

Waterlogged: Narrating Hydroecologies in the Anthropocene

Ned Schaumberg

A dissertation

submitted in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy

University of Washington

2018

Reading Committee:

Gillian Harkins, co-chair

Jesse Oak Taylor, co-chair

Gary Handwerk

Richard Watts

Program authorized to offer degree:

English

ProQuest Number:10828957

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 10828957

Published by ProQuest LLC (2018). Copyright of the Dissertation is held by the Author.

All rights reserved.

This work is protected against unauthorized copying under Title 17, United States Code
Microform Edition © ProQuest LLC.

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

©Copyright 2018
Ned Schaumberg

University of Washington

Abstract

Waterlogged: Narrating Hydroecologies in the Anthropocene

Ned Schaumberg

Chair of the Supervisory Committee:

Gillian Harkins, co-chair

Jesse Oak Taylor, co-chair

English

As accelerating global climate change transforms the dynamics of the hydrosphere, water presents simultaneously ecological and epistemological questions: how do human beings comprehend hydrological crises that seem simultaneously immediate and protracted, simultaneously local and global? How can literature provide an account of water’s planetary circulation and its impacts without collapsing cultural distinctions or ignoring systemic political/cultural power imbalances? My project, *Waterlogged: Narrating Hydroecologies in the Anthropocene*, provides an ecological and epistemological methodology for reading water that highlights culturally and environmentally specific relationships with water account for global hydrological systems and their impacts through efforts—and failures—to narrate water in literature. By analyzing a series of texts focusing on “waterlogged” environments, I argue that

characters' efforts to "read" their surrounding waters in the late twentieth century remain rooted both in specific bodily experience and in its global, historical flow. Water brings the overlap between these perspectives into focus, revealing the extent to which non-human agency unfolds simultaneously across multiple temporal scales. This suggests the human experience of non-human agency is simultaneously immediate and protracted, environmentally and culturally specific and yet persistently global, ancient, and inhuman.

Each of the project's chapters takes up a prominent critical reading of a text to examine how attending to mediations of flowing waters disrupts (and ultimately enhances) existing scholarship on these novels. In the first chapter, I discuss Graham Swift's novel *Waterland* and its partially-aware narrator Tom Crick. Crick's effort to tell the "natural history" of the Fen swamps and the waters that comprise them enacts imperial conceptions of time and space from which the rest of the novels in *Waterlogged* break, yet juxtaposes them with his self-reflection on the limits of those imperial histories and epistemologies. Existing criticism on *Waterland* focuses almost exclusively on the novel's metafictional presentation of history, but Crick's narrative efforts reveal how the geomorphology of the Fens defies both imperial efforts to manage it and literary representations thereof. None of this is to say that water cannot be written or read. But *Waterland* shows—through Crick's partial awareness of the ancient trans-corporeal waters all around him—that the notions of order, progress, and structure that undergirding British nation-building and imperialism ignore the degree to which the water flowing through that nation remains outside efforts to control it either in narrative or in practice.

The subsequent three chapters discuss narratives that strategically employ colonial literary forms and structures alongside epistemologies and narrative strategies that have resisted colonial expansion as a means of challenging dominant, homogenizing understandings of water and its

flow. The second chapter argues the water throughout Linda Hogan's *Solar Storms* highlights the importance of not only preserving the cultural practices and water management strategies of the James Bay Cree, but more importantly, the way of seeing the world that undergirds such practices and inspires their transmission through story. Figuring land and water as simultaneously foundational and disrupted, the novel replaces a stereotypical harmonious relationship between Indigenous people and surrounding environments with relationships foregrounding uneven, violent mixture and disruption. As this story emerges through Angel's personal experiences, *Solar Storms* offers a vision, through its watery setting, of what a world *not* premised on stable ground looks like. Doing so also foregrounds the role of storytelling as a way to both learn about and share knowledge about the world. *Solar Storms* shows how both observing and describing water make it possible to understand it and carefully respond to both its tendencies and unpredictable changes.

Chapter Three takes up these questions as they appear in the Sundarban estuary of Amitav Ghosh's *The Hungry Tide*. Where most readings of the novel focus on cultural difference, especially as it relates to environmental attitudes, I argue that characters in *The Hungry Tide* turn to watery language and to practices of "reading" water even as they acknowledge its inadequacy in making sense of the way estuarine waters upset hydrological, cultural, temporal, and corporeal boundaries, and offer a limited avenue for characters to learn about and understand each other in spite of linguistic and cultural barriers. By foregrounding the structural interrelation of linguistic limits—barriers to translation between languages and cultures; the gaps inherent in textual depiction of material phenomena—Ghosh's novel shows that principles of interpersonal and intercultural translation are key to understanding water, so that "reading" water in translation

reveals connections between individuals' experiences of water, cultural practices, and hydrological cycles.

The fourth chapter undermines traditional readings of Hurricane Katrina as an “unnatural disaster” by examining the role of water in shaping the bayou of Jesmyn Ward’s *Salvage the Bones*. Reading for the water present in the bayou environment even when storms are absent shows how the unequal exposure to flooding and environmental change experienced by Gulf Coast residents demands unique forms of situated knowledge and environmental attitudes as responses to that exposure. As the narrator Esch describes and historically situates her experience of Hurricane Katrina, she foregrounds the importance of passing on stories to explain climatic properties and the potential for Gulf hurricanes that are otherwise largely ignored. This influence of water on life and culture is not environmental determinism, but suggests that cultural formations emerge from dynamic interactions between environments, knowledge of environments, and individuals.

By connecting ongoing separate conversations about environmental epistemology and global change, I hope to open up important dialogue between ecocriticism, post-colonial studies, Indigenous studies, African-American literary studies, and narrative theory. By considering the persistent bodily, cultural, and global necessity for water, I hope to suggest how those necessities must be compared and balanced if healthy and sustainable relationships with water can be cultivated and shared globally. In doing so, *Waterlogged* demands consideration of the ongoing role literature and its formal analysis should play in the consideration of complex, multi-faceted environmental issues.

