rita to slam into coastal Louisiana. *We* made this happen and *we* can prevent it from happening again. (343; emphasis in the original)

Tuana emphasizes the involvement of both human and non-human agencies in the disaster of Hurricane Katrina. Even so, her article is mainly angled towards the ways that human and non-human agencies are implicated in a disaster that befell humans. She writes from an environmental justice perspective in which the fate of the ecosystems of coastal Louisiana are interesting mainly insofar as what befalls them contributes towards what befalls humans. While she pays attention to the agency of nature, the viscous porosity of human bodies, and the material consequences of unjust social systems in New Orleans at the moment of calamity, she mostly ignores the porous viscosity of the ground beneath these bodies and systems, and the failing integrity of the faraway wetlands behind which they have historically been sheltered from events like Katrina. In the nature writing of Louisiana, all the major disasters that have impacted the region are closely linked with the narrative about the agency of the mobilized soil particle, and the role it plays in paving the way for these catastrophic events. Yet, Tuana partly acknowledges making such omissions: “[A]s we make pragmatic divisions between what is natural and what is social, as I have here, it behooves us to remember the viscous porosity between these phenomena, a porosity that undermines any effort to make an ontological division into kinds – nature and cultural – where the edges are clean and the interactions at best additive” (196). Conversely, much of the social dynamics Tuana foregrounds receives scant attention in the region’s nature writing, suggesting that neither Tuana nor nature writers are overlooking things as much as making pragmatic choices of foci pertinent to their work.

The lines of reasoning that Tuana leaves out are dominant in the nature writing of Louisiana, where the viscous porosity of the subsiding wetlands, and what happens to people living there or depending on them for their livelihood, is the main issue of writer-activist engagement. The Anthropocenic nature writing of Louisiana thus departs from typical strains of post-Katrina writing and journalism, which made New Orleans the primary icon of all that befell the Gulf during the storm. While it does not ignore the city, it merely includes New Orleans as one of the many communities that were impacted by the catastrophe, preferring perhaps, as nature writing often does, to keep its attention

somewhere more rural.¹² This could be a matter of keeping attention to the places that are most relevant to the processes that are reshaping the entire region, on what Tidwell considers the ailment rather than the symptoms. The focus on large-scale change is typical of the nature writing of the Anthropocene, although nowhere as consistently as in Louisiana nature writing.

The Regional Phase of Anthropocenic Nature Writing in Louisiana

The first phase of Anthropocenic nature writing about Louisiana is regional in focus. The narrative of confrontation in the first phase attempts a complex overview of the multiple vectors for change in the physical landscape itself. New Orleans and other well-known landmarks are incidental to the overall perspective on large-scale landscape change in the region. What emerges through this perspective is the understanding that the region is experiencing a gradual environmental crisis of massive proportions due to the depletion of coastal sediments. Much of the nature writing of this phase is thus in the mode of the jeremiad, although the rhapsody figures centrally as well. These contrastive modes are closely aligned here. The rhapsody asserts the spectacular ecological wealth, biodiversity, cultural diversity and beauty of the region, stressing its societal significance, its economic value, as well as the importance of its various ecological functions such as the purification of polluted water or its capacity to absorb storm surges. The jeremiad outlines the many complex ways in which humans have intentionally and unintentionally affected these aspects of the landscape to their detriment. The writing of this phase is issue-oriented and period specific in ways that characterize much of the overtly activist nature writing of the Anthropocene.

The challenge for the jeremiad in this phase of nature writing is to encompass the many diverse agencies that play a role in the worsening coastal erosion and to predict the various perils the situation creates. Tuana asserts that “the dance of agency to which Pickering¹³ urges us to attend can only be seen and understood if we understand the rich interactions between organisms and environments in all their complexities” (206). The difficulty, and perhaps impossibility, of conceiving of all “the rich interactions” of “organisms and environments in all their complexities,” particularly in the Anthropocene, is underscored by the rapid reorientation ushered in with each phase of Anthropocenic nature writing in Louisiana. Each phase represents an expansion of nature writing’s repertoire, a broadened context in which the complexity of the landscape is more fully perceived, and which to some extent reveals that perspectives in the previous phase were in some important ways incomplete. As mentioned above, the first phase of Anthropocenic nature writing in Louisiana is characterized by its focus on the accelerating process of land loss. The nature writing in the first phase is Anthropocenic because it foregrounds the human as the currently most significant cause of land-loss and change in what is geologically and biologically a viscosely porous region. This is also material nature writing because its

¹²David Gessner, for example, stays in New Orleans for a few days. It is worth noting here that Gessner seems to lose his focus slightly in the urban setting, paying attention to cocktails and food as much as on the issues of the Deepwater Horizon oil spill. As he leaves the urban setting, his writing becomes more focused on the issue again.

¹³In *The Mangle of Practice: Time, Agency, and Science* (1995) Andrew Pickering identifies what he calls “a dance of agency” between people and objects, human agency and material agency.

dominant focus is on the interplay between the human and non-human forces that affect the movement of sediments through the river delta ecosystem. The material nature writing of this phase is far more bioregional in its focus than later phases, observing environmental issues that at the time were most often seen to have more to do with regional than global phenomena, which become more pronounced in later phases.

Bill Streever's *Saving Louisiana?* and Mike Tidwell's *Bayou Farewell* are two of the most noteworthy books of nature writing about the erosion of Louisiana's coastal wetlands and its anthropogenic causes. These texts are characterized by material nature writing alongside an increasingly pronounced political or activist stance that is more comparable to that of Erik Reece than that of Ellen Wohl or David George Haskell, in whose work activism is present, but more circumspect. As with Reece's *Lost Mountain*, the conspicuous activism of Tidwell and Streever makes their books specifically event-oriented and time-bound in ways that Wohl's and Haskell's books are not. Their themes, topics, activism and understanding of landscapes are particular to their time of writing in the years immediately prior to Hurricane Katrina when coastal erosion was considered the most significant threat to the region. In later work, published after Katrina, both writers noticeably alter their approaches, paying significantly more attention to global warming and the global perspective that comes with this subject matter.¹⁴ Such expansions of perspective are the primary reasons it makes sense to talk about phases in Louisiana's Anthropocene nature writing, and to correlate these phases with the environmental issues that initiated the shifts between perspectives. Phase one is characterized by its attention to the regional phenomenon of coastal erosion and global warming is a fringe concern. In phase two the focus is split between reportage on the impacts of Hurricane Katrina as magnified by global warming and also coastal erosion. In phase three the aftermath of the Deepwater Horizon oil disaster takes prominence alongside the previous two foci. The topical expansion that comes with each phase in part underscores the ways in which previous phases had not achieved a full conception of the "interactions between organisms and environments in all their complexities," in Tuana's words cited above.

Emblematic of the first phase, Tidwell and Streever both trace the process of land-loss back to the ruinous straight-jacketing of the Mississippi with flood control levees in the early decades of the last century. They explain how the levees were installed for the purpose of protecting nearby residents from the Mississippi's periodic flooding, but that the levees also had the unintentional side-effect of withholding the river's great load of replenishing sediments from the delta behind impenetrable walls, and instead began sending its land-building cargo out over the continental shelf: "... the river now spills its seed uselessly into a dark, deep, watery oblivion" (Tidwell, *Bayou* 31). This stratagem for the prevention of flooding effectively removed the engine responsible for building and maintaining Louisiana's wetlands, and in a stroke of dark irony, by reducing the process of accretion, it unintentionally surrendered the region to a process of subsidence and erosion

¹⁴ Tidwell, for example, published *The Ravaging Tide* (2007), a book heavily focused on the economic and political dimensions of Global Warming, in response to Hurricane Katrina. Streever for his part wrote the paired books *Cold: Adventures in the World's Frozen Places* (2009) and *Heat: Adventures in the World's Fiery Places* (2013) in which global warming figures prominently.

that has so far turned a large portion of the land area it was designed to keep un-flooded into ocean.¹⁵

Tidwell's and Streever's reappraisal of flood control structures that were initially beneficial and stabilizing for human settlements in the region is a reflection of Anthropocenic awareness in its own right. Clark observes that

To recognize the Anthropocene as 'emergent' alters the understanding of what may be environmentally destructive or not. For the encroachment of human activity on more and more of the biosphere is often a result of activities that once straightforwardly enhanced human welfare but which have now crossed a certain threshold in magnitude and impact. In effect, the Anthropocene here names a necessarily vague but insidious border at which what used to be clear human goods begin to flip over into sources of degradation and environmental harm. (48)

What Clark outlines is exactly what Tidwell and Streever describe as happening in Louisiana over time. Structures that made life safer along much of the Mississippi River for many decades have "crossed a certain threshold in magnitude and impact," and have "flipped" "over into sources of degradation and environmental harm." The levees have stalled the process of accretion, surrendering the region to subsidence, which if unaltered will make much of the region entirely unproductive and uninhabitable in the span of decades:

If the fantastic land loss continues, the famous ragged edge of the Louisiana coast will simply flatten out, eventually coming to look more like coastal Mississippi, Alabama, and Florida, i.e., made up mostly of narrow beaches with only small pockets of wetlands that produce only a fraction of the fisheries wealth of the current, vast Louisiana system. (Tidwell, *Bayou* 52)

Because of the unanticipated side effect of the levees on the Mississippi delta, the entire bioregion is poised to become a necroregion. What remains habitable will be substantially more vulnerable to storms.

The activities of the oil industry in Louisiana, which were initially seen as economically beneficial to the region, have also "flipped" in the conception of nature writers into sources of harm. Tidwell and Streever are keen to emphasize the ways that the industry has exacerbated the problem of erosion. The industry's extensive dredging of canals for the purposes of transportation and pipelines, has caused massive erosion and allowed both ships and saltwater to penetrate far deeper into the wetlands than they would naturally go: "Those canals also provide highwaylike avenues for the saltier water of the Gulf to travel north through the marsh (Tidwell, *Bayou* 52). This change in balance between types of water has upset the balance between saltwater, brackish, and freshwater

¹⁵ It has also had the further effect of sending the runoff from farms, rich in pesticides and artificial fertilizers, unfiltered into the Gulf, contributing significantly to the creation and magnitude of its hypoxic dead zone.

marshes, with the effect of killing off much of its protective plant cover, causing a reshuffling of species (51), and resulting in extensive erosion from deep within what used to be sheltered spaces. The emphasis in these portrayals of damage is always on the speed with which materials are mobilized; on, for example, the rate at which erosion doubles the width of canals. Thus, as they fray both along their edges and from within, the engineered marshes of Louisiana are staged in this phase as the scene of a race between momentum and time. The pace of recovery is squared off against the speed of damage in the short window of time remaining before the marshes are gone:

Seven thousand years it took the Mississippi to build everything we see around us ... Seven *millennia*. Seventy *centuries*. And now it all comes down to just ten or twenty years if we really want to save what's left. That's our window of opportunity. (Tidwell, *Bayou* 124; emphasis in the original)

This sense of urgency is anchored in the dynamic representation of the land itself, with constant references to how the “delicate mud base” (Tidwell, *Bayou* 36), “the puddinglike mud below,” or “the trembling prairie” (35) come under pressure from anthropogenic impositions on the ecosystem such as “ten thousand *miles* of canals ... spread across the Louisiana coast, devouring the land” (36; emphasis in the original). Tidwell and Streever also both explore how this situation leaves the people of Louisiana divided right down the middle, divided by financial interests, with some employed in the oil industry and dependent on the canals, and others employed in the increasingly endangered seafood or tourist industries. For Tidwell the focus is mainly on the division within communities, whereas Streever foregrounds the competition between various scientific and political discourses for influence in the public arena. The consensus among writers of this period seems to be that the clash of economic interests has so far made substantial and effective political action virtually impossible, an argument that is almost always paired with a reminder of how the soil, mobilized by water, is constantly traveling through the landscape and not being replenished, the speed of damage massively outpacing the rate of stalled recovery.

Although Tidwell and Streever foreground the wetland ecosystems to a greater extent than human settlements, their portrayal of landscape dynamisms is inseparable from matters of environmental justice. Just like Tuana, they write with sustained emphasis on the inextricability of humans from nature, affirming that the fates of human inhabitants intertwine with the fate of the ecosystem. This landscape of gradual, ongoing coastal erosion and subsidence in almost every respect resembles what Rob Nixon calls an “attritional catastrophe” (7). Attritional catastrophes, he argues, “overspill clear boundaries in time and space,” and they “are marked above all by displacements – temporal, geographical, rhetorical, and technological displacements that simplify violence and underestimate in advance and in retrospect, the human and environmental costs” (7). He insists that such displacements “smooth the way for amnesia” (7), or as Tidwell phrases it: “This sort of mental paralysis – better described as denial – is one of the region’s biggest enemies” (104). Nixon argues further that “[v]iolence, above all environmental violence,

needs to be seen – and deeply considered – as a contest not only over space, or bodies, or labor, or resources, but also over time” (8). To explain the temporal dynamics of environmental landscapes of fear, Nixon references Faulkner’s dictum that “the past is never dead. It’s not even past” (8). This type of dynamic relationship with the past is very clearly portrayed in the nature writing of Louisiana: “A devastating chain reaction has resulted from the taming of the Mississippi, and now the entire coast is dissolving at breakneck speed, with an area equal to the size of Manhattan succumbing every ten months. It is, hands down, the fastest-disappearing landmass on earth” (6). The actions of engineers and oil companies in the past have caused effects that continue to unfold in the present, eroding the hope for a long-term future.

As noted above, Nixon also argues that “neoliberal policies impose displacement without movement (or stationary displacement)” (19). Tidwell sees Louisiana in similar terms, calling it “the Bangladesh of America,” stressing that the fates of people are entwined with what happens to the land as the result of development and engineering: “Like the land itself, the Melancons [a family he meets] are totally vulnerable and exposed” (24). He predicts that they will soon be displaced. For Tidwell the phenomenon of “stationary displacement” affects a wider community than the human. He notes the unsettling statistical correspondence between the disappearance of half of Louisiana’s wetlands and half the number of migratory birds crossing the Gulf of Mexico (62), lamenting that “the fastest disappearing landmass on earth doubles as a place of unbearably fast-sinking luck” (62). He also asserts that both the national and local economy, as well as the safety of local residents, suffers alongside the land: “This world, containing a staggering 25 percent of America’s total coastal wetlands, may be totally gone in the next few decades, taking with it a huge part of America’s economy and a shield against hurricanes for two million citizens” (6). Neither the oil industry nor the corps of engineers seems to have altered their approach in the face of such knowledge.