Introduction: Getting Close

Writing about water, it seems, means doing so inadequately. The difficulty of fully “capturing” water’s influence is a common trope in the introductions of much of the massive (and rapidly growing) body of both popular and scholarly literature about it, emerging from myriad disciplines and with wide-ranging foci. Something about water defies description, even as hydrological and historical knowledge of water, its flow, and its cultural significance have increased dramatically over the last century. Indeed, lists of facts about water regularly accompany the aforementioned caveats—“it covers approximately three quarters of the earth,” there exist a “startling range of organisms that require water for survival,” it “holds endless variations of (Protean) forms, from the spell of the infinite snowflake to Heraclitus’s famous adage that you cannot cross the same river twice ... its symbolic range: from purity to time” and most commonly that “the human body, born from amniotic fluid, may reach up to 75 percent water”—to be juxtaposed with some sense that “water is one of the few cultural universals, inspiring a profound mingling of ritual and day-to-day use” (Duckert, *For All Waters* xvi–xvii; Fagan xx). In any given text, the list conveys a combined material and cultural significance that draws attention to a specific aspect of the “water crisis,” a catch-all term for scarcity, excess, pollution, and access, all of which are (and will be further) exacerbated by rising global temperatures and sea levels.

Yet across these myriad texts, concessions abound regarding the difficulty of explaining the full extent of water’s enduring trans-cultural and trans-historical significance. The fact that no known life-form can survive without it—and its central role in biological processes—certainly play key roles; its omnipresence and constitutive influence make it difficult to consider

water separately from the whole of earthly existence.¹ At the same time, the permeating extent of water's influence is often hidden by the disciplinary segmentation demanded by the wide-ranging perspectives needed to understand it, as well as by the linguistic and methodological differences those disciplines foster. Even works considering water from an interdisciplinary perspective note the challenge in describing a deep, enduring, culturally situated importance in countless cultures and environments while simultaneously discussing molecular and chemical eccentricities, ecological prominence, and literary metaphor. Ironically, its combined literal and intellectual omnipresence makes the personal, cultural, and historical experiences of that presence harder to describe.

This project aims to address this difficulty by circumventing it. Don't let the title fool you: this is not a project about water. This is a project about books about water, and what makes them worth reading in an era of climate change and "water crisis." Consequently, this is a project about mediation, the way print narratives, in particular, can reveal otherwise imperceptible aspects of the material world while calling attention to the persistent distinctions between what we see/hear/feel and what we read about. I'm using the term "narrative" in its broadest, simplest sense here, as David Herman does when he equates it with story: "stories are accounts of what happened to particular people – and of what it was like for them to experience what happened – in particular circumstances and with specific consequences" (2). Considering narratives in this way helps reveal how water is never simply a static presence, either materially or represented in a text, but is constantly "in process," as narrative helps capture the unfolding of events over time. In other words, what seem like failures of language to "capture" reality actually reveal the temporal and spatial difficulties of perceiving that reality at the heart of both the water crisis and often, climate and environmental crises more broadly. This focus demands formally

1 Alpert 683

analyzing how stories explain water and its flow—or more accurately, how stories explain a perceptually-limited sense of how water flows. As that caveat indicates, this means examining the difficulties in perceiving water, and the way perceptions of water overlap with understandings and imaginaries of water that defy those perceptions.²

The idea of narrating imperceptible or unintelligible physical properties complicates the idea that narratives—especially print narratives—shape readers’ imaginative process through object permanence and scalar consistency, using physical and temporal markers within a text to create “a particular mode of thinking, the mode that relates to the concrete and the particular as opposed to the abstract and the general” (Ryan). Narratives are supposed to be specific and singular in ways that other forms of writing and speech are not. As Amitav Ghosh explains, this is especially true of literary fiction:

the settings of fiction ... are constructed out of discontinuities. Since each setting is particular to itself, its connections to the world beyond are inevitably made to recede ... discontinuities of space are accompanied also by discontinuities of time: a setting usually requires a ‘period’; it is actualized within a certain time horizon ... it is through the imposition of these boundaries, in time and space, that the world of a novel is created: like the margins of a page, these borders render places into texts, so that they can be read (*The Great Derangement* 59).

Textual markers of time and space help maintain particularity, situating a specific story about specific things in a specific time and place. While many narrative theorists equate reading texts with other narrative forms, as “spoken and written language differ from each other in degree rather than in kind,” print narratives still offer a measure of added stability; the words printed in a book remain the same from reading to reading (Goetsch). Discussions of either written or oral narrative, however, presume that the linguistic choices and structures of a single oral telling or a single text provide linguistic cues for a reader, encoding for them the specific characteristics of

² I treat perception as both sensual and cognitive, insofar as the interpretive work associated with raw sensual data demands cognition.

both the storyworld and the events taking place in it (even if those characteristics also depend on the cognitive interpretation of readers).³ This focus on “encoding” or “linguistic cues” also serves as a constant reminder that the text can never be an analog for the world—language mediates and perhaps translates, but cannot mimic.

Since these discontinuities hold true for narrative generally, why read for water instead of land, or environment, or food, or wind, or any other word that carries associations to both physical properties and cultural resonances? What can focused attention to narrated waters offer either ecocriticism specifically or literary studies more broadly that broader attention to the gap between “word” and “world” cannot? The fact that considering water means considering how it flows through lands and environments, sustains food, and influences wind offers a partial explanation. Water deserves special attention because as a feature of textual worlds, and as a physical material, it challenges the object permanence and scalar consistency often presumed in reading, and by extension, in perception more broadly. In other words, water’s properties appear simultaneously in so many different temporal scales, spatial scopes, and epistemological frameworks that reading water means confronting and attempting to understand connections between seemingly unrelated scales and structures.