There is an environmental justice calibration to both the rhapsody and the jeremiad in Louisiana’s nature writing. Many of the rhapsodic moments in *Bayou Farewell*, for example, focus on the various beneficial ways in which the lives of people in relatively poor communities are linked with the wetland ecosystem. Tidwell underscores the ways in which the ability to harvest directly from the abundant ecosystem enables people to maintain their social and cultural integrity at low cost. The jeremiad in Louisiana’s nature writing foregrounds the agency of industrial capitalism as a significant disruptor of the dynamic wetland ecosystem for the enrichment of a few. These disruptions impact the people of low income who depend most directly on the ecosystem for their livelihood and are the least financially able to adjust to large-scale ecosystemic changes. A conversation with Senator Mike Robichaux recorded by Streever in *Saving Louisiana?* illustrates what seems to be a general attitude towards Louisiana’s environmental problems:

The people of Louisiana don’t own this state ... It’s owned by foreign business. I don’t mean foreign as in outside of the United States, but as in outside Louisiana. The profits are siphoned off. The industries don’t have

a vested interest in the state's long-term well-being. And industry runs the state. (161)

Over the course of their conversation, a picture emerges of the region as a place where outside interests are mining the landscape for its resources, under a rhetoric of short-term regional benefits, while leaving its residents to bear all the long-term costs of these resource raids generations hence, with most of the world unaware of the problems even existing. In this situation, the jeremiad highlights environmental risks and traces the lines of culpability, while the rhapsody highlights the ecosystemic and cultural wealth that is at stake. There is thus a recurring contrast between the thriving parts of the ecosystem and the liquid anti-landscape that replaces them.

Part of the jeremiad's function in Louisiana's nature writing is to bring to light the extent of the problem of coastal erosion. Tidwell relies heavily on the anecdotal evidence of residents in his portrayal of coastal erosion in the region. This has the effect of humanizing the consequences of coastal erosion, and giving a voice to some of the people inhabiting the frontlines of the landscape of fear. However, these perspectives on the problem are mostly confined to what the witnesses have experienced for themselves. These witnesses speak from within the important, but nonetheless insufficient time frame of a single generation, whereas the problem has been ongoing for several generations. The testimonies are also commonly confined to the individualized frame of the immediate lifeworld of the witness, whereas the problem of erosion involves the entire gulf coast of Louisiana and parts of its neighboring states.

As Timothy Clark suggests, the problems of the Anthropocene often challenge writers to scale beyond the horizon of individualized experience: "The Anthropocene entails the realization of how deeply this scale may be misleading, underling [*sic*] how (worryingly) our 'normal' scales of space and time must be understood as contingent projections of a biology which may be relatively inexorable" (30). A function of the jeremiad in Louisiana's nature writing is to zoom out beyond the scale frames of the individual to provide overviews from various perspectives and scales of perception. This is important, because Louisiana's attritional landscape of fear often takes form outside what we might term the human sphere, in wetlands that are difficult for many to access, and almost impossible to inhabit for any duration of time. Aside from experts, few have an accurate overview of the extent of loss this landscape has suffered. The jeremiad presents a widened timeframe that invokes past versions of the landscape alongside a widened geographic horizon that draws attention to fraying and fragmenting peripheries outside the human domain in order to provide a fuller sense of the scope and pace of environmental damage. In *Bayou Farewell* adjusting the scale frame often has the effect of revealing to the reader that the situation is graver than the residents themselves believe it to be.

Writing about erosion creates a form of spatial division between landscapes worthy of the rhapsody and the encroaching landscape of fear which gradually replaces them. The more intact aspects of the present landscape in the first phase of Louisiana's nature writing are thus often shaped in tandem with the landscape of fear, as exemplified by Tidwell's *Bayou Farewell*: "long stretches of sinking wetlands, pockmarked with wells and

torn up by canals with their hideous warning signs, followed by equally long stretches of intact marsh grass supporting elaborate bird rookeries and marked by a lonely wilderness quietude” (37). As can be seen, Tidwell oscillates between a landscape of fear and a landscape of hope, and such movement back and forth between landscapes of integrity and decline lends all Anthropocenic nature writing in Louisiana much of its dramatic poignancy. As Tidwell himself notes: “It’s what makes a visit to this coast as exhausting as it is exhilarating: beauty and death, inseparably bound, in states utterly extreme” (71). Such formations of different but adjoining landscapes, are often purposefully contrastive in Anthropocenic nature writing, as exemplified in the description of Streever’s view of the wetlands from a plane:

‘Look at the open water around areas with canals and compare that to areas without canals.’ The difference is astonishing. Just below the plane ... the marsh, or what was once marsh, is little more than a maze of canals lined by banks of dredged sediment and surrounded by brown water. Ahead and to the left ... an expanse of highly vegetated marsh, broken only by a twisting brown bayou, stretches toward the horizon to disappear in haze. It is as though I am looking at two different ecosystems: below me, something artificial, constructed, characterized by straight lines; ahead of me, wet wilderness. (*Saving* 25)

Streever’s environmentalism is staged through the juxtaposition of landscape types here. The fecundity of the intact parts of the landscape represents both what is deemed worthwhile about it in the present, and its potential for recovery in the future. This landscape of hope is counterpoised with the impoverished landscape of fear that the entire wetland is in the process of becoming. The foregrounding of the canals also signals the agency of the oil industry in the transformation from one type of landscape to the other.

The fact that in Louisiana the intact and destroyed landscapes can be experienced in such close proximity to each other adds to the overall sense of dramatic change. Often the landscape of hope is portrayed as a passive victim in these contrastive formations. Although it is portrayed as a biologically dynamic place and a vitally alive and intact ecosystem, this landscape is also portrayed as passive in the sense that it does not advance upon other types of landscape, changing them into something else. In as far as it can be said to strive for anything, the landscape of hope merely aims to be what it already is. The landscape of fear is often portrayed as active and even aggressive, intruding upon and transforming the other more passive landscape, such as when Tidwell refers to oil canals as “devouring the land left and right,” (*Bayou* 103), or when he writes about eroding barrier islands as “bullied,” “vulnerable,” “caught,” “lonely,” “fragile,” or “overwhelmed as a matchstick in a roaring river” (120). The dynamism of the landscape of fear is portrayed as presently more forceful, easily capable of overwhelming the dynamisms that sustain the landscape of hope.

The sense that the dynamism of the landscape of fear is in the process of overwhelming the existing landscape shapes the direction of narrative in the first phase of Anthropocenic nature writing in Louisiana. In *Bayou Farewell* chapters tend to begin with

rhapsody in some hopeful version of either the landscape of the past or the present – a landscape of ecological riches – which then declines into a landscape of fear. The writing is shaped by a sense of intrusive Anthropocenic awareness which transforms rhapsody into jeremiad. The munificence of the visible present perpetually erodes in the face of better knowledge. Even when Tidwell exults in moments of discovery, an awareness of the steady attritional encroachment of the necroregion imposes itself on the experience: “But these visual pleasures don’t last. For a good five miles to the west, almost to the horizon, stand the bleached and blackened trunks of long-dead cypress trees protruding from the water” (115). Tidwell’s narration moves between scale frames and temporalities to bring together the unspoiled landscape of the past, the reduced but still vibrant landscape of the present, and the liquid necroregion envisioned as the future, all the while instilling a sense of headlong acceleration in his descriptions of landscape processes that from a human reference point seem imperceptibly slow. This acceleration is reflected in the decline of the rhapsody and the strengthening of the jeremiad throughout *Bayou Farewell*.

The narrative movement from rhapsody to jeremiad that characterizes many chapters in *Bayou Farewell* is an important feature in Tidwell’s attempts at animating the process of erosion for the reader. Making an incremental process such as erosion seem dire is one of the particular challenges tackled by Tidwell. A significant concern in *Bayou Farewell* is the way such dramatic landscape change can occur without raising an outcry among Louisiana’s residents because the slow pace of the process makes the scope of what has been lost difficult for people to assess. Many people seem forgetful or unaware of what has been lost through decades of coastal erosion. The situation outlined in many ways resembles what J.B. MacKinnon refers to as a “long-term pattern of amnesia” or “shifting baseline syndrome” in which environmental damage is forgotten over time (*Nature as* 17). Forgetfulness, MacKinnon argues, “... can begin in the instant that a change takes place: the human mind did not evolve to see its surroundings ... as the focus of our attention, but rather as the backdrop against which more interesting things take place. We generally don’t notice small or gradual changes” (19). It is only by situating the landscape of the present in a mobile continuum between its maximum extent in the landscape of the past and its projected disappearance in the future that Tidwell is able to convey to the reader how dramatically erosion is affecting the landscape.

In Anthropocenic nature writing the landscape of the past is made relevant in the present. In the shorter perspective this is often an aspect of living memory as expressed through conversations between the author and people with a strong, long-term affinity and knowledge for a place. Tidwell encounters many individuals such as this, but living memory is within the generational frame of shifting baseline syndrome, and the landscape of the past is thus invoked in longer historical perspectives to generate a form of what MacKinnon refers to as “trans-generational memory” (23). For MacKinnon “trans-generational memory” is “stripped-down versions of the original” that invoke a sense of a bygone era through an icon of that time, such as Marilyn Monroe or saber-tooth tigers: “We hang on to the dodo ... but lose sight of the long list of other species that disappeared” (23). Trans-generational memory in the nature writing of the Anthropocene, however, is a far more richly detailed invocation of the past, in which the landscape and its denizens are

brought to life with the same vibrancy as the landscape of the present. What is often a contrast between abundance in the past and the scarcity in the present is thereby vividly outlined.

Tidwell creates a productive tension between primarily four different versions of the wetlands of Louisiana. The extent of the wetlands in the narrative present is counterpoised with the extent of the wetlands in the living memory of eyewitnesses that Tidwell interviews. But living memory is also contextualized against the historical record of the maximal extension of the wetlands in the years immediately prior to the first efforts at engineering the Mississippi with flood control levees. The primary sense of reader engagement in *Bayou Farwell* is derived from frequent references to imagined scenes of recovery or further decline in the future. These alternate templates of the landscape – past, present, and hopeful and pessimistic versions of the future – exist in a state of friction in *Bayou Farewell* that animates the process of erosion: “Despite the massive loss of land in this once boundless estuary system, there remains a staggering amount of life and natural beauty along the coast. But try as I might, I still can’t get young Tee Tim’s voice out of my ears: ‘When I was a kid ...’” (41). The Anthropocenic acceleration in Louisiana is represented as so severe that even a teenager recalls better times from a childhood he has barely left. As for the scale of the situation, Tidwell’s conversation with a local priest, Father Pilola, illustrates the Anthropocenic dimensions of that too: “‘But for a lot of people the situation is just too big to comprehend. It’s so overwhelming. I mean, the *land* is disappearing. How many places in the world can people say that?’” (104).

In addition to the landscape of the past and the present and the dystopian horizon of the future, phase one of Louisiana’s Anthropocenic nature writers also strives to formulate a landscape of hope. This landscape that emerges in the nature writing of Louisiana is radically different from the landscapes of hope articulated in more conventional wetland nature writing. In *The Wild Marsh* (2009), for example, nature writer Rick Bass uses the wild character of his local wetlands as an excuse to imaginatively retreat from the Anthropocene, noting that “[t]his book, unlike so many of my other Yaak-based books,¹⁶ aims to be all celebration and all observation, without judgment or advocacy” (6). While Bass’s introduction acknowledges the Anthropocene in the form of “the ever-increasing global exhalations of warmth and carbon” and “the dissolution of various biological underpinnings” of the region he is writing about (8), to the point where he says he needs to blot out this knowledge “in order to simply stay sane a while longer” (6), what he wants to write is a book about hope. Hope for Bass means blotting out the landscape of fear, to indulge in rhapsody without jeremiad, and he observes that “to let fear replace hope would be a bitter defeat indeed” (8).

Even as he underscores his ambition for the text to be “some sort of usable record about the condition of this ecosystem” (6), Bass paradoxically announces his intention of disregarding major factors of stress on the system he plans to record in order to flavor his pages with hope. Arguably Bass’s *The Wild Marsh* can be regarded as an indicator of the kind of escapism that the slow pace of the Anthropocene still enables, and perhaps to a

¹⁶ Bass bases much of his nature writing on the landscape of the Yaak Valley in Montana.

degree stimulates. Pretending that the problems do not exist is a luxury Bass, unlike writers in Louisiana, can enjoy precisely because his marsh is situated far inland and not subject to the accelerated Anthropocenic forces beleaguering Louisiana. In terms that seem to summarize Bass's escapist impulse, Teresa Shewry writes that "[h]ope might seem more like disengagement or denial than attunement to the bleak contexts of contemporary environmental life" (2). She calls this form of hope "a powerfully blinding experience that turns people away from environmental realities to a 'castle in the clouds'" (2). In places like Louisiana, this type of escapism is far less feasible, and this type of hope often becomes unproductive. Shewry refers to hope that deliberately turns its eye from its environmental contexts as "a retreat down pitiful bolt holes that time and time again fail" (2).

While admittedly not every single specimen of Louisianan nature writing can be deemed Anthropocenic, most of this writing appears to be influenced by the region's rapidly shifting ecological circumstance into what Nixon calls "writer-activism." He regards the writer-activist's perhaps foremost task to be that of coping with the "challenge of visibility," the lack of which he regards as a crucial factor enabling what he calls slow violence (5). Bass's deliberately blinkered writing in *The Wild Marsh*, which in the name of "hope" renders invisible rather than visible aspects of environmental decline, in this view fails as a specimen of writer-activism.¹⁷

Tidwell's and Streever's examples of nature writing are set in a landscape that is attritionally dissolving into a liquid necroregion where escapism is highly impracticable. They write in one of the most extreme examples of what Ellen Wohl has in mind when she writes about anthropogenic "landscape transience" (*Transient* 8). She makes a point that would seem to be contiguous with Nixon's ideas about rendering changes visible, but run counter to Bass's attempt to find hope through ignoring transience, as she notes that "[a]s we change the world around us, coming to terms with landscape transience may also be the essence of physical and emotional survival for humans" (8). Acknowledgement of landscape transience, rather than denial, is Wohl's prescription for achieving Bass's ambition of staying "sane a while longer" (*The Wild* 6). Conveying the urgency of the disaster of landscape transitioning to anti-landscape in Louisiana, which takes place at a geological pace, represents particular challenges for Streever and Tidwell, but the endeavor is motivated by the imperatives identified by Wohl. For one thing, it impels the writer-activist to emphatically stress that people are also on the line: "If it [a concerted effort towards restoration] doesn't happen, then we need to start evacuating people and relocating towns and abandoning this beautiful coast right now" (*Bayou* 141).