Water’s combined cross-cultural significance, economic utility, and scientific importance also demand a consideration of the overlap between phenomenological and systemic frameworks for human relationships with the other-than-human world.⁴ Applications of both phenomenology and earth systems knowledge are common within material ecocriticism, the branch of ecocritical scholarship especially focused on the interconnections between physical matter, narrative, and

3 James 19,23

4 These two terms are not, strictly speaking, dichotomous, but they often function dichotomously within ecocritical scholarship. Broadly speaking, I use “phenomenological” to mean rooted in specific, individual, bodily experience, and “systemic” to mean aggregations and analyses of repeated measurements over time, often of physical phenomena otherwise imperceptible to individual human beings

meaning. Strangely, the “material turn” toward either phenomenology or earth systems knowledge is driven by the same critique of social constructionism, an insistence that “our capacity for storytelling and tool-making serves to *extend* our material bodies and the material processes in which they are enmeshed, not to *sever* us from them ... We will always be material beings living in a material world of one kind and/or another” (Phillips and Sullivan 447). This assertion rightly foregrounds how material and narrative practices co-create each other, and treats literary texts as a way to reveal qualities and eccentricities of the material world. Focusing too much on the qualities of materiality, however, fosters a reading practice that equates the world of a text to the world of readers—the desire to “move beyond questions of aesthetics, and raise questions about form and value that call for interdisciplinary answers” overlooks the way aesthetics are a key way to make ontologically and epistemologically distinct experiences of environments legible in necessarily anthropogenic forms. (Phillips and Sullivan 447).

Given that ontology and epistemology are themselves culturally—and often textually—situated, culturally specific literary frameworks can connect otherwise disparate phenomenological and systemic frameworks for understanding the physical world; not resolving or unifying their perspectives, but revealing and holding them in tension.⁵ Reading for water in literary texts, and for the ways it reveals word/world gaps, is a way to look across those gaps, even if they remain unbridgeable.

Doing so reveals important information about the human experience of the world’s physical systems, their impacts on human lives, and the consequent understandings of specific

5 Raymond Williams’s multiple interconnected definitions of “culture” prove useful here, describing both a “particular way of life, whether of a people, a period, a group, or humanity in general” and “the works and practices of intellectual and especially artistic activity” (90). Throughout this dissertation, I treat ontology and epistemology as shaped by the lived practices and habits of groups of people, as well as the narratives that justify and accompany them.

environments.⁶ Considering those gaps offers a way human relationships with their environments can (or should) account for the other-than-human world, and the fundamental imbalances of power and influence (both interspecies and intraspecies) that undergird the experience of a given environment. To be clear, this is not a whole-hearted return to social constructionism or poststructural narrative creation, but rather an acknowledgement of the combined influence of individual perceptions, cultural traditions, and planetary systems, and the way reading for water can reveal the patterns and eccentricities of those dynamic combinations. While water is not the only type of literary matter that can be used to explore these ideas, it is particularly useful because of its simultaneous individual, cultural, and (when discussed as the hydrosphere) systemic resonance.

These resonances demand a reading practice that accounts for unclear and unstable boundaries between overlapping epistemological frameworks. First, and most simply, it means treating water in literature *as water*, a presence and a force that the characters within the novel experience as real, physically integral to their understanding of the world. This moves beyond straightforward thematic criticism, I argue, because the ways characters imagine and describe their surrounding waters creates a narrative model that gives readers access to understandings of water different from their own. Narrative theorist Erin James describes this reading method as econarratology, or studying representations of the physical world through the literary devices used to represent that physical world in narrative form. According to James, “reading—or any

6 I think of “environment” here both metaphysically as distinction between a being and that which it perceives as “other,” and the more material understanding of environment as organisms and processes that may exist outside human control and may occur regardless of human presence. Both of these definitions draw on philosopher Kate Soper (qtd. in Bate 33), but Soper draws these distinctions about the term “nature” which I avoid, because it also carries with it a sense of both rhetorical intrinsic-ness (my natural behaviors) and societal appropriateness (it is wrong because it is unnatural) that I want to avoid. I also want to rely primarily on “environment” here as opposed to “non-human world” because it is the strict binary between the human and non-human that works like these challenge. “Environment” allows for implied interaction and entanglement, even as material and metaphysical distinctions remain, that I believe the other terms do not account for as adequately.

type of narrative comprehension—is a virtual form of environmental experience, in which interpreters of narratives access mental models of material contexts they otherwise would not know” (James xi–xii). James uses this mode of reading to connect narrative theory and postcolonial ecocriticism because it foregrounds the ways readers can, through narratives, develop understandings of cultures and environments otherwise inaccessible to them. As a result, it can “enrich our understanding of how others in different spaces and times perceive and live in their ecological homes” to “help widen and develop conversations about increasingly globalized issues— issues including environmental destruction and migration, cross- cultural interaction, and the loss of indigenous cultures and environments (James xv–xvi). In econarratology, comprehending a narrative means mentally simulating the experiences of a given character, and, just as importantly, the storyworld those characters inhabit.

The idea that narratives can help readers simulate the experience of an environment from a different cultural perspective can, I argue, extend to simulations of the other-than-human as well. Using this econarratological approach to examine the literary and narrative forms that model the dynamic qualities of the physical world forms the basis of a New Materialist reading practice that attends both to textually and culturally specific representations.⁷ This does not mean all representations of water within literature attend to its physicality in this way, or that literary criticism examining water’s metaphorical or symbolic richness is somehow less valuable. But those lines of inquiry are much more substantially explored. Very often, analysis of water and its flow within literary criticism appears as a metaphorical means to make a loosely-related

⁷ New Materialism is, of course, a broad term used as an umbrella for a wide range of interdisciplinary scholarly work. For the purposes of this project, I lean on Coole and Frost’s description of scholarship, especially in the humanities and social sciences, that asks “fundamental questions about the nature of matter and the place of embodied humans within a material world; it means taking heed of developments in the natural sciences as well as attending to transformations in the ways we currently produce, reproduce, and consume our material environment” (3). See the “Theoretical Currents” section of this introduction for further discussion of this term.

theoretical point. I want to treat literary narrations of water as the object of inquiry instead of a means.

This goal is shared by much of the existing scholarship on the physical properties of water in literature, which has (by necessity) argued for the importance of considering water and its properties in the first place. In her book *The Novel and the Sea*, Margaret Cohen reminds readers that literary scholars have often focused on land so thoroughly that many analyses of marine-focused works like *Moby Dick* re-frame it in terrestrial terms, while Shakespearean scholar Dan Brayton suggests that even ecocriticism, which “strives to represent the human impact on the biophysical environment” has “neglected the central significance of the ocean and marine life in the Shakespeare corpus” (M. Cohen 14)(Brayton 4). Steve Mentz has described this growing body of ocean-focused scholarship as a “Blue Cultural Studies” responding to the realization that “most major studies of literary ecocriticism to date have engaged pastoral and terrestrial themes” (Mentz 1000). For scholars like Mentz and Elizabeth DeLoughrey, a maritime focus means considering the sea not simply as empty space to be crossed, but as a place that plays a central role in histories of globalization, slavery, colonialism, militarism, and environmental degradation.⁸ As Mentz explains it, a focus on the ocean reveals how a paradox of the simultaneous human need for water and its hostility to human life upsets popular fables of stable, harmonious relationships between humans and their environments in favor of more painful, tenuous, and violent encounters.

While existing scholarship focuses largely on the ocean, *Waterlogged* reveals how “blue cultural studies” need not limit itself only to marine and maritime literatures. By focusing on the sea (and thus water) as an inherently non-anthropocentric place, marine-focused blue cultural

⁸ I, like DeLoughrey, draw on Lawrence Buell’s distinction between “space” and “place” here (704).

studies overlook myriad sites of interaction between human beings and water that do not reveal the inherent hostility Mentz focuses on. At the same time, while Mentz argues “a blue cultural studies must consider the physical environment as a substantial partner in the creation of cultural meaning” (Mentz 1008), neither his work nor much of the aforementioned water-focused literary and cultural study closely examines water’s hydrological properties, their physical effects, and their entanglement in the narrative constructions of watery environments.

Lowell Duckert’s recent book *For All Waters* offers a partial exception to this trend by reading water in early modern travel writing through a material ecocritical lens. Duckert’s focus on this time period helps him connect the way considering fundamentally watery humans as separate from their environments mirrors the process by which imperially expanding cultures separated themselves from Indigenous “others,” hoping to show how an attention to water’s permeating influence will “not stop at collapsing boundaries between the human and the nonhuman, past and present, but emphasize these categories’ ontological inseparability and explore their alliances” (Duckert, *For All Waters* xxi, xix). While Duckert focuses on the erasure of individual human/environment boundaries, looking at the narrative frameworks through which those boundaries are imagined (or undermined) can situate powerful bodily experiences of water into both the Indigenous traditions threatened by homogenizing colonial expansion, and into the global circulations and geomorphological histories of water and its flow. Water may be a substance that structurally connects individuals to their surrounding environments, but it is also experienced as a thoroughly foreign, dangerous, or indescribable presence; reading for water in narratives means considering how these multiple senses of water overlap, even as they seem to contradict each other.

To do so, I look for moments in literary narratives where the “liquidity” of language becomes clear, either to highlight formal gaps and failures in trying to explain water’s flow, or to use those limits to define what *can* be understood. I will examine the myriad uses and definitions of “liquidity” in greater detail below, but at its core, language is “liquid” insofar as its meaning shifts (often imperceptibly, almost instantaneously) depending on the grammatical, cultural, temporal, and environmental contexts in which it is used. While language has these properties generally speaking, they become more pronounced when the material being described shares those liquid properties, allowing for an examination of how formal liquidity makes overlapping temporalities and spatial networks intelligible, revealing the extent to which “water” is disorientingly experienced as “waters.” The very things about language that trouble ecocritical attempts to “represent” the world are thus what makes language so useful and necessary in trying to understand rapidly changing experiences of water, so as to imagine pluralistic relationships with it that foster life, community, and extended inhabitation. Indeed, the very idea that language is supposed to “represent” the world indicates a historically situated literary aesthetic emerging from colonial expansion, as opposed to linguistic and narrative models from other cultures that presuppose other (and often multiple) purposes.⁹

Key, then, to understanding “the water crisis” in the Anthropocene is understanding it as a “waters crisis” that treats water’s excessive presence not only as an indication of broader changes in climate, but also as a unique bodily and cultural immersion. Put another way, reading for the overlap between the liquidity of language and the liquidity of water itself reveals not just distinctions between story and description, or between fabula and syuzhet, but also shows how—in the temporal and spatial scales of the Anthropocene—a careful syuzhet is what makes the fabula accessible, how narrative becomes essential to useful descriptions of scientific

description.¹⁰ The confusion, disorientation, transformation, and separation within these literary texts are not signs of representative failure, but parts of a fragmentary and ephemeral reading practice examining how water's transcendence of anthropogenic onto-epistemologies is rendered anthropogenically (textually), and the ways it defies anthropogenic imaginaries.

I argue texts also do this by calling attention to their own narrativity—as frame stories, self-aware narrations, or meta-narrative examinations—privileging the water flowing through their story-worlds as real by contrasting it to their own reflexively anthropogenic structures. In other words, reading water means attending both to the hydrological insights texts attempt to convey alongside the narrative limitations, disjunctures, and failures such attempts also highlight.