The stakes in Louisiana are too high for rhapsody without jeremiad. What slender hope these writer-activists hold out for the future, is of the type that Shewry deems to be "not naïve and depends on engagement with actual contexts of environmental degradation" (6). For hopeful writing to be other than a "naïve" form of escapism, the negative trends in

¹⁷ In fairness it must be noted that Rick Bass has written many texts of writer-activism and is famous for his advocacy. However, his writing is also notable for the way it often compartmentalizes activism and celebration as separate components of his texts. Advocacy is often limited to discrete sections of the text, rather than integrated parts of the whole. There is rarely any form of sustained Anthropocenic awareness that is practiced throughout.

the present landscape must be recognized alongside the abiding potential for recovery in the future. Rhapsody must coincide with jeremiad.

For Tidwell, rendering visible the often unseen and unexperienced accelerated transience of Louisiana's landscapes, is done by imaginatively conflating temporalities as discussed above. One of the more dramatic examples of this comes in a moment where his foreboding premonition of the future nearly overwhelms his sense of the present. The illustrative episode takes place on his return drive from a reconnaissance flight over the eroding wetlands:

And yet we were just up there. Up in the air. We just saw the shattered barrier islands and the receding wetlands with our own eyes. This town of Houma, where the drinking water is going salty, is hanging by a thread just like the rest of the coast. Yet here we are, at a red light, quietly waiting. (138)

The docile situation of waiting at a red light could stand as Tidwell's metaphor for Louisiana's condition. The knowledge that has just been visually imprinted on Tidwell's mind while flying over the eroding margins of the wetland, forces a rejection of the passive normality of the seemingly safe present he experiences a small distance further inland, and compels the writer to reappraise the scene in ways that transcends both individualized time and space:

Kerry's truck happens to be facing north at the moment, away from the coast, and as we wait at the red light I suddenly experience a moment of extreme anxiety. Triggered by the images I've just processed aloft, I have a keen sense that something really, really huge is right behind us. I can *feel* it right behind us. And that something, in my mind, is a giant tidal wave. I'm suddenly sure that if I glance in the sideview mirror or turn around quickly and look back, I'll see the shimmering, curling, mammoth wall of liquid sweeping toward us, sweeping inland, as tall as a skyscraper. (138; emphasis in the original)

Here Tidwell accelerates the encroachment of the necroregion on the wetland for the purpose of more dramatically visualizing consequences that only manifest gradually in the real world. The particle by particle departure of sediments is condensed into the instantaneous transformation implied by the tsunami in the sideview mirror. Tidwell's objective is to highlight the absurdity of communal inaction in the face of a disaster of such magnitude as Louisiana's coastal erosion.

The consequences of inaction, escapism, and denial in the landscape of fear are disastrous:

Or if I do nothing, just look straight ahead, the wave's enormous shadow, fast-moving and death-dark, will overtake the truck and the pedestrians before us, a prelude to the hammer blow just seconds away ... I visualize the pedestrians right in front of me being swept away. There's a woman

pushing a stroller. A pair of teenage lovers holding hands. A postal worker in uniform. They're so ordinary, these people, and yet seemingly tragic – tragically oblivious to what in reality, is increasingly likely to happen here, the great wave of natural disaster and economic loss about to hit. (138-39)

High on melodrama as the scene is – and Tidwell certainly has a penchant for melodrama – it also represents a writer-activist's attempt to overcome Nixon's problem of visibility regarding the danger Tidwell has just seen nearby with his own eyes from the plane, but which is geographically removed from detection in this scene of everyday life. The scene represents Tidwell's attempt at bringing into contact the unfolding disaster observed from his aerial view, and the sight of "schoolchildren playing outside at recess" in a village on Isle de Jean Charles (138). The sight of children at play becomes horrifying because it takes place immediately inland from where Tidwell observed that "[t]here's not a stitch of protective marsh remaining anywhere near that road or around much of the island itself. Just open water. The village is completely exposed (137).

What Tidwell's melodramatic image of the tsunami sweeping towards this scene of ordinary life is meant to outline, is the ways that what we might refer to as amnesia, denial, or shifting baseline syndrome contribute to the rise of the necroregion:

Despite thirty years of scientific documentation, despite public reports and repeated calls for change, despite firsthand evidence of land loss before the very eyes of almost every single coastal resident, nothing of sufficient scale is being done to save the region. Why is this woman pushing her baby? Why is this man delivering letters? Why are these lovers holding hands? Why aren't they rioting in the streets, demanding immediate steps to rescue the ecological base upon which their property, their livelihoods, rest? (139)

The researcher accompanying Tidwell concurs: "it's like these people are in a dream state, and no matter how much the rest of us yell and scream, we can't wake them up" (139). The impossible image of the skyscraper wave represents an intensified jeremiad. It is Tidwell's attempt to create an image that is arresting enough, saturated with sufficient spectacle, to shake his readers out of this "dream state" and into action.

Streever approaches the present landscape of Louisiana from a slightly different, more clinical angle. Where Tidwell tends to accompany local residents on his excursions into the landscapes of coastal Louisiana, Streever follows scientists into the field where they take their measurements and present their theories on both the problem and prospective solutions. Though the preoccupation with the devastating effects of the attritional landscape of fear remains the same in the case of both Streever and Tidwell, the focus in Streever's book shifts between different forms of scientific and political discourses, whereas Tidwell's focus moves primarily between landscapes of the past, present and future. Streever's concern is with examining the way the contesting voices within scientific communities and the dialogs between scientists, politicians and multiple interest groups, directly and indirectly have consequences for the decline and recovery of

the wetlands (146). Streever outlines how multiple agendas and motivations compete for influence in decision making regarding the wetlands, complicating an already difficult situation.

Streever stresses that attention to economic, scientific and political conversations about the wetlands is crucial, because acting in the dynamic landscape of Louisiana is fraught with peril. A bad situation can be made very much worse if wrongheaded or simplistic theories win out in the arena of public or political debate and are implemented, and if the balance of land-building and erosive processes is tipped even further in the wrong direction as a result: “big projects bring big risks – risks of failure, of overspending, of worsening already bad environmental degradation” (159). His book chronicles several instances of bad science or misguided policies which transform the landscape of fear into a necroregion. The lessons Streever learns from his extensive study of Louisiana are not necessarily optimistic. Public and political opinion can be clouded if the wrong discourse gains traction. A failure of precision risks a situation where “[c]omprehension subsides. Concepts erode” (170), and the wrong action gains support with negative consequences for the ailing landscape. Not only is it important to understand science, but it is important to understand the ways that scientific theories become influential in policies. For Streever, aiming for clarity and exactitude regarding this situation is an important objective for his nature writing.

Another substantial point of difference between Tidwell and Streever is their dissimilar attitude to the landscape of the future. In general, Tidwell’s writing tends more towards a dystopian view of the future, while Streever’s writing evidences a substantially greater preoccupation with the potential landscape of hope or recovery, and a hands-on interventionist approach to the complexity of the region’s problems. The contrast in the way the two writers portray the future of Louisiana seems grounded in their personal relationship with the landscape. Tidwell as a visitor seems far more inclined to emphasize the likelihood of the necroregion, whereas Streever as a resident seems to hold more faith in the resiliency of the region and its human and non-human communities. The pattern recurs in later phases, where Louisiana-based writers like Kelby Ouchley seem more inclined towards ideas of endurance, while outsiders like Terry Tempest Williams and David Gessner more easily foresee ruin. Whether this is an actual pattern in Anthropocenic nature writing overall remains to be seen.

Streever’s landscape of hope is characterized by human interventions in the landscape’s material dynamisms. Setting the landscape aside as a wilderness preserve would only ensure its ruin, to his mind. Just as the landscape’s problems stem from the unplanned engineering of the region, the experts Streever consults insist that its salvation must come from planned engineering: “We’re really talking about management. We’re talking about moving away from a paradigm of restoration to one of management. We’re not making something into what it once was. What we are doing is maintaining the system as what we want” (146). Streever’s writing is thus even more profoundly post-natural or natural-cultural than Tidwell’s. He does not only write about restoring the wetlands, but about “replumbing” them (158), or of “deltaic sculpting” (52). In his approach to the partly engineered estuary, Streever shows the co-construction of this landscape by human and

non-human agencies, displaying sites where the nature-culture is more culture, and sites where it is more strongly nature: “It was clear that the dredged material marshes were different from the natural marshes” (50). Nevertheless the stress is always on the entwinement of human and non-human agencies in the landscape, and the utter futility of trying to disentangle them, as can be seen from the following excerpt from a discussion of a recovering patch of wetland: “Depending on who you talk to, it may have been started by a small manmade channel or it may have started on its own” (78). Whether natural or human agencies work more strongly at certain locations, Streever emphasizes that they are both at work at all locations. One sets the other in motion, and vice versa. More than anything, his book exemplifies how Anthropocenic nature writing is invested in understanding the functions of ecosystems, in tracing the links between what the eye beholds and what goes on hidden from it. In the midst of tracing these complicated visible and invisible dynamics, Streever shows how scientists are struggling to get ahead of the rapidly unfolding problem in a landscape that is so dynamic that the supposedly simple tasks of getting accurate measurements of where the land is increasing or decreasing can be almost impossible.

Another aspect of the first phase that needs to be emphasized, is its preoccupation with food, especially with food as an interface between people and place. The interest in food as a connector of person with place is a recurring motif in most nature writing. Most probably it derives from the idea of materially transubstantiating a part of that place into the tissues and cells of the body, forming a literal physical linkage to underscore the spiritual bond. We see this notion taken quite literally by Gretel Ehrlich in *Islands, the Universe, Home* (1991) when she in a paroxysm of landscape eroticism falls to her knees and crams fistfuls of soil into her mouth. As Ehrlich’s case exemplifies, these experiences tend to resemble an almost animalistic form of eating. David Gessner almost invariably uses “gorging” (e.g. *Sick of Nature* 142). Tidwell likewise speaks of “devouring” with “eager mouths” (290). Even fastidious Thoreau seemed moved to wildness when it comes to eating off the land, when he in *Walden* for a brief moment entertains an uncharacteristic predatory fantasy about tearing apart a hare and devouring it raw. This suggests that the stress is on the ritualized act of ingestion, on internalizing some fragment, however small, of the land in a manner that would be in keeping with its wild denizens. Eating becomes a gesture meant to mirror and participate in the mental internalization of the land that is usually the author’s more general aim.

The lines of reasoning are thus not always drawn all the way from these acts of consumption to the material transubstantiation of the physical piece of nature into the cells in the body of the gorging writer, because matter and the body are often considered somewhat beside the point, a sidebar to the main issue, which is the spiritual conjunction between author and location. In essence the nature writing ritual of ingestion very often amounts to a spiritual performance where the material implications of the act are left unpursued, and the emphasis is on what happens to the spirit.

However, in the nature writing of Louisiana the emphasis on food is much stronger than in nature writing in general. Here food is much more strongly construed as a carrier of culture and identity: “The oil is a disaster for the oysters, but also for the culture here, since so much of that culture centers on food” (*The Tarball* 177). For one thing, sampling the

various cuisines is used by virtually all Louisiana's nature writers to underscore the diversity of cultures inhabiting the region – Cajun, Creole, African, Caribbean, Spanish, and Vietnamese, to name a few. More than anything else, food signifies the entwinement of Louisiana's residents with their environment; "The equation is simple: food is New Orleans and oil kills food" (177). And it signifies the precariousness of this bond in almost all its manifestations, with repeated stresses on a hunter-gatherer vision of Louisiana as a place where, as an interview subject assures Tidwell: "We still live off de land. Ever't'ing we need is right here" (24). The strong emphasis on the gustatory landscape of fear also recurs somewhat modulated in phase three of Louisianan nature writing. In phase one the source of fear derives mainly from worries over what will happen as habitat loss impacts the creatures that are the source of Louisiana's unique and variegated food cultures and a mainstay of its economy. In phase three of Louisianan nature writing this focus shifts from a preoccupation with habitat for food, to trans-corporeal worries about what might be in the food.

What all the phases of Louisiana's nature writing illustrate, is the way that different landscapes of fear tend to generate their own icons. This may link with what Njabulo Ndebele calls "the Hegemony of spectacle" (qtd. in Nixon 183), with the privileging of the easily graspable over the more complex range of experience, or the desire to render the complex situation through an easily graspable, and often visually striking, example. Tidwell's book is understandably rife with Atlantean images relevant to sinking landscapes: "I keep looking at that stranded tree in the middle of the canal, dead and all alone, so far from the grassy bank" (36), "[t]here, shockingly, along the grassy bayou bank, I can now make out a dozen or so old tombs, all in different stages of submersion, tumbling brick by brick into the bayou water" (29), or "[f]arther downstream, there's another odd sight: a long stretch of telephone poles is submerged in water along the two-lane road paralleling the bayou" (15). In the case of Louisiana's gradual transformation to a liquid necroregion, Tidwell's use of such stranded icons serves to visualize the largely neglected process taking place all across the region. The environmental landscape of fear is often hard to apprehend because it is more often characterized by multiplying absences rather than presences. Tidwell's repeated references to his icons of loss – the stranded telephone poles, the drowned oaks or the flooded cemeteries – all serve as markers of the Atlantean submersion of land.