I want to be clear that I am not arguing for species-wide relationships with water that are unique to the Anthropocene. Similarly, the key terms of my analysis are not neologisms, but terms borrowed from other disciplines. This borrowing is essential to my methodology for two reasons. First, it highlights the linguistic liquidity underlying my larger argument. Second, it emphasizes how attention to reading and attention to cultural practices are methodologies in their own right. Hydrologists continue to study water and its flow, both locally and globally. Almost every culture has traditions and practices surrounding water and its use that have both historical and functional value. Much of what I examine in these books is hiding in plain sight, as water features prominently in the texts, while going largely ignored in the critical scholarship, just as aspects of these human relationships with water appear everywhere without drawing much social or political attention. The point of *Waterlogged* is not to argue for a new way of seeing the environment or a new way of reading literature, but to argue that what needs to be seen has been present all along, demanding a new attitude and renewed focus. The texts at the heart of this

¹⁰ Scientists themselves increasingly acknowledge this as well. Obviously, storytelling has not replaced the scientific method or elaborate methods of data collection, but more and more, those collecting and analyzing data realize the extent to which it must be narrativized to effectively reach more public audiences.

project—Graham Swift’s *Waterland*, Linda Hogan’s *Solar Storms*, Amitav Ghosh’s *The Hungry Tide*, and Jesmyn Ward’s *Salvage the Bones*—showcase the range of water’s properties and the means by which readers can re-expand their field of vision to see what else is present.

This also reflects, I hope, in the focus of these novels on cultures and relationships with water that have long histories, that have been established and cultivated over time. These cultures and their relationships are certainly not static, but show a type of attention and reaction that mirrors (and responds to) ecological dynamism. Living near (and thus being exposed to) water over long periods of time makes it harder to view water as mere instrument, resource, or predictable physical force. Instead, an epistemology rooted in tendencies—along with the unpredictability and uncertainty built into them—emerges. Furthermore, the narratives in this project balance the presentation of marginalized cultural perspectives with the strategic formal appropriation of colonial literary modes like the novel to communicate histories and traditions that are otherwise ignored or erased. Combining this focus on culturally specific histories with learned traditions of inhabitation is especially important because the globalized monetary and economic systems driving their erasure have also played an outsized role in the development of the climate and water crises. The “solutions” to those crises are also often pitched as global, often to the detriment (or erasure) of those voices whose long-standing traditions foster relationships and behaviors that would have prevented, or could still mitigate, those crises.

All of this combines in the pun of the project’s title. The word “waterlogged” came into use in the 18th century to describe ships so inundated with water that they were no longer usable, transformed into giant floating logs (Cresswell). This project examines how water (and relationships with it) are logged in literature, and in doing so, attends to how water’s excessive presence overwhelms and complicates human efforts to understand, harness, or distribute it. In

spite of increasing scientific and cultural knowledge about water, water itself remains lively and resistant to the goals of that knowledge acquisition, flowing in ways that remain independent of human understanding and control. The texts I examine demonstrate at least a partial awareness of the ways water cannot be fully accounted for in literature any more than it can be fully controlled by engineers—the designs of both are stymied by its liquid, multitemporal qualities. Indeed, these texts connect an inability to accomplish the former to the potential for more responsible understandings of water engineering, water resource management, and relationships with water more broadly.

Liquidity

Since this project examines how shifting narrative meanings convey shifting, unstable experiences, traditions and hydrological systems, the terms around which I center my argument also shift their meaning across disciplines and scales. That holds true, first and foremost, with the scientific and economic uses that combine to make “liquidity” a productive explanatory framework. The physical properties of liquids manifest prominently in descriptions of water, but since water differs from almost all other liquids in its physical structure, discussing the liquidity of water means examining the ways water both exemplifies and defies the scientifically-constructed category of liquids.¹¹ At first glance, economic liquidity seems to follow a similar pattern, a metaphor that both accurately compares the flow of money to the movement of liquid, without conforming perfectly to its principles. Increasingly, however, connections between economic and physical liquidity are more etymological than metaphorical. As a result, considering physical and economic liquidity simultaneously reveals the extent to which

¹¹ To be clear, I am not implying that the physical properties of water are themselves constructed and imaginary. Rather, the way those properties are organized and explained reflects a construction that does not, as I mention here, map perfectly onto those properties.

contemporary economics (especially development and resource economics) fails to account for the full range of water's properties, while revealing connections between linguistic, cultural, and physical dynamism.

In scientific terms, "liquid" indicates a state of matter, but also a structural orientation of shape and volume, as "liquid is hard to compress and as in the ancient saying 'Water takes the shape of the vessel containing it', it changes its shape according to the shape of its container with an upper free surface" (Nakayama 6). Liquids are (physically speaking) fluids, highly responsive to outside forces, but able to provide resistance and maintain some structural properties in response to those outside forces. As a liquid, water is both stereotypical and singular. As the most common liquid on Earth, and the one with the most cultural and biological significance for humans, it is convenient and useful for imagining or describing liquid properties. At the same time, however, it's an imperfect exemplar, since "everyone is agreed that one aspect of water's molecular structure sets it apart from most other liquids: fleeting hydrogen bonds. These feeble bonds that link the molecules constantly break and form above water's melting point, yet still impose a degree of structure on the molecular jumble" (Ball 291).

This physical distinction matters because "liquid water, widely acknowledged as the 'matrix of life' on our planet at least, is not just a passive scaffold. It has many active roles in molecular biology, minutely influenced by its structure" (Ball 291). Water's hydrogen bonds are responsible for most of its strange characteristics, from losing density in solid form to the high levels of cohesion and surface tension that play a role in its biological utility for life. The combination of changing structure and momentary, shifting order in water's molecular structure is the simplest level on which its functional "liquidity" appears. While these properties set water apart from other liquids, they have a stronger influence on its importance than they do on

understandings of liquid qualities more broadly. Water may not be the prototypical liquid, but is certainly the liquid with the most combined cultural and geophysical significance, and as a result, is better suited to discuss the applied understandings of liquidity (as opposed to purely theoretical ones) that feature so prominently in narrative representations of environments.