However, the "road to ruin" that Tidwell foresees and signifies with his icons (266) is more complicated than the destruction of the ecological foundation of Louisiana's vibrant food cultures. It also entails the loss of land itself, prompting the nature writer to remark that it is unlikely that he will ever return:

Not because I don't want to, but because the place won't exist. It might be gone. In all my travels around the world I've never had to say goodbye to a place in quite this manner. I've never imagined such a place could exist. The *traveler* is supposed to go away, not the destination. (291; emphasis in the original)

In “The Idea of Home” (1991) Mary Douglas writes that “home starts by bringing some space under control” (263). This notion is pointedly subjected to a dystopian reversal in Tidwell’s essay. The viscously porous characteristics of the landscape of coastal Louisiana means that the very attempt to bring the space of the Mississippi’s floodplain under control destabilizes the interaction between the agentic capacities in the land, river, and ocean that in the long run dispel illusions of control and undermine the possibility of home in the sense of a “space under control.”

The original epilogue of *Bayou Farewell* closes with words that turned out to be eerily prophetic of how the attritional landscape of fear outlined in phase one would set the stage for the immediate landscape of fear that would shape the second phase of Louisiana’s Anthropocenic nature writing:

... fifty years ago there was twice as much marsh to absorb the tide between the Gulf and the town. Thus, the question persists: What *will* this coast do when a Category 4 hurricane finally *does* come ashore with almost nothing to stop its surging tide, which is likely to be in the neighborhood of 18 feet?¹⁸ The water will furiously topple all levees in its path and go and go and go, all the way to the outskirts of Baton Rouge, like a liquid bulldozer, flattening everything it meets, and hundreds of thousands of people will be at risk of drowning. (338)

Where the first phase of Anthropocenic nature writing in Louisiana obsessed over the many worst-case scenarios of catastrophic coastal erosion – such as stationary displacement, species extinction, economic decline, the loss of cultures and lifeways, relocation, exposure to rising oceans, and vulnerability to extreme weather – the impact of Hurricane Katrina was such that in the second phase only issues of relevance to climate change would be prominently featured.

The Global Phase of Anthropocenic Nature Writing in Louisiana

The second phase of Louisiana’s Anthropocenic nature writing is the relatively brief period between Hurricane Katrina in 2005 and the Deepwater Horizon oil spill in 2010. Writing in response to the Deepwater Horizon oil spill in 2011, David Gessner suggests that with regard to what he refers to as our shifting “modes of apocalypse” Hurricane Katrina “signaled a shift in which nature itself began to play the role of the heavy. Nature, and of course *us*, the great manipulators of nature. What is sea level rise if not the result of our use of oil and other fossil fuels? It is all connected, both natural and un-” (*The Tarball* 173). Whether or not Gessner’s assessment is correct in the wider sense of public opinion, it is possible to argue that Katrina did usher in a new phase of Anthropocenic nature writing in Louisiana. In the aftermath of the twin hammer-blows of hurricanes Katrina and Rita, the second stage of Louisiana nature writing began to inscribe an increasingly globalized narrative onto the more inwards-looking, more regional narrative of the first stage, as the nature writers devoted to Louisiana started to realize just how supremely vulnerable the

¹⁸ According to Klein and Zellmer, Katrina’s storm surge was more than 27 feet in some areas (147).

coastal erosion and subsidence described in phase one had left an already beleaguered coastal region to the early effects of a warming atmosphere.

There is also a contest in the second phase of Louisiana's nature writing between the increasingly globalized focus and the regional grounding of this nature writing that is not always resolved. Compared with the gradual problem in phase one, Katrina introduced a far more dramatic landscape of fear in which disasters of enormous scales could happen instantaneously. Sometimes, as in Gessner's statement above, the role played by the regional phenomenon of coastal erosion in the drowning of the landscape is partly subsumed by the more dramatic phenomenon of global warming. It seems this has to do with the rate and exportability of disaster. Coastal erosion is gradual and specific to the Mississippi Delta, whereas supercharged hurricanes resulting from global warming are threats relevant to many places. Gessner's tellingly titled chapter "Atlantis," for example, only briefly acknowledges the regional phenomenon of coastal erosion, while focusing extensively on the more universal problems of sea level rise and the prospects of future powerful storms impacting other coastal cities. The more universally relevant jeremiad seems to win out at times over the regionally specific jeremiad, with the result that the interacting agencies contributing to the disaster of Katrina are not always entirely accurately portrayed.

With the second phase Louisiana more strongly takes on the role of a cautionary example. Again Mike Tidwell is notable for his contribution to this stage of Louisiana nature writing in *The Ravaging Tide: Strange Weather, Future Katrinas, and the Coming Death of America's Coastal Cities* (2007). The title itself signals the ways that with the advent of Hurricane Katrina, Louisiana can be appropriated more easily as a warning relevant to the rest of the world. Another interesting thing to note about writers in the second phase is that for the first time the neglected Louisianan ecosystems begin to attract the attention of writers with some national renown – such as Bill McKibben. These writers seem partly drawn to Louisiana by the cautionary example it provides of what can happen in many places if global warming is not mitigated. The second phase also addresses the situation that prompted Nancy Tuana's aforementioned article on "viscous porosity," a concept so tailor-made to account for Louisiana's singularities that it almost counts as a form of second-phase nature writing in its own right. The second phase is thus characterized by a strong focus on matters of environmental justice and on Louisiana as a cautionary tale in a time of climate change. There is no option of retreat narrative in this phase of Louisiana's nature writing. The narrative of confrontation dominates, characterized by a state of tension between the universal jeremiad and the regional jeremiad.

The focus on matters of environmental justice intensifies markedly in the second phase. In the wake of the hurricane these writers and critics focalize the human impact of the disaster. They deal extensively with the role played by economic disparity in the victimization of people, with political neglect and corruption, with race and disabilities, all of which were important factors in the making of the human side of this tragedy, or as Tidwell sums it up in his post-Katrina afterword to the Vintage edition of *Bayou Farewell*: "One storm, long foreseen in all its details, laid bare most of our deepest fault lines as a

nation – fault lines of poverty, race, health care, national security, the environment, and energy” (341). These environmental justice dynamics were hardly news to nature writers of the region. Decades ahead of the disaster, writers like McPhee had already outlined how the contours of this landscape of fear were shaped by economic disparity and privilege: “Underprivileged people live in the lower elevations, and always have. The rich – by the river – occupy the highest ground. In New Orleans, income and elevation can be correlated on a literally sliding scale: the Garden District on the highest level, Stanley Kowalski in the swamp” (*The Control* 59).¹⁹ However, in the aftermath of Katrina the predicted tragic outcomes of a risk scenario shaped by disparity gained new exposure and national attention.

McKibben’s “Year One of the Next Earth” is an example of a text that directed its focus at the human dimensions of Katrina and its aftermath, based around the Anthropocenic idea of a shifted planet, a planet that has become so altered by humans that new terms are needed to adequately conceive of it. McKibben opens his essay by challenging the reader to rethink the tragedy: “Look at these pictures [of hurricane devastation]. First question: Is this a crime scene? It’s clearly a shame. But is it a crime too?” (9). As the title and set of questions imply, McKibben’s text is framed in Anthropocenic terms, indicating that we have passed on to another earth, a planet defined by human beings who “got big. Big enough to change the equations. Change them profoundly” (10). And he suggests that since human agency is a part in the chain of causation behind these devastating events, there is in some sense a dimension of human culpability to them. Echoing Tidwell’s accusations of culpability in *The Ravaging Tide*, McKibben proposes that there is something criminal about what happened to Louisiana, and to New Orleans in particular, and by inference, what may, and most likely will, happen to the rest of the world at some point of time in the future.

The notion that environmental disasters are criminal is also taken up again by Gessner in phase three, where the writer keeps raising the question of whether oil spill disasters which happen regularly several times a year can justifiably be referred to as accidents anymore, or whether this language serves the oil companies as a useful obfuscation of the lines of culpability. Yet, in his eagerness to situate Katrina in a global narrative of climate change, McKibben forgets the regional dimensions of this event. Rather than writing a piece on the particularities of Louisiana’s misfortune, McKibben casts Katrina as a lesson for the world, performing what amounts to a stretch of atmospheric nature writing. His focus is entrained on the shifting chemical composition of the atmosphere to the point where he seems to forget that the magnitude of Katrina was not solely due to the global fallout of fossil fuel combustion, but also to the damage wrought, in part, or perhaps even mainly, by fossil fuel extraction on the far more local level of the region’s coastal wetlands and their eroding sediments. In this McKibben’s essay can, perhaps somewhat unfairly, be said to also highlight a potential risk in Anthropocenic nature writing, of becoming so focused on the large, global dynamics of the Anthropocene that the place-specific dimensions that ground the genre may be weakened or altogether forgotten. Often when the dramatic events of Hurricane Katrina are addressed there is a

¹⁹ Stanley Kowalski is a character living in an underprivileged neighborhood in Tennessee Williams’ *A Streetcar Named Desire*.

tendency in the second phase of Louisiana's Anthropocenic nature writing to forget or downplay the devastating problem of coastal erosion in favor of global warming phenomena such as sea level rise and intensifying storms. The regional scale can be displaced by the global scale.

Some nature writers retain the grounding in regionally specific circumstances. In spite of Tuana's and McKibben's perhaps one-sided environmental justice framings, and their understandably heavy focus on New Orleans as the icon of the Gulf, other writers in the second phase of Louisianan nature writing, like Susan Zakin and Tidwell, began to get across the story of the vanishing soil particle in wetlands along the coast many miles outside of the crescent city, and their relevance to the story of the disaster that befell communities along the coast, New Orleans among them. Katrina forced writers to confront the question of just how the impact of a storm everyone saw coming could have gotten so bad. And while the media looked for easily graspable culprits such as faulty levees, negligent politicians, or flaws in the Federal Emergency Management Agency's procedures, some nature writers continued to point out that what used to be a landscape sustaining America's perhaps richest ecosystem, was now, because of human interference, mostly a liquid necroregion.

In a series of articles for the New Orleans newspaper *Times-Picayune* in 2002 titled "Washing Away," journalists John McQuaid and Mark Schleifstein wrote of the particular risk scenario that "[s]inking land and chronic coastal erosion – in part the unintended byproducts of flood-protection efforts – have opened dangerous new avenues for even relatively weak hurricanes and tropical storms to assault areas well inland" (qtd in Klein and Zellmer, 147). In the post-Katrina afterword to *Bayou Farewell* Tidwell railed against journalists and politicians for directing the discussion away from this regional, anthropogenic baseline for the catastrophe: "Unfortunately, the answers fed back by the media and most public officials have been maddeningly focused on the symptoms of the problem and not the disease itself. Katrina and Rita were epic disasters not because of faulty levees and insufficient evacuation plans" (343). For Tidwell, as for McQuaid and Schleifstein, the "ailment" was still considered the same as in the first phase of nature writing, namely that wetlands that used to present an obstruction to the seasonally rampaging storms of the region had become warm, shallow water, an ideal runway for hurricanes, feeding them energy just as they made landfall.

According to Tidwell in *The Ravaging Tide* this is exactly what happened with Katrina:

For starters, Katrina devastated New Orleans because, over the decades, we, as a nation, profoundly altered the basic hydrology of the Mississippi River. The river's massive flood levees directly triggered a geologic chain reaction that obliterated the vast wetlands and coastal barrier islands that once protected the city from hurricanes. By 2005, so much land had disappeared that we had essentially created a watery flight path for Katrina to slam into New Orleans like a plane into the World Trade Center. There was nothing 'natural' about this natural disaster. *We* did this. (3; emphasis in the original)

Indeed, the warm shallow waters that used to be wetlands fed Katrina energy every step of its way ashore. In its final stages the hurricane took on almost monstrous qualities. Close to land, the storm changed course slightly to run the length of the region's largest canal, the ironically named Mr GO. The effect of the canal was such that where Katrina should have been losing steam, it was instead absorbing a last bit of energy from a canal which had been dredged at the behest of the fossil fuel industry, to come ashore with full force in the middle of New Orleans "as if riding a rocket through space" (22). The storm behaved, in other words, almost as if it had become an anthropomorphic entity out of gothic literature, hell-bent on exposing its anthropogenic parentage to the world. The point Katrina made about what happens when you remove barrier islands, sheltering wetlands and dredge a mile-wide canal straight to the city harbor, was anything but subtle.

The consequences of coastal erosion in combination with global warming is the context in which Susan Zakin's essay "A Corner of the Fallen World," published in the same book as McKibben's narrative of global warming, takes a diametrically opposite approach to its representation of the catastrophe. Where McKibben is emphatic that the disaster was generic, a facet of the new Anthropocenic Earth, Zakin's essay is equally emphatic that the disaster was specific, particular to the circumstances created by the journey of the mobilized soil particle. At first glance, Zakin's essay quickly turns from directly discussing Katrina to a lengthy exposé on the region's mobilized materials, the forces affecting their motility, and its state of unbalanced viscous porosity. Instead of detailing the human impact of the disaster, Zakin tells the same story of land loss that Tidwell does in *Bayou Farewell*: "And New Orleans will be far more vulnerable to hurricanes. Marshes act as a buffer for storm surges in the Gulf of Mexico, and although scientists debate the exact ratios, nobody disputes the value of barrier islands and long expanses of wetlands to absorb the force of storms" (58). But, like both Tidwell and McKibben, Zakin links the disaster directly to the fossil fuel industry: "His graph ... is striking: wetland loss correlates precisely with the removal of millions of barrels of oil, tens of millions of barrels of water lying with the petroleum deposits, and trillions of cubic feet of natural gas" (59). Like Streever she also stresses the importance of scientific discourses, research, and disagreements: "The fate of Southern Louisiana could depend on which of them turns out to be right, or perhaps, on which of the two men convinces enough people that he is right" (59). In some ways, then, Zakin's essay reads like an amalgamation of the primary topics of Tidwell and Streever in the first phase.

Her essay, however, is not preoccupied with phase one concerns over aborted sedimentation in isolation. Zakin links the problem of subsidence further to the specter of climate change: "The other potential threat [in addition to subsidence] is sea level rise caused by global warming" (59). Yet Zakin adds an important qualification that intertwines the concerns of phase one more deeply in the globalized narrative of phase two: "The marsh is going to keep its head above water ... Although most marsh biologists believe there is a limit to how much they can take. We don't know exactly what that limit is, but a lot of it is going to depend on how healthy the plants are and how well we can get sediment on top" (60). This is a crucial qualification, because it creates a landscape of hope that is

often underreported in the nature writing of Louisiana. Tidwell, for example, does not in the same way acknowledge the capacity of Louisiana's dynamic landscape to keep pace with a certain amount of sea-level rise, but rather casts Louisiana as the first candidate to be drowned if the ocean rises. Zakin, however, shows that it is the situation outlined in the literature of phase one that undermines Louisiana's ability to weather the symptoms of climate change such as super storms and rising oceans. If the issues of phase one can be resolved, Zakin estimates that the region will have a fighting chance for a future, even if the climate keeps warming. There is a limitation to this hope, however: "If the marsh is healthy and there is a lot of sediment, we think marshes, at least salt marshes, can cope with more than one centimeter a year" (60). Beyond that, Zakin acknowledges, Louisiana's landscape of fear will most likely transform fully into a watery necroregion even if the issues of sediment starvation are fully resolved.

Another reason neither Zakin nor McKibben go into particular detail over the devastation wrought by Katrina, is partly that *In Katrina's Wake* is made up of their two essays, but also illustrated with Chris Jordan's beautiful and wrenching photographs of the hurricane's aftermath, particularly in New Orleans. These pictures very powerfully show the effects on communities, while McKibben and Zakin outline the causes. The three, along with poems by Victoria Sloan Jordan, thus obviously make up an integrated whole. Consequently, what McKibben's and Zakin's essays read in combination show is that Katrina's path pointed a double set of arrows at the oil industry, both in terms of the global narrative of climate change, and the regional story of dying wetlands cross-slashed by the unnatural straight lines of oil canals. There is a strengthened focus on environmental justice in these essays as well, in the way that they attempt to portray a situation of cause and effect between the activities of the oil industry and the devastating capacity of the storm. In this way, Katrina globalizes the horizon of Louisiana's nature writing on several planes – connecting the agency of the departing soil particle and its role in the disintegration of wetlands and barrier islands, with the magnified impact of super-charged weather on the region, and tracing it back to the neoliberal exploitation of the region's raw materials.

Tidwell's *The Ravaging Tide* is perhaps the most emphatic voice of all about the role of mobilized wetland sediments in the catastrophe that struck Louisiana with Katrina: "Down and down and down the land sinks in a process as natural as rainfall and summer heat but, minus replenishment from new flooding, as destructive as a wrecking ball to all life along the coast" (15). Arguing that "human interference" has presently brought the land building processes in the region to "a screeching halt" (37), Tidwell concludes that "[t]he hurricane became the biggest storm disaster in U.S. history not because the hurricane levees *failed*, but because for centuries the river levees *held*" (15; emphasis in the original). Repeating how once "[t]housands and thousands of acres of marsh grass once blanketed everything south of New Orleans" he stresses that "Katrina ... skipped over mostly open water in her flanking move toward New Orleans" (25). Parts of *The Ravaging Tide* read like an eerie fulmination of the predictions that conclude *Bayou Farewell*, and had its focus on Louisiana been more sustained, might have made an incisive second chapter to the story begun there. But in this book the wetlands of Louisiana merely form the springboard for

Tidwell's larger concerns. Like McKibben, Tidwell's eyes are fixed on the larger global story of climate change.

The Ravaging Tide therefore does a lot more than retell the story of coastal erosion.²⁰ To a far greater extent than its predecessor, Tidwell's second Louisiana book takes on Anthropocenic dimensions. The two would thus form an interesting pair of specimen for studying how Katrina impacted discussions pertaining to climate change. While the first book has brief, almost incidental, moments where the writer muses on how a changing climate might magnify the impacts of subsidence on the region, it keeps its focus steadily anchored in the wetlands. The second book flips that situation around, and uses the drowning wetlands in Louisiana as a mere case study for the much larger tapestry of Anthropocenic irresponsibility it wants to weave. Chapter titles like "Global Warming: Same Mistake, Bigger Stage", "Sea Level Rise: Exporting New Orleans to the World" and "Killer Hurricanes: Exporting Katrina to the World" signal the way that the situation in Louisiana primarily functions as a cautionary example for Tidwell in *The Ravaging Tide*. Only a short span of time separates the texts, but in terms of focus, coherence and content, the distinctions are many. The sense of place carefully nurtured in *Bayou Farewell* is replaced in *The Ravaging Tide* by an attempted sense of planet, but its intensity of emotion combined with the structural impact of such a vast ambition in a relatively short book, makes the text seem diffuse and rambling.

Among its multiple foci, *The Ravaging Tide* performs a sustained assault on the Bush administration for its handling – or as Tidwell would have it, its criminal mishandling – of the critical wetland situation in Louisiana. Consistently, Tidwell now links this regional problem with the larger national situation he sees in development as global warming proceeds: "Why should Bush care about New Orleans when he's simultaneously abandoning *every* coastal city in America?" (46). This is just a preview of the hyperbole that discolors much of Tidwell's rhetoric in this book: "What happened along this coast prior to August 29, 2005, can be justly called a regional suicide. Everything since is a federal mass murder" (46; emphasis in the original). The reason behind Tidwell's scathing rhetoric is his insistence that Katrina "was probably the most widely predicted 'natural' disaster in human history" (29).

Considering that *Bayou Farewell* was a fairly impactful book of nature writing, its failure to avert the disastrous impact of Katrina suggests something rather pessimistic about Nixon's hopes for the potential for writer-activism to combat slow violence. Nixon believes non-fiction to be an especially effective vehicle for addressing matters of slow violence. However, even though Tidwell notes in *The Ravaging Tide* that republican Senator Mike Foster "purchased fifteen hundred copies of the book [*Bayou Farewell*] and gave one to every member of the Louisiana legislature and every member of the US. Congress" and "personally sent a copy to President Bush" (31), in order to awaken their commitment to the senator's proposed "holy war" (31) on coastal erosion, Tidwell underscores that the result was "again nothing" (31).

²⁰ *The Ravaging Tide* takes its title from an earlier volume on the great flood of 1927 titled *The Rising Tide: The Great Mississippi Flood of 1927 and How it Changed America* (1998).

Perhaps because he is aware that he is trying to draw attention to a state of affairs few people want to know about, Tidwell has a tendency to overstate his case. In *Bayou Farewell* this tendency only occasionally becomes a factor, as in the example above regarding the vision he has of a wave consuming a village with eroded wetlands, which relative to the tone of *The Ravaging Tide* is quite restrained. *The Ravaging Tide* however makes an overt attempt to manipulate readers through fear: “And now something else is coming, something just as obvious but much bigger and even more dangerous ... The issue this time is global warming” (4). With climate change as its “issue,” Tidwell’s ambitions for *The Ravaging Tide* are clearly monumental. He tries to weave a great global jeremiad that is anchored in the image of storm-wrecked Louisiana as a window on everyone’s devastated tomorrow: “The entire world was becoming one enormous state of Louisiana” (114). His global jeremiad is also expanded to create a sense of the destructive impact of the petroleum industry and inaction on the entire planet, not just Louisiana’s wetlands (114).

However, the tendency in the second phase for the global jeremiad to displace the regional jeremiad is problematic. Tidwell typifies this by allowing a very particular, and in many ways even unique, landscape of fear – Louisiana after Katrina – to be exaggerated, generalized, and made an implausible, but terrifying model for all other places. This is exemplified when he describes melting glaciers “... creating enough liquid to turn the entire state of Texas into a New Orleans, covering it with tens of feet of water. Imagine the Astrodome and all of Houston inundated. Dallas under water. The northern plains, the western desert, the central hill country – all flooded like the Ninth Ward” (54). In similar terms, when Tidwell suggests that the question of whether Katrina can “happen where I live” should be on “every American’s mind,” he replies that “the answer, unfortunately is yes, yes, and again yes” (89), which is an extraordinary statement considering varied topography of the United States. In examples such as these, where the global jeremiad supplants the regional jeremiad, Tidwell resorts to universalizing rhetoric regarding a situation which he himself identifies elsewhere as uniquely shaped by the particular conditions resulting from coastal erosion in a specific region. Anything from major incidents like the terrorist attacks on September 11, to mundane matters such as contractors failing to use the right kind of wires in houses, form components in his vast vision of a worldwide landscape of fear exemplified by Louisiana and governed by the oil industry, an industry which also controls national leaders such as President George W. Bush.

Whether or not there are merits to his claims, the ranting and rambling tone and structure of the text means that much of the time the *Ravaging Tide* reads like something of a conspiracy theory for which Tidwell proposes some survivalist fixes such as “[a]fter I installed my corn stove on September 11, 2001, I told people I was fighting terrorism. Now I tell people I’m fighting hurricanes too” (151). Because the writer almost consistently overstates his case, stretches his research, uses fear to influence, and for much of his text forgets the close regional grounding that made *Bayou Farewell* so convincing, *The Ravaging Tide* fails to muster the persuasive force of its far more focused and grounded phase one predecessor. Although the book highlights many pitfalls for nature writers venturing into the thematic arena of the Anthropocene, it also exemplifies many of the

concerns that predominated in the short window of nature writing in phase 2 – environmental justice, global warming, coastal erosion, the culpability of the petroleum industry – before the disastrous blowout at the Deepwater Horizon oil rig in 2010 set the stage for a third thematic phase in Louisiana’s Anthropocenic nature writing.

The Trans-Corporeal Phase of Anthropocenic Nature Writing in Louisiana

Louisiana had barely begun the process of recovering from Katrina when the Deepwater Horizon blowout caused ecological devastation in the region in 2010. President Barack Obama referred to the event as “the greatest environmental disaster of its kind in our history” (qtd. in Ouchely, 215). According to nature writer Kelby Ouchely more than 184 million gallons of crude oil were estimated to have spilled into the Gulf (215). Coastal Louisiana bore the brunt of this disaster as its already failing wetlands were forced to absorb this unprecedented deluge of crude oil, and subsequently an even more toxic barrage of dispersants that were sprayed from planes to sink and conceal the scale of the oil spill catastrophe from the public eye. Image control became a huge factor in how BP chose to handle the cleanup after the disaster, and according to Rowan Jacobsen in *Shadow on the Gulf: A Journey through our Last Great Wetland* (2011) the oil company vigorously strove to gain control of the damaging image of oil on the ocean by “spraying million [sic] of gallons of dispersant into the oil spill, and by counting on Mother Nature to do her part on the majority of the oil” (95). Jacobsen writes that “BP and NOAA dispelled most of the oil to the mythical land of Away and declared victory” (95).

While the trans-corporeal landscape of fear figures intermittently in nature writing about Louisiana as early as in Streever’s *Saving Louisiana?*, the third phase is when it becomes the dominant preoccupation for the jeremiad. Jacobsen notes that the application of dispersants deliberately sank the oil to the bottom of the food chain (*Shadow* 95), the space where life begins in the region, a space where its impact might prove far more devastating than on the surface, as he asserts: “[R]esearchers showed that a massive amount of the oil that reached shallow waters did in fact get eaten by bacteria, which were then eaten by zooplankton, which still contained the ‘shadow’ of the oil in their bodies. From there, the shadow continued to pass into larger creatures” (97). Jacobsen exemplifies the way that a trans-corporeal landscape of fear comes to the forefront of the material nature writing of Louisiana after the Deepwater Horizon disaster. The fear of imminent and unpredictable toxic trespasses emerges alongside the narratives of land loss and global warming that were already taking form, ushering in what might be called a third thematic phase in Louisiana’s nature writing.

As Jacobsen illustrates, the trans-corporeal landscape of fear involves multiplying narratives of corporate cover-ups, political corruption, and neoliberal diffusions of accountability:

Corruption and cronyism are so deeply ingrained in Louisiana that they don’t even seem noteworthy after a while. That has allowed the oil industry to rule the place for decades, and that catastrophe is as much a

part of the story of the region's degradation as is the *Deepwater Horizon* blowout. (16; emphasis in the original)

Rob Nixon's account of the disaster in *Slow Violence* portrays it as successfully – and problematically – controlled by BP, the Obama administration, and the media, all of whom were invested in imposing a neat narrative frame with a clear beginning and ending on a messy reality. Nixon argues that as the “[p]owerful forces” that “were highly motivated to declare that the worst was over and move on” declared that the oil well had been successfully capped, they not only capped the wellhead, but “had capped the disaster’s perceived time frame as well” (276). Outside of this controlled narrative and delimited time frame, though, Nixon suggests that the low-spectacle, long-term problems for Louisiana were unfolding: “Meanwhile the incurable, incremental damage spread through biomagnification of the toxins was only beginning” (276). There is an echo in Nixon’s concern here of Tidwell’s frustration in phase 2, as seen above, that forces in power were manipulating the information available to the public in ways that misinformed rather than informed regarding the true causes of the disaster.

The Deepwater Horizon oil spill generated conflicting views among writers on the future implications of the event for environmentalism in the Anthropocene. In *Bayou-Diversity* (2011) nature writer Kebly Ouchley sees the catastrophe both in the context of events described in preceding phases of Louisiana’s nature writing as something of an inheritance from the landscape of the past, but also, as a potential source of future hopefulness:

It was not hard to think that the impacts of years of Faustian bargains were finally coming home to orchestrate the requiem we were documenting. But an ironic, fresh sheen of hope also surfaced in a mental eddy as the magnitude of the catastrophe, by grating raw the collective environmental conscience of millions, offers our country perhaps the only remaining chance to get things right – on the bayous and elsewhere. (218)

As suggested above, Nixon and others viewed the event in far more pessimistic terms, as another failure of representation in which the long, gradual unfolding of slow violence was forced into the background in favor of easily graspable spectacle. Ouchley’s optimism stresses the potential for the immediate landscapes of fear in phases two and three to help breach the shifting baseline syndrome that limits public apprehension of the attritional landscape of fear. At a superficial level, at least, the environmental cost of the immediate landscape of fear seems more easily and readily graspable in ways better suited to raise public outcry.

As mentioned above, however, MacKinnon points out that the forgetting that characterizes shifting baseline syndrome begins almost instantaneously (*The Once* 19). Nixon touches upon this issue when he points out the problems with the forms of superficiality that tend to dominate public discourse regarding environmental disasters, indicating that the way media and politicians discuss these matters mainly addresses spectacle, while masking more complex situations: “And thus the pelicans, like the Exxon

Valdez sea otters, became traumatic, charismatic stand-ins for a microbial and cellular catastrophe whose temporal and physical dimensions we are ill equipped to imagine and the science of which we do not adequately understand” (269). The long-term effects of that “microbial and cellular catastrophe” in the trans-corporeal landscape are far more severe than the impacts of oil on the wings of charismatic birds, but what is more likely to persist in public memory is the oiled pelican.