The more common uses of “liquidity” appear in economics. The term ostensibly establishes a metaphorical connection between economic assets and physical liquids—liquid assets can be easily converted into money at predictable rates, while illiquid assets either cannot be easily traded, or have highly fluctuating values, especially when trades must happen immediately.¹² This narrow meaning, however, originated as part of a larger set of metaphors deployed to convey the dynamic flow of goods and capital through the economy. The earliest uses of liquid and flow metaphors in economics referred to blood circulating through the “body” of the economy, while more contemporary economic metaphors have shifted away from the bodily to the mechanical as an organizing construct, figuring flows of either water or generic liquid through an economic system.¹³ Ironically, water is not a particularly liquid asset; it is not traded on a commodity market, and its transport and storage rely heavily on capital-intensive infrastructural (and thus illiquid) assets like pipes, dams, and treatment plants.¹⁴ While amusing, this irony also reflects how discussions of liquidity within economics fail to consider the extent to which liquids do not simply and easily transform from one size or shape to another without resistance. Liquidity in economics is characterized by easy translation, while physical liquidity—especially that of water—suggests changes that occur only when force is applied, and not without resistance.

12 Black et al.

13 Alejo 1147–48

14 Jin et al. 731, 733

Attending to the shortcomings of this economic resonance highlights both the ongoing influence of global economic structures in contemporary water management, and the extent to which misconceptions about the physical world, driven by economics, affect long-standing cultural and individual relationships with water. As Brad Pasanek and Simone Polillo point out in their interdisciplinary collection on money metaphors, “conceptions of culture, society, and the economy are not neatly separable. Our treatment of money as metaphor, social relation, and economic instrument is meant to account for the origins and circulation of the monetary metaphors as well as their employment in theoretical descriptions of money; further, to demonstrate how these descriptions give content to social forms” (2). As a literary scholar and an economist respectively, Pasanek and Polillo draw attention to liquidity metaphors in the wake of the 2008 financial crisis to suggest that breakdowns in the US economic system can be attributed, at least in part, to the oversimplified or inaccurate metaphors used to justify economic policy, while pointing out how metaphors and social practices continue to co-create each other in the process.

In doing so, they reveal how the metaphor of economic liquidity figures money as inaccurately as it does liquids: “the metaphor of liquidity locates the power to flow in the very nature of money, which distracts from its actual origins in social power ... the conditions that give rise to ‘flow’ are material ones ... what we take to be flow or ‘fluidity’ is in fact a series of disequilibria managed by public institutions (such as auctions), by different kinds of incentives, and by different symbols” (3–4). In addition to revealing why economic analyses cannot automatically be considered more objective than the emotional, cultural, or environmental assessments of value to which it is often contrasted, this series of metaphorical failures also

reveals how “liquidity,” as a formal literary characteristic, is autological; its meaning and usage never fully map onto the physical and economic concepts it describes.¹⁵

While this can lead to poor monetary policy, it injects necessary complexity into reading literary metaphor. Pasanek and Polillo rightly focus on improving economic thinking through metaphor by “paying attention to the social forces that, so to speak, dig the channels and build the pipes through which liquidity flows, but also to the authorities that dictate where those channels and pipes will be located. Money may have less to do with its intrinsic properties as a ‘liquid’ than with the institutional, social, and cultural boundaries that define when, and to what extent, it will act as a liquid” (8). This expanded understanding of money’s liquidity can lead to more careful readings of literary water as well, drawing attention both to the presence of water in a text and the social forces surrounding it that (as Pasanek and Pollilo note) play key roles in shaping that flow. At the same time, considering efforts to narrate water means considering the representation of physical forces as well as social ones—the ways channels, pipes, canyons, and mountains shape (and are shaped by) liquid flows, and the ways gravity and solar radiation distribute and re-distribute energy within that system, independent of any efforts to harness them.

Reading for “liquidity” tracks meanings that shift through forces applied carefully and thoughtfully, as well as through the (often more significant) unintentional changes that accompany those forces. It means acknowledging barriers to meaning-making alongside the underlying forces that make meanings coherent in the first place. It means leaving behind a desire for simple and straightforward maps or definitions of understanding in favor of

15 While the idea of economics as “objective” is by no means settled within the discipline (see, for instance, the field of behavioral economics), its quantitative metrics are still frequently contrasted with the qualitative metrics mentioned above. Similarly, a desire for those quantitative metrics has led to the rise of concepts like ecosystem services or efforts to economically quantify cultural production.

appreciating how imperfection and incompleteness can reveal partial, fleeting associations between word and world that help make sense of a “liquid” world, if only for a moment.

Other Watery Words

Given that “liquidity” highlights unstable forms with unclear boundaries, it also means reading literary waters as part of the world they flow through. None of the texts in this dissertation treat water as an object independent of its environment, instead examining water while foregrounding its effects on that environment and its inhabitants, both human and other-than-human. While individual and cultural relationships with water rarely presume this sort of isolation, scientific study of water has also recently begun to examine these connections through hydroecology, the study of interconnected interactions between water, the environments it flows through, and the organisms inhabiting it.¹⁶

Though readings of literary water do not occur exclusively through a scientific framework, discussions of “hydroecology” within the scientific community enhance literary readings by drawing attention to the ways water’s physical properties shape both ecosystems and via feedbacks, the organisms and communities within those ecosystems. The term also highlights interdisciplinary impacts and emphasizes processes. As Paul Wood, David Hannah, and Jon Sadler explain in the introduction of their collection *Hydroecology and Ecohydrology: Past, Present and Future*, “the bi-directional nature of hydrological–ecological interactions and importance of feedback mechanisms;” a “full range of (natural and human-impacted) water-dependent habitats/environments” alongside “flora, fauna and whole ecosystems; ... the need to consider process interactions operating at a range of spatial and temporal scales;” and “the

¹⁶ The term “hydroecology” is often used interchangeably with “ecohydrology.” When a distinction is made, hydroecology appears as the more general field, where ecohydrology describes plant-water interactions more specifically (Wood et al. 3). Given that, “hydroecology” makes more sense in an interdisciplinary context.

interdisciplinary nature of the research philosophy” (Wood et al. 3–4). These scholars’ range of disciplinary expertise (physical geography, hydrology, and biogeography/ecology respectively), reveals the complexity and interconnectedness of the systems through which water flows, as well as the range of its influences. I turn to hydroecology because the struggles scientists face while studying water’s flow through an ecosystem mirror the difficulties in writing that flow: how does one describe bi-directional influence as it occurs, distributing and obscuring sources of physical and cultural influence over time? How does one describe the simultaneously minute and massive effects of water’s flow on living and non-living things, appearing both locally and in distant locations, especially as those effects change from moment to moment? How does one describe the experience of simultaneous sensory, cultural, and systemic information that comprises the “full extent” of water’s influence? Attempting to answer these questions shapes my analyses of texts that attempt to narrate hydroecological systems and their influence on human life and culture.