Each successive phase of Louisiana nature writing represents a movement towards a more complex understanding of ecological interconnectivity grounded in understandings of material dynamisms. Tidwell, for example, spends much time in *The Ravaging Tide* insisting on connections: “Everything in nature is connected to everything. Nothing in an ecosystem happens in isolation” (17). He quotes John Muir’s famous statement that “[w]hen we try to pick out anything by itself, we find it hitched to everything else in the Universe” (18). Interconnectivity is the complex sense of context against which the conventional icons of environmental catastrophe such as Nixon’s oiled pelicans and sea otters fall short. David Gessner, for example, structures his book on the impacts of the Deepwater Horizon oil spill on Louisiana around this premise, stressing the necessity of moving beyond simplistic icons in the trans-corporeal landscape, as signaled in his title *The Tarball Chronicles: A Journey beyond the Oiled Pelican and into the Heart of the Gulf Oil Spill*. (2011). A conversation between Gessner and an expert underscores the problem with simplistic icons for complex problems:

‘People want to see dead animals,’ he said. I didn’t understand him at first. ‘They want an obvious example of the devastation to rally around,’ he continued. ‘And that means dead, oiled birds. But what we are likely to get is going to be a lot more subtle than that.’ (193)

The charismatic icons are satisfying in a narrative sense, providing a current problem to be addressed and resolved, in which cause, effect, and solution all seem clear. But the neat narrative centered on an icon also provides a distorted time frame for the disaster in the sense that once the bird has been cleaned, medicated, fed and released into the wild again, the narrative appears satisfactorily complete. Gessner writes: “What we are likely to get, he went on, are invisible changes that will make it harder to match cause and effect” (193). These “invisible changes” at the emerging material, trans-corporeal horizon in Anthropocenic nature writing, can be regarded as the new representational challenge for not only the third phase of Louisiana writing, but Anthropocenic nature writing overall.

What makes the changes, causes, and effects of environmental disasters, such as Louisiana’s coastal erosion, hurricane Katrina, and the Deepwater Horizon blowout, so hard to trace and interrelate, is the ecological interconnectivity Gessner perceives, or what Tuana might term the “viscous porosity of phenomena” (209) or “interactionism” (191).²¹ One of several examples Gessner provides relates to how the impact of oil might affect the populations of periwinkles in the marsh and the wider ramifications of this effect.

²¹ According to Tuana “interactionism acknowledges both the agency of materiality and the porosity of entities” (191). Interactionism also “posits ‘a world of complex phenomena in dynamic relationality’” (191).

According to Gessner's expert "the marsh supports these periwinkles in huge numbers. But to support them the marsh has to be growing at full speed and if it slows down the periwinkles devour it" (193-94). He outlines how the oil is predicted to slow down growth in the marsh by starving it of oxygen, tipping the balance in favor of the periwinkles which the marsh has been able to support up until that point. To make matters worse, the oil is also predicted to severely affect crabs, which are the only significant consumers of periwinkles. He observes: "It's not as obvious as a fish floating belly-up, but it's one way for the marsh to die. And then two years from now when the marsh is dead everyone will say periwinkles are to blame. But, oh no, they're not. Things have been thrown out of balance" (194).

Gessner emphasizes that humanity has a stake in the way these ecological adjustments play out:

Why did it really matter if the marsh died? After all, there wasn't another human being in sight for twenty miles or so, and most of those humans were clustered over in Bayou La Batre, puttering out to sea in Vessels of Opportunity.²² Well, one reason it might matter was that the marsh was both birthplace and preschool for all the fish that, in better times, those same boats harvested. In other words, whether they knew it or not, the townspeople depended on periwinkles. (194)

This is a typical example of the way Anthropocenic nature writing attempts to sketch the issue of interconnectivity in nature in ways that include the human and illuminate the potential for complicated long-term consequences beyond the obvious and immediate fate of iconic animals.

The "microbial and cellular catastrophe" referred to by Nixon above is at the root of the trans-corporeal fear that colors the third phase of Louisiana nature writing, centered on the concern over both the location and agency of the new toxic components in the ecosystem. Nixon argues that the threat of stationary displacement "entails being simultaneously immobilized and moved out of one's living knowledge as one's place loses its life-sustaining features" (19). In the landscape of critical uncertainty and conflicting narratives that followed the Deepwater Horizon disaster, this is precisely the conditions that nature writers see predominate in Southern Louisiana. The full impact remains to be seen, the consequences of the new chemicals circulating through the wetland systems and food chains are unknown, and the scientific testing meant to ascertain the safety of people is portrayed as borderline farcical, as revealed by Jacobsen regarding official approach to testing seafood for toxic chemicals: "I learned that the 'rigorous sensory analysis' consisted of some guys in a Pascagoula, Mississippi, lab taking a sniff of a few pieces of shrimp and oysters from various regions of the Gulf. I kid you not" (98). Whereas the first phase of Louisiana nature writing is dominated by concern and uncertainty regarding the anthropogenically increased movement of sediments through the coastal wetland systems, the worry in the third phase is mainly over the movement of chemicals that are concentrated

²² During the Deepwater Horizon disaster local boats that were recruited by BP to scout for oil were named "Vessels of Opportunity."

in the cells and tissues of plants and animals as they bioaccumulate all the way up through the food chain where they will ultimately pass through the membranes encircling human cells. In both phases events at the micro level of existence are shown to significantly impact life in the human sphere.

As mentioned above, the first phase stressed the importance of food to Louisiana's cultures and lifeways. What the example above shows, is how in the third phase food becomes a source of uncertainty precisely because of the trans-corporeal interchange with the immediate environment that it represents. Much of Louisiana's nature writing is grounded in the notion of food as the primary interface between the people of Louisiana and their place, a relationship that becomes deeply problematic when that place has been poisoned, as can be exemplified by the following conversation between a Louisiana native and Terry Tempest Williams: "'Eatin's important to us, makin' the gumbo and jambalaya. We feast in the bayou. We say, All you need to survive is some rice, some potatoes, and bread. Nature provides the rest.' She looks at her boy. 'But not now'" ("The Gulf" 10). Like Williams, writers from Tidwell to Gessner emphasize that Louisianans are a part of, and not apart from, the food chain that has seen the massive influx of chemicals. As Gessner more directly puts it: "Food is New Orleans and oil kills food" (177). The diverse Louisianan food cultures now appear to exist in the midst of what Ulrich Beck, almost paraphrasing Tuan's earlier notion of the landscape of fear, has called "a shadow kingdom":

Threats from civilization are bringing about a kind of new 'shadow kingdom,' comparable to the realm of the gods and demons in antiquity, which is hidden behind the visible world and threatens human life on their Earth. People no longer correspond today with spirits residing in things but find themselves exposed to 'radiation,' ingest 'toxic levels,' and are pursued into their very dreams by the anxiety of a 'nuclear holocaust'... Dangerous, hostile substances lie concealed behind the harmless facades. Everything must be viewed with a double gaze, and can only be correctly understood and judged through this doubling. The world of the visible must be investigated, relativized with respect to a second reality, only existent in thought and concealed in the world. (72)

While there are no direct links in his work to Beck, "shadow" is also the metaphor Jacobsen uses to understand the continued presence of oil and dispersants in coastal Louisiana. And the "double gaze" is precisely what writers like Jacobsen, Williams and Gessner must strive for in contending with a region that still often looks pristine, but in which "dangerous, hostile substances lie concealed." Nixon observes that Beck's "shadow kingdom" is "spatially recessed behind 'harmless facades'" (62). This is precisely the situation Williams reports on from her journey to the Gulf:

The oil is not gone. The story is not over. We smelled it in the air. We felt it in the water. People along the Gulf Coast are getting sick and sicker. Marshes are burned [by oil and dispersants]. Oysters are scarce and

shrimp are tainted. Jobs are gone and stress is high. What is now hidden will surface over time. (3)

Her observation that what is “hidden,” or to use Nixon’s terms “spatially recessed,” in the present landscape will “surface over time” is a crucial point to make about the chemical landscape of fear, and pairs with Nixon’s observation above that the past is never inactive.

Jacobsen makes a similar point about the resurfacing of the hidden, when describing what happened when seafood was subjected to independent testing by “scientists using more than their schnozzes” (98). Oil was detected in 100 percent of the samples (99). The trans-corporeal landscape of fear in phase three of Louisiana’s nature writing thus comes into being when science ruptures corporate or official misrepresentations, as exemplified by Jacobsen’s quotation of an independent expert’s sarcastic estimation of the official testing for toxins: “‘You may as well send inspectors out to look at the fish and say they look nice. They’re sniffing for something they can’t detect’” (99). As Nixon queries: “Beyond the optical façade of immediate peril, what demons lurk in the penumbral realms of the *longue durée*?” (62; emphasis in the original). The “double gaze” of the shadow kingdom must therefore also, according to Nixon, be accompanied by a “temporal optic” (62). Otherwise we will be unable to see “the lineaments of slow terror behind the façade of sudden spectacle” (62). As Williams writes her report from the oiled Gulf, reliable information about the long-term consequences is precisely what is unavailable in the situation she faces there. She observes how official reports are streaming in that the Macondo well has been capped at last, and that the oil has mysteriously disappeared, perhaps miraculously consumed by new forms of bacteria that happened to evolve at an opportune moment. For whatever reason, the spectacle is over, and public attention wanes.

In Jacobsen’s *A Shadow on the Gulf* the very thought of the miracle bacteria cleaning up the Gulf is represented as “‘a joke, a fairy tale scenario’” (101). Quoting the National Oceanic and Atmospheric Administration’s statement that the dispersants had made the oil dissolve “just as sugar can be dissolved in water” (95), Jacobsen suggests that the application of dispersants never amounted to more than optic trickery, a form of spatial recessing of the toxic substances: “just because sugar dissolves in water doesn’t mean it’s gone. Invisible, perhaps, but not gone. The notion that ‘out of sight’ equals ‘gone’ has underpinned centuries of environmental abuse” (95). Quite to the contrary of such notions, Jacobsen argues that dispersants have made the oil more “bioavailable” (98). This is the form of recognition that trans-corporeality constantly opens up in Anthropocenic nature writing – namely that the human senses on which nature writers have always relied, are no longer a sufficient apparatus for determining whether the character of a landscape is pristine or not.

Yet, even while he delves into the trans-corporeal nightmare developing in the ecosystems of the Gulf, Jacobsen emphasizes the viscous porosity between the environmental problems of Louisiana. He points out the futility of trying to grapple with the oil spill without attending to the phenomenon of coastal erosion which is decimating the region: “And all to save a sinking land. BP wasn’t just rearranging the deck chairs on the *Titanic*; it was scrubbing them clean with soap” (130). He also calls attention to the way

that immediate drama such as an oil spill catastrophe has an impact on public opinion which larger, but more gradually unfolding, problems do not:

Even when things are good, the impact of the oil industry subtly degrades the entire Gulf Region. Yet because most of this degradation happens at an incremental pace, and because so many of these effects are hard to measure, they never get added to the ledger when the industry is totaling up the costs and benefits of doing business. (138)

Jacobsen's concern with the discrepancy between public reactions to the immediate situation and the long-term buildup of a landscape of fear, mirrors Nixon's notion that "politically and emotionally" immediate and long-term disaster have "unequal heft" (3). When contrasted against the absence of an adequate public response to the slow unraveling of Louisiana's coast described in phase one, the outcry against the oil spill in phase three underscores Nixon's argument that people will more readily accept significant amounts of environmental degradation if the harm is delivered gradually.

For Nixon, the problem of making readers emotionally invested in slow-moving disasters and "scientifically convoluted cataclysms in which casualties are postponed" (3) is one of the primary challenges facing the writer-activist, because the scale of environmental damage rarely stands in relation to the speed or drama with which it is inflicted (5). Climate change and ocean acidification exemplify how the biggest problems are usually low on spectacle, but the three phases of Anthropocenic nature writing in Louisiana seem to make one point that is not central to Nixon's ambitions for the writer-activist – namely that writer-activists may be as swayed by spectacle as everyone else. It is impossible to argue that one phase of Louisiana's nature writing has a larger environmental issue than the others. For one thing the phases are all interlinked, and ongoing, with the aftermath of one disaster leading into the others. However, if unaddressed, the matter of coastal erosion will eventually eclipse the other environmental disasters that have befallen Louisiana because the landscape will simply vanish. As noted above, there is a palpable tendency in parts of Louisiana's nature writing to overemphasize the immediate disasters at the expense of the more slowly unfolding disaster of coastal erosion. It is also noteworthy that the better known nature writers such as McKibben, Gessner, and Williams only wrote about Louisiana in response to the landscapes of fear caused by dramatic natural and industrial disasters in phase two and three. Although they write to provide a more complex picture of Louisiana's environmental situation, it is clear that many writer-activists are at times swayed by spectacle in the same way as the media and public they criticize.

However, each phase of Louisiana nature writing is defined by writer-activists writing seeking to expand too narrow perspectives on catastrophes. In his phase one writing, Tidwell repeatedly vents his frustration over the way people fail to react adequately to the region-wide disaster that threatens Louisiana. Similarly, some writers in phase two try to address the troubling discrepancy between the public's attention to the landscape of fear ushered in by Katrina and its lack of interest in the creeping degradation that made the disaster so severe, disconnecting cause from effect. Nixon suggests that there is a similar situation of disconnection between the Deepwater Horizon disaster and its long-term

consequences taking hold in Louisiana already in its immediate aftermath (273). The disconnection between the short-term spectacle of the oil spill and the long-term consequences of pollution, is partly intentionally facilitated through the successful imposition of a simplified narrative on the complex situation, a narrative that discounts the more long-term problems the region is bound to suffer by situating issues of long-term toxification outside of the preferred timeframe of the storyline: “With slow violence in general ... the temporal projections of disaster are routinely foreshortened; in the Gulf of Mexico that foreshortening was given a head start by the application of an image emollient” (273). The short-term spectacle of disaster in Louisiana was narratively managed through the direct manipulation of nature with the application of the dispersant corexit wherever oil was visibly detectable in the landscape, dispersing and sinking the problem out of sight. Nixon notes how the media was also barred from accessing “the worst-hit areas” (273). The immediate situation was further narratively managed by appropriating ideas of the resiliency of nature itself, especially through the story of oil-consuming bacteria referenced above. These avenues of narrative management were at least partially successful in promoting a narrative which dismissed the very idea of long-term consequences.