Even though the discipline of hydroecology does not consider social or cultural forces, those forces underlie hydroecological work: “because of water’s many uses, humans have fundamentally altered natural hydrological processes and conditions in many areas ... it is clear that balancing the water needs of people against those of ecosystems (terrestrial and aquatic) is, and will increasingly (*sic*) become, a premier environmental issue” (Wood et al. 1). Wood, Sadler, and Hannah highlight how carefully studying water and its flow can help human establish systems that balance human and other-than-human needs. Yet if the goal is to holistically understand human needs and consider them alongside environmental concerns, it remains necessary to move beyond the scientific framework they provide to consider the cultural importance of hydroecological systems, and human efforts to imagine themselves as a part of

those systems, in an effort to figure out what a balance—if such a thing is possible—might look like.

Yet while hydroecology focuses on local systems, water circulates globally. Indeed, the changing patterns of the global hydrosphere are a key component of the Anthropocene, an increasingly popular term across disciplines in the sciences and humanities used to describe the scale and scope of human impacts on planetary systems. The term, popularized in the early 2000s by chemist Paul J. Crutzen and marine biologist Eugene Stoermer, suggests that human influence is visible in the geologic record, and that human beings are the primary driver of environmental change on the planet. In late 2016, the Anthropocene Working Group—a committee of the International Commission on Stratigraphy, the group officially responsible for naming and segmenting units of geologic time—officially recommended that the Anthropocene be considered as a stratigraphic era beginning in the mid-twentieth century, and marked by the global plutonium fallout from atomic testing and “the approximately synchronous upward inflections in the mid-20th century in a number of proxies associated with population, the global economy, energy and resource use and industrialization” (Zalasiewicz et al. 57).

It’s important to note that this stratigraphic definition breaks from other disciplinary uses of the term, many of which focus (as Crutzen and Stoermer do) on earlier geologic markers of global human influence. These range from approximately 8000 years ago, when the impacts of rice agriculture and forest clearing become visible; to 2000 years ago, when markers of large-scale human alteration of the earth’s surface appear; to 1492, the watershed moment of global colonial expansion; to 1610, the nadir of declining global carbon dioxide concentrations resulting from the genocide and global agricultural transformations caused by colonial expansion; to 1784,

when James Watt invented the steam engine and Industrial Revolution began.¹⁷ The AWG themselves note that their selected start date does not signify an absence of meaningful human impact before 1945, emphasizing instead how that date serves as a moment where the scope of human impact magnifies, occurs in a more globalized scale, all while becoming uniformly visible in rocks (via radiation signatures) all over the globe.

While I focus more on human interactions with the hydrosphere than on the stratigraphic records thereof, the date selected by the AWG still reveals the set of social conditions that guide the scope of this project. I focus on works written during the “Great Acceleration” of the Anthropocene because of the increasing proliferation of national water management around the globe in the second half of the twentieth century as part of that acceleration. Similarly, the globalized export of that management from the United States to the rest of the world occurring during the Cold War, the increasing disillusionment with the success of such management and development, and the deepening scientific understanding of the global nature of the hydrological cycle all contribute to an understanding of global water and water management as both part of (yet stubbornly independent of) human influence on planetary systems. Accelerating water use and water management are not an exact microcosm of the Anthropocene, but the entangled local and global changes in human relationships with water across the second half of the twentieth century indicate the challenges facing efforts to conceptualize human relationships with environments they increasingly influence and manage.

At the same time, reading Anthropocene waters means balancing the geological and global resonances of the term with the cultural distinctions and economic inequalities such resonances can overlook. As Dipesh Chakrabarty points out in his now-famous essay, “The

¹⁷ See Smith and Zeder, Lewis and Maslin, Luciano, and Crutzen for further discussions of these dates, their cultural and planetary significance, and their scientific underpinnings.

Climate of History: Four Theses,” “while there is no denying that climate change has profoundly to do with the history of capital, a critique that is only a critique of capital is not sufficient for addressing questions relating to human history once the crisis of climate change has been acknowledged and the Anthropocene has begun to loom on the horizon of our present” (Chakrabarty 212). I turn to Chakrabarty both as a reminder of global capital’s “flow” and its influence on flowing waters around the world, and as a reminder that the Anthropocene can transcend its own stratigraphic parameters in the ways individuals and communities experience its looming effects more immediately.

That influence is never obvious or straightforward, and remains dependent on the temporal and spatial frameworks used to examine it. Narrative descriptions of water are particularly useful in revealing these frameworks, in part because a single narrative can juxtapose multiple temporal and spatial scales. In particular, I want to draw attention to the way carefully reading narrative water in literature reveals its “multitemporality,” by which I mean the ways water’s flow can be simultaneously considered in multiple overlapping time scales. Consider, for instance, the 2017 landfalls of Hurricanes Harvey, Irma, and Maria, and the widespread flooding they caused. The Anthropocene as an abstract geologic epoch collides with the Anthropocene as an observed change in the functioning of interconnected earth systems and with situated experiences of the Anthropocene in the overlapping and disorienting understandings of water experienced by those in the storms’ paths. In the seconds, minutes, and hours during which flooding occurs, water is dangerous: it will drown or crush those caught in it. It is also the medium of rescue, as boats are often the only way to reach those trapped by fast-moving floodwaters. In this temporal scale, whether or not the waters are a manifestation of the

Anthropocene or of anthropogenic climate change has no influence on what that danger (or rescue) looks like.