The Anthropocenic nature writing of Louisiana’s third phase resists this event-bound narrative and its tidy resolution. Its writers focus on the “shadow kingdom,” to use Beck’s term, they see spreading throughout the Gulf, the trans-corporeal landscape of fear. What has been discounted from the official narrative of success are the voices of the local people inhabiting the impacted region. Often, according to writers like Jacobsen, Gessner, and Williams, these voices were silenced through so-called “hush money” (95), in which the payment of damages was made contingent on the recipient’s silence in the future on matters related to the oil spill, or in the case of the so-called “vessels of opportunity,” which were fishing boats hired to scout for oil, the paycheck was made contingent on their silence regarding what they saw while scouting (95).

In order to promote their counter-narrative, the writer-activists of this phase rely heavily on eyewitness accounts from the region’s discounted casualties. Partly this results in a subversion of a staple of American nature writing, namely its frequent reliance on the testimony of local residents. Barry Lopez puts it most clearly in “The American Geographies” (1989) when he refers to such people as “local geniuses” (133). While Lopez regards conversations with local witnesses as means of deepening the nature writer’s connection with locations through their stories and intimate knowledge, this function has shifted somewhat in Anthropocenic nature writing. For Lopez there is a conservationist motivation for engaging with “local geniuses,” because for him they represent a particularizing counterforce to the tendency for abstraction that he perceives as a threat to American landscapes. However, what the “local geniuses” speak for and particularize, as Lopez sees it, are mainly wild places with their ecological integrity mostly preserved. In the Anthropocenic nature writing of Louisiana the role of “the local geniuses” becomes that of someone with a more intimate knowledge, not necessarily of the land, but of underreported damage to the land. The local genius becomes the purveyor of the story the official narrative seeks to displace or silence. Thus the local genius no longer figures in the narrative of retreat, but becomes a component in the narrative of confrontation.

This engagement with local geniuses in all three phases of Louisiana's nature writing, and the third phase in particular, exemplifies the tendency of polemic and topical Anthropocenic nature writing towards downplaying literary interests in favor of reportage. This increased tendency towards reportage coincides with a decrease in the tendency among writers to imagine alternative, hopeful future versions of the present landscape. With each new phase, a stronger sense of a landscape of fear emerges. The testimonies the writers recount relate to this situation, as they deal mainly with people who are barely coping in the present, and are bleakly pessimistic about the future: "It's another blow to the region, and I don't know how many more we can take ... We just don't know what the long-term effects are going to be to the fisheries, to the people, to the Gulf" (Williams, "The Gulf" 4). While the eyewitness accounts in the nature writing from phase one, such as those in *Bayou Farewell*, were almost universally directed at the local erosion in the Gulf, the focus seems to have shifted in phase three. Here the people interviewed tend to draw the connections between regional conditions in Louisiana and the petroleum economy of the wider world, as can be seen from Williams' conversation with Margaret Cuorele about a local spill in Cuorele's hometown, which Cuorele immediately connects to global trends: "It's endless and ongoing all over the world" ("The Gulf" 5). Even in the face of immense local misfortunes, an Anthropocenic mentality has begun to emerge which perceives local harm as of a piece with global concerns.

Presenting the perspectives of eyewitnesses is also a means by which nature writers give voice to underrepresented perspectives. There is a strongly developed sense in the third phase of Louisiana's Anthropocenic nature writing that monetary and political powers often impede or even block competing narratives. Political and economic forces often oppose the narratives of impacted people, and the stories of those suffering the long-term effects must be told through alternate channels to those of politicians, industries or the media. Both Williams and Gessner structure their texts accordingly, situating their version of the truth in the mouths of local residents, and aligning themselves with local grassroots movements. Their witness accounts are then counterpointed against the official, corporate, and media rhetoric. "I'm not a conspiracy theorist" ("The Gulf" 14), vows one of Williams' interview subjects, but hints that there is a corporate conspiracy afoot recur throughout the texts by both Williams and Gessner. Williams relates stories about planes taking off at night to spray toxic dispersants under the shroud of darkness in defiance of the Environmental Protection Agency's decrees and with disregard for public health and safety. Gessner writes extensively about what he calls the "false hustle" (48), and Nixon refers to doctored evidence and restricted access zones, that keep the truth hidden from the public.

When writers such as Gessner and Williams relate witness accounts delivered by scientists, these are unsurprisingly more sober than those of local residents on the issue of political corruption and conspiracies. However, the scientists seem far more alarmist than the general public on the issues of the region as outlined primarily in the nature writing of phase one. Williams, for example, makes a point of how scientists struggle to get their concerns about coastal erosion across in interviews with media that are only interested in listening to what they have to say about the more immediate issue of oil. Quoting from an interview with Dr. Paul Kemp, vice president of the National Audubon Society, Williams

writes: “People think this [the Mississippi Delta] will be here forever, but that is not the case. The system is in collapse. It will not survive another generation unless we change our point of view and move to one of restoration” (“The Gulf” 14).

Again, this suggests something about the focus on spectacle when it comes to the media and the public’s interest in environmental disasters. Whereas the phase three texts are full of reports of people’s worry that the current landscape of fear will spell the end for their region, the first phase literature is full of examples about how cavalierly people accept and ignore the issue of land erosion, even though the damage is likely to have far more severe impacts on the region in the long term than the oil spill. The implication seems to be that the truly Anthropocenic scale of both disasters plays far less of a role than the rate of disaster. The disasters in phase three have the effect of “grating raw the collective environmental conscience,” to borrow Ouchley’s words cited above (218), whereas the relatively slow pace of erosion seems to encourage what MacKinnon identifies as our historical tendency to “excuse, permit, adapt – and forget” (*The Once* 131). The pace of slow violence does indeed seem to defuse public reactions to it.

Of course, the icons of loss for this phase of nature writing are also far more persuasive than the dead oak trees, sinking tomb stones, or marooned telephone poles of phase one. Charismatic megafauna such as oiled pelicans and dead dolphins provide far better appeals to public sympathies. Likewise the floating tarball is infinitely more sinister in appearance than the open waters with their suggestion of subsiding landscapes, as one of her interviewees tells Williams: “It isn’t just the huge tar balls on the beautiful Pensacola beach that are disturbing, or the ghastly brown sheets of oil smeared on the white sands, but the boiling water, thick with chemicals from the dispersants, that gives me goose flesh” (“The Gulf” 16). Disturbing in and of themselves, these images of water frothing with chemicals arouse the almost universally shared fear of toxic trespasses, as exemplified in Williams’ interview with a documentary filmmaker suffering from chemically induced pneumonia (15), or her own trans-corporeal worries when she becomes violently ill after having flown over the extensive oil spill for five hours. Such trans-corporeal worries call into question what kind of future can be imagined in nature writing for a landscape that has been impacted so heavily and diversely as Louisiana throughout its three phases.

The Nature Writing of Aftermaths

A general challenge for nature writing in the Anthropocene is to find ways of providing a sense of empowerment in the face of environmental challenges that often are of a magnitude that seems scaled beyond the scope of meaningful individual action. In this respect the material nature writing in Louisiana sometimes seems to invite pessimism. The complexity, number, and scales of the intertwined problems that material nature writing explores could easily instill a sense of powerlessness and apathy in readers, as exemplified by Father Pilola’s comment to Tidwell: “... there’s a feeling that the problem’s so much bigger than the people who live here, and so there’s nothing to be done but watch it happen, as painful as that may be” (*Bayou* 104). Often the stationary displacement of Louisiana’s people and ecosystems seems assured. Because the dynamism of the landscape, and the processes through which it is shaped and reshaped are foregrounded to such an extent in

Louisiana's nature writing, each of the three disasters that befell Louisiana within the short time span between phase one and phase three are seen as feeding into the other. There is a viscous porosity between the environmental impacts of these phenomena.

Just as land loss paved the way for Katrina to have impacts much further inland than if the marshes were intact (see Klein and Zellmer, 146), it likewise allowed the toxic nightmare following the Deepwater Horizon catastrophe to penetrate much deeper into the region than it otherwise would have. Likewise, the hemming in of the Mississippi with levees strangled the river's ability to push the approaching oil away from its vulnerable shores and from wetlands that serve as gestation chambers for the region's impressive biodiversity, magnifying the oil spill's impact on the species relying on this habitat as well as on the local economy depending on them. And like Katrina, the oil disaster increased the pace of land loss by an order of magnitude because it killed off so much of its sheltering vegetation, making the region's vulnerability to future events like Katrina and Deepwater Horizons even more precarious, while shortening the time frame within which action towards the recovery of the wetlands is still possible.

This is the viscously porous ground on which Louisianan nature writing stakes its sense of place, but Louisiana's nature writers also seek to further complicate how one views the rise of the necroregion in the area. Interactionism is the core story underlying both their sense of place and sense of decline. They represent the landscape as emergent through an assemblage of causes, human and non-human agentic capacities, in which humans at present mainly contribute to a worsening situation with mounting complexity in each phase in an increasingly dynamic and bewildering situation over which no one has anywhere near the full overview. As noted above, Serenella Iovino has defined the necroregion as the bleak polar opposite of the bioregion ("Restoring" 102). Louisianan nature writers tend to situate their writing in the fraught space of the continuum between these two polarized conditions, dramatizing the dystopian transformation from one state to the other, as they chronicle the headlong dissolution of the terra (more or less) firma of the deltaic bioregion into a liquid, toxic, storm-tossed necroregion. The sheer complexity of the many material agencies involved in the landscape's decline, both human and non-human, at times seems to frustrate the very ability to envision landscapes of hope in the region's writer-activists.

The preoccupation with disaster is both an effective and problematic way of representing the region. While it may evoke reader sympathy and bring to light the intertwined dynamics of three different environmental disasters, the Louisiana one encounters in these texts is already displaced. It is nature writing that mainly bears witness to an aftermath, which means that it produces an elegiac Louisiana that is more likely to inspire wistfulness and nostalgia than commitment to activism or restoration, as the title of Tidwell's book exemplifies: *Bayou Farewell: The Rich Life and Tragic Death of Louisiana's Cajun Coast* (2004). While this is one of the best examples of Louisiana nature writing of the first phase, it is also a book that right from the title page begins to displace its subject into a lost past. While Tidwell's second-phase book *The Ravaging Tide: Strange Weather, Future Katrinas, and the Coming Death of America's Coastal Cities* (2007) focuses on failing climate policies, Gessner's *The Tarball Chronicles: A Journey Beyond the Oiled Pelican and into the Heart of the Gulf Oil Spill* (2011) is the chronicle of an

aftermath, that casts its eye back at the multitude of causes for how something that was so good could get so bad, and looks ahead into a future when it will most likely become even worse. In *Shadow on the Gulf: A Journey through our Last Great Wetland* (2011) Rowan Jacobsen sums up nature writing representations of Louisiana quite glibly when he writes: “this is what oops looks like” (177). The reader is thus invited to visit a Louisiana inhabited by people that have always already become what Nixon calls “remaindered humans” (34) or the “stationary displaced” (42). The damage has happened. The ecosystemic vitality and human quality of life that used to be, is no more. Louisiana often seems to be more of a cautionary example, rather than a place that can be saved.

And yet, Tuana suggests that attending to the “viscous porosity of phenomena provides a Copernican revolution” that is empowering (209). She argues that viewing the world through the lens of catastrophe can be informative in important ways: “Witnessing the world through the eyes of Katrina reveals that the social and the natural, nature and culture, the real and the constructed, are not dualisms we can responsibly embrace” (209). She suggests that “it is the *interaction* between them that is the world that we know and are of” (209; emphasis in the original). The Anthropocenic nature writers of Louisiana invest much effort in understanding and detailing the functions of the wetland ecosystems. They hold forth at length on the many – and frequently dramatic – interactions of these ecosystems with industrial humans. They foreground the long-term dynamics of environmental issues that politicians and the press commonly overlook or deliberately neglect. They affirm the interconnectivity of the human and the non-human in these issues. Tuana maintains that “[i]nteractionism not only allows but compels us to speak of the biological aspects of phenomena without importing the mistaken notion that this biological component exists somewhere independent of, or prior to, cultures and environments” (209-10). The interactionism foregrounded in Louisiana’s nature writing reveals one avenue for hope into the future that involves a partnership between humans and nature.

The brightest hope for restoration in Louisiana is shown by writers such as McPhee, Gomez, Tidwell, Streever, Zakin, Ouchley, Jacobsen, Williams, and Gessner to have the same source as the story behind its darkening present. The narrative of the traveling soil particle in its entrapment behind the Mississippi’s levees en route to its final tumble into an aquatic abyss can be rewritten through deliberate modifications of the levee systems by humans. *Bayou Farewell* concludes with a dreamlike invocation of a future landscape of hope in which industrial exploitation ceases and the Mississippi and the traveling soil particle are returned to resume their natural functions as the crucial builders of America’s perhaps most diverse ecosystem and cultural reservoir:

Then comes a new sound, from the other direction, a rumble that’s deep and powerful yet calming somehow, recognizable by its ancient tone. Louder and louder the sound grows, spreading across the coast, the voice of the Great River itself, emerging from its banks, flowing back to the land, branching and flowing and branching again, creating miles and miles of streams like roots probing deeper into the terrain, holding everything together. And then the grass – you can almost hear it too, a great eruption. It grows and grows as it once did, stretching far and wide,

waist deep in nourishing water, a placid green-gold wilderness large beyond understanding, cloaking with its swaying blades those old wounds left too long bare upon the land. Gradually the grass becomes just as it was when those first French Cajuns arrived centuries ago, on foot and on boats, persecuted and exhausted, exiles in a strange new land only to be welcomed and taken in by the great realm of the river, the rescuing Mississippi, munificent giver of life. That's why in this dream, one not yet finished, Louisianans return the favor, for themselves and a grateful nation, using gentle hands to restore a natural place until, at long last, the old debts are repaid. And the cycle is complete. (331)

This eruption of the landscape of hope is undercut by the acknowledgement in Tidwell's epilogue that "[p]redictably, the ecological unraveling of coastal Louisiana continues to accelerate" (333). It is further undermined by the afterword to the 2005 edition which details the devastation following Katrina, exemplifying how with each phase the situation reported grows increasingly dire. Even so, and although the detailed information about the many practical and economic obstacles – as well as the general lack of political commitment – to such a resolution as envisioned by Tidwell above make this seem a weak, and even farfetched story of hope, each phase of material nature writing in Louisiana affirms the restorative capacity of a partly or wholly liberated Mississippi River to rebuild wetlands. In its insistence on the human as a necessary active participant in the restoration of nature's strength, Louisiana's nature writing stands as representative of most Anthropocenic nature writing, as it gradually embraces the notion of human intervention as a critical component in future landscapes of hope.