Considered over decades or generations, however, major floods and hurricanes are treated as discrete events, disruptions of an otherwise “orderly” storm-free existence. Even as the climate changes due to human influence, direct scientific links between a particular storm and anthropogenic climate change are hard to quantify—climate science, by definition, focuses on likelihoods, not on causality. As a result, water in this time scale is treated as biological necessity, a recreational amenity, or an economic benefit, but also a potential threat to life and property that must be managed. Efforts over years and decades focus on balancing “economic growth” or “social value” with “disaster relief” or “emergency preparedness,” all of which imagine specific storms or instances of flooding. Even if these specific storms and their associated flooding were exacerbated by climate change, the trends and broad patterns characterizing climatic change come into focus only over periods of centuries or longer. This climatic temporal framework presents storms as statistical tendencies and likelihoods; hurricanes have made landfall at the sites of present-day Houston, Miami, and San Juan since well before those cities existed, and will continue to do so long after those cities disappear. Indeed, thinking about hurricanes in this time scale raises larger questions about the long-term inhabitability of coastal cities, or about what kinds of human relationships with water will be necessary to ensure the survival of a particular community.

Across all these time scales, water has powerful, tangible physical effects on lives and cultures. While the language used to describe and categorize other-than-human influence has become increasingly contested, I will refer to water’s “agency,” or “force,” throughout this project. Historically speaking, describing other-than-human forces as agentic contradicts the

philosophical consensus rooted in Descartes's definition of agency as uniquely human—a combination of rationality, self-awareness, and free will.¹⁸ But as political theorist Jane Bennett explains, attending to what she calls the “vitality” of non-human and non-living matter means acknowledging “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” (Bennett viii). Qualifying this vitality as a “quasi” agency is important since it distinguishes between the metaphysical qualities of human agency and the physically-rooted qualities of material agency. Even so, describing this other-than-human vitality as “agency” rightly draws attention to the way that vitality not only defies human efforts to contain it, but also human efforts to understand it.

Furthermore, where “force” implies something more constant, regular, or mechanical, “agency” draws attention to the ways physical forces combine, interact, or suddenly shift. This dynamism is the heart of Karen Barad's theory of “agential realism.” Barad is a theoretical physicist and feminist theorist whose book *Meeting the Universe Halfway* has become a cornerstone of New Materialism, Material Ecocriticism, and Feminist Science and Technology Studies. Barad uses a Bohrian understanding of quantum physics to showcase the fundamentally interactive and uncertain qualities of matter at a subatomic level, while explaining the philosophical consequences of these physical theories:

the space of agency is not restricted to the possibilities for human action. But neither is it simply the case that agency should be granted to nonhumans as well as humans, or that agency can be distributed over nonhuman and human forms ... agency is a matter of intra-acting; it is an enactment, not something that someone or something has. It cannot be designated as an attribute of subjects or objects (as they do not preexist as such). It is not an attribute whatsoever. Agency is ‘doing’ or ‘being’ in its intra-activity (Barad 178).

18 See Coole and Frost (8) for the Cartesian roots of this definition, and Barad (145) for the ways theorists like Foucault and Butler also restrict agency to the human.

This understanding of agency is particularly useful when considering water because of its aforementioned physical properties, and because it exhibits a similar intra-active dynamism as part of its global circulation. Water constantly moves, flows, circulates, permeates, and reshapes its surroundings in ways defined by the principles of physics but influenced by so many compounding variables and forces that it self-organizes in unexpected and difficult-to-describe ways. Even if it lacks the supposed rationality of human beings or the evolutionary imperatives of living matter, describing water's agency offers a shorthand way to describe these myriad forces as they are experienced—multitemporally and in synergistic combination.

Theoretical Currents

Because I argue that literature reveals a wide-ranging spectrum of water's interconnected properties, I am inspired by a similarly wide range of scholarly frameworks. As I mentioned above, this work is driven by narrative theory and formal analysis, turning also to New Materialist and earth systems approaches to water and its flow (which I believe provide useful reference points), without presuming a universal experience of that circulation, or that a single cultural or national literary tradition exemplifies it.¹⁹ That range of cultural traditions shapes both the narratives I examine and the theoretical methodologies associated with them. Closely reading texts for their water narratives offers a way to synthesize sometimes disparate approaches to literary environments, including (but certainly not limited to) postcolonial studies, Indigenous studies, and African-American literary studies. This synthesis emerges from the ways these

19 The primary critique of New Materialism in fact, is the way its name suggests that a focus on other-than-human matter that is agentic, vital, and alive is somehow new. See TallBear. That said, labeling this work as "new" distinguishes it from the Marxist accounts of materialism, many of which are more closely wedded to symptomatic or deconstructionist reading practices than they are to accounts of natural science or the physical world. This also connects New Materialism with Material Ecocriticism, since, as Coole and Frost further explain, "foregrounding material factors and reconfiguring our very understanding of matter are prerequisites for any plausible account of coexistence and its conditions in the twenty-first century," a key feature of ecocritical scholarship (2).

theoretical approaches exemplify Chakrabarty's belief that the environmental humanities must attend to cultural differences when considering global crises, so as not to obscure the unequal global development at the heart of those crises, nor to erase the groups and cultures at whose expense such development has occurred: "the recommendation is not that we should try to narrate in the interest of 'all' but rather that such narration must not be blind to issues of power and should therefore incorporate a certain degree of self-reflexivity or self-vigilance on matters relating to those very issues" (qtd. in DeLoughrey et al. xiv). It's important to note, however, that self-reflexivity about the limits of culturally- and environmentally-situated perspectives does not preclude awareness of global similarities and cross-cultural connections. Looking at these texts from disparate cultural traditions