Conclusion

In the preceding chapters I have analyzed what I refer to as “the narrative of confrontation” in the primary texts of this study with reference to some or all of the principal five features of Anthropocenic nature writing specified in the introduction to this study: the functional aesthetics of nature writing, the dignification of the overlooked, material nature writing, the landscape of fear, and the turn towards matters of environmental justice. To best highlight these increasingly essential features of nature writing, I decided that all of the chosen primary texts should be relatively contemporary. An alternate structure for this study might have been to take a chronological approach to nature writing, historicizing the emergence of Anthropocenic awareness in the genre. Indeed, a prevailing tendency in ecocritical scholarship when dealing with nature writing is to look back at the canonical writers in the genre and framing their work against the horizon of emerging new ideas and theories. While this has produced and continues to produce much valuable scholarship, there are certain pitfalls in this approach that this study has deliberately chosen to avoid.

The predominant tendency in scholarship on American nature writing has been to go back to its rich heritage, to dwell on what passes for the genre’s canon, and relate these canonical texts to the ever changing landscapes of ecocritical theory. Hence it can be argued that a certain impression of ossification in the genre has been unintentionally generated, perhaps particularly among ecocritics who do not directly study nature writing themselves. While their work is valuable, enriches the depth of scholarship devoted to many of the genre’s best texts, and updates the many ways in which we understand these works as relevant to the present, there is always the risk that such studies in certain aspects fail to update entrenched preconceptions among scholars as to what nature writing is or can be. A genre that is always defined with reference to its older productions may come to seem static, as if unchanging. Defining nature writing always in relation to Henry David Thoreau, John Muir, Mary Austin, Annie Dillard, Barry Lopez, Terry Tempest Williams and other members of the genre’s canon, highlights much of the genre’s legacy, but hides from view the vital intra-actions of nature writing with the environmental present. While there is valuable work to be done in tracing the roots of Anthropocenic awareness through the history of nature writing, my choice has been to focalize the confrontation with human impact on the environment in recent and contemporary texts in order to highlight the continued relevance, adaptability and vibrancy of the genre.

Reminding scholars of nature writing’s dynamic relationship with the environmental present is a timely endeavor. While there are undeniably a significant number of scholars such as Daniel Philippon who show awareness of the genre’s persistent adaptability, many central works of ecocritical scholarship still present a restrictive understanding of the genre, its merits and potential. In the groundbreaking *Affective Ecologies: Empathy, Emotion, and Environmental Narrative* (2017), Alexa Weik von Mossner, for example, makes the following claim:

Nature writers are masters in providing readers with literary ‘instruction manuals’ that allow them to imaginatively experience landscapes they

might never have personally seen. Many of them go further than that. They also want to convey to the reader their own ‘affective ties with the material environment’ – a bundle of sensations that the American geographer Yi-Fu Tuan famously termed *topophilia* (1974, 93) – in the hope that this will lead to greater awareness. (21)

While this description of the ambitions of nature writers is not exactly wrong or necessarily outmoded, and while it is certainly sufficient for Weik von Mossner’s purposes, it unfortunately perpetuates a restrictive understanding of nature writing. As Weik von Mossner’s subsequent analysis shows, her description of the genre is informed by the conventional understanding of the nature writer as first and foremost a “rhapsodist,” who explores his/her own sensual and emotional response to the environment, and of the genre as generally characterized by the narrative movement of retreat. Weik von Mossner later cites Lyon’s observation that “[t]he crucial point about nature writing ... is the awakening of perception to an ecological way of seeing” (qtd. in Weik von Mossner 28). She also quotes Slovic’s influential observation that nature writers “are constantly probing, traumatizing, thrilling, and soothing their minds – and by extension those of their readers – in quest not only of consciousness itself, but of an *understanding* of consciousness” (qtd. in Weik von Mossner 38). These are all undeniably valid viewpoints that did much to further scholarship on the genre, and they are still relevant perspectives on much, if not most, contemporary output of the genre.

And yet, although Weik von Mossner references the 2001 edition of Lyon’s *This Incomparable Land*, his view was first put forth in the 1989 edition of the book. Slovic’s perspective is from *Seeking Awareness in American Nature Writing*, which was published in 1992. These are still extremely useful texts in the study of nature writing, but as I have attempted to show in the preceding chapters, other interests and dynamics that are distinctive of contemporary nature writing should complement these classic representations of the genre. The narrative movement of retreat is no longer the uncontested core story of nature writing, but exists in a state of tension with the core story of confrontation. The rhapsody is no longer the dominant mode of nature writing, but is used in complex interaction with the mode of the jeremiad. And although Weik von Mossner also quotes Richard Kerridge’s pronouncement that “new nature writing” is “concerned with the disorderly and dirty ‘edgelands’ between human society and the natural wild, rather than with wilderness as separate space” (qtd. in Weik von Mossner 38), she mentions this only in passing, as she is more interested in Kerridge’s decision to “includ[e] both fiction and nonfiction under the umbrella term of nature writing” (38). While exploring the linkages between nature writing and fiction can be fruitful, this study takes a more skeptical position towards the eagerness of new nature writing to embrace new forms and genres of writing in ways that break down the coherency of genre. In the case of Kerridge’s comment on the new themes of new nature writing, the findings of my own study indicate that the nature writing of the Anthropocene is not especially concerned with “edgelands” as such, but rather with the porosity of all perceived edges and boundaries, and the movement across these perceived dividing lines. The texts analyzed in the preceding chapters demonstrate the genre’s increasing preoccupation with material agency and trans-corporeality. In these texts

all landscapes are now in various ways shown to be natural-cultural, experiencing the type of boundary effects associated with edgelands and ecotones. In the nature writing of the Anthropocene all environments are understood as sites where nature and culture meet.

The central premise of most texts considered in this study is to foster an altered sense of the embeddedness of all species, human and non-human, through material nature writing with a strong emphasis on trans-corporeality. To perceive the precise caliber of this altered sense of trans-corporeal embeddedness in the dynamic material world it is more profitable to consider contemporary nature writing than specimen from the nature writing canon. Weik von Mossner provides an example of why this is so in her discussion of material agency in Muir's work. She astutely notes the way Muir's nature writing is often inflected by his sense of the autonomous agency and vitality of nonhuman beings and forces. As she observes, "what he describes could also be considered a form of material agency since forces such as the wind, snow, lightning, and avalanches all physically work on and shape the forest" (34). However, Weik von Mossner's example here also highlights the difference between "material agency" in older works of conventional nature writing and more recent Anthropocenic nature writing. Nature writers have always acknowledged the forcefulness of nature, its external reality and its ability to affect change, as exemplified by Weik von Mossner's study of Muir. Acknowledging the agency of matter is not a new feature of nature writing by any measure. What sets the material nature writing of the Anthropocene apart is its strong emphasis on the trans-corporeality of phenomena. This sense of trans-corporeality tends to be either absent or far less articulated in previous works of nature writing.

The texts studied in the preceding chapters suggest that a strong sense of material agency and trans-corporeality, as it applies to bodies, phenomena and systems across various scales of being, is the most significant aspect of the confrontation as it is commonly realized in Anthropocenic nature writing at the moment. The nature writing of the Anthropocene thus encourages a new material sense of human embeddedness in the natural world to complement or replace the spiritual and emotional sense of embeddedness that has traditionally been the objective pursued by nature writers in the narrative of retreat. This material sense of embeddedness in the environment can be understood as defined by the movement of various agential materials across boundaries that are to be conceived as porously open. This sense of embeddedness is not necessarily Anthropocenic in and of itself. But with the understanding of the body's porous openness to the environment comes an increased sense of precariousness in an age of large scale chemical alterations to the environment, which invites an Anthropocenic perspective on the environmental landscape of fear. Through the landscape of fear, this new sense of material embeddedness also invites increased attention to the functionality of ecosystems and how they are affected. Questions of what potential harm might result from these changes, and questions of who might suffer from this harm, serve to politicize even descriptive nature writing and makes both humans and nonhumans central to the genre's field of concern. Attending to the functionality of ecosystems in turn promotes the dignification of the overlooked, as processes and organisms for which there were previously few mechanisms of valuation are reappraised within an alternative aesthetic, which instead of qualities such as charisma and

surface appearances stress those factors that contribute to the continued viability of the system. In fact, what the preceding chapters suggest is that in the nature writing of the Anthropocene, the new scientific interest in function, the dignification of the overlooked, the mode of material nature writing, the landscape of fear, the politicization of the genre, and its dawning awareness of matters of environmental justice, all circulate around the core notion of material intra-actions across the boundaries of bodies and ecosystems.

In a broad sense the nature writing of the Anthropocene thus affirms what Alaimo in *Exposed* refers to as “the immersed subject of trans-corporeality,” which “reckons with the anthropocene as an intermingling of biological, chemical, and climatic processes, which are certainly neither simply ‘natural’ nor managed by human intention” (158). But as indicated by the analyses in the previous chapters, what is at stake in the nature writing of the Anthropocene is not only an “immersed subject,” but rather what could be called an “immersed condition,” which applies to humans, non-humans, and matter itself, and to smaller and larger ecosystems within the biosphere. As my analysis in the previous chapters have shown, this condition of immersion that is foregrounded in Anthropocenic nature writing means that practitioners of the genre must now include more extensive accounts of the many dynamics which were considered fringe concerns in more conventional nature writing. Alaimo outlines this new state of complexity in her description of the embedded self:

As the material self cannot be disentangled from networks that are simultaneously economic, political, cultural, scientific, and substantial, what was once the ostensibly bounded human subject finds herself in a swirling landscape of uncertainty where practices and actions that were once not even remotely ethical or political matters suddenly become so. (112)

Alaimo contends that “thinking the subject as a material being, subject to the agencies of the compromised, entangled world, enacts an environmental posthumanism, insisting that what we are as bodies and minds is inextricably interlinked with the circulating substances, materialities, and forces” (158). It is this same notion of universal, irrevocable embeddedness in material dynamisms that both animates and politicizes the core story of confrontation in Anthropocenic nature writing. The confrontation thus raises the stakes on embeddedness relative to the core story of retreat, where the main concern was mainly a matter of the author’s and the reader’s emotional and psychological wellbeing. The immersed condition of humans, nonhumans and entire ecosystems provokes a sense of “insurgent vulnerability,” leading nature writers to the “politics of exposure” that lies at the heart of the core story of confrontation.

The movement of confrontation ultimately means that nature writing takes a political stance. Alaimo problematizes the ways that many of the phenomena of the Anthropocene such as climate change invite “the invisible, unmarked, ostensibly perspectiveless perspective” (*Exposed* 98). Donna Haraway has critiqued this same perspective as the “God’s-eye view,” (qtd. in Alaimo 144) and both argue that this is a placeless perspective on catastrophe that defuses the spectator’s sense of involvement and

responsibility at the same time as it obscures – through scale and distance – the victims of calamity. As Alaimo notes: “Prevalent depictions of the anthropocene emphasize the colossal scale of anthropogenic impact by zooming out – up and away from the planet” (145). The result of “prevalent depictions” is that

[t]he movements, the activities, the liveliness of all creatures except for the human vanish. And, once again, in the dominant visual apparatus of the anthropocene, the viewer enjoys a comfortable position outside the systems depicted. The already iconic images of the anthropocene ask nothing from the human spectator; they make no claim; they do not involve nor implore. The images make risk, harm, suffering undetectable, as toxic and radioactive regions do not appear, nor do the movements of climate refugees. The geographies of the sixth great extinction are not evident. The perspective is predictable and reassuring, despite its claim to novelty and cataclysm. (146)

The disclosure of the condition of immersion through material nature writing – through the functional orientation of Anthropocenic nature writing, through the dignification of the overlooked, and darkly contextualized against the landscape of fear – is the means by which the nature writing of the Anthropocene countermands the abstractive force of precisely such concepts as the Anthropocene. Shifting through different temporalities and scales of being, drawing connections between the near and the far, the small and the large, while highlighting both culpabilities and victimizations across porous boundaries between species, ecosystems, human and nonhuman individuals, the nature writing of the Anthropocene becomes a situated, particularizing counter-narrative to dominant modes of representing the Anthropocene. That is, in nature writing, descriptions of the Anthropocene will always be grounded by particularizing place-mindedness.

In its current form the nature writing of the Anthropocene thus emerges as a politicized and often dystopian strain of nature writing. This is understandable because of nature writing’s active concern about the environmental present. However, the writers considered in this study have in their various ways shown that dystopian jeremiads of impending catastrophe are not necessarily the only literary mode available to Anthropocenic nature writing. The rhapsody endures the challenges of the Anthropocene in Anthropocenic nature writing, although it is often strongly tempered. Ellen Wohl, as we have seen, frequently utilizes this mode to render a naïve first impression based on sense perception that a deeper understanding subsequently undermines in the mode of the jeremiad. Nonetheless, Wohl asserts the importance of remembering why nature is worth celebrating. For others, like Haskell, the complexity of intra-action in nature disclosed through material nature writing is material for the rhapsody in its own right, even as it also unveils the landscape of fear, providing fuel for the jeremiad. In the more issue-oriented nature writing of Louisiana and Erik Reece’s exposé of mountaintop removal, the rhapsody retains a more typical contrastive function as it is used to celebrate intact landscapes adjacent to zones of environmental degradation and collapse. In general, the updated rhapsodic mode in Anthropocenic nature writing still retains the function of showing the

reader why fighting for the environment is still worthwhile. The future challenge for nature writing will be to find ways of practicing retreat and confrontation, rhapsody and jeremiad, in writing that continues to inform and invest readers in a damaged world that is still worth saving and celebrating.

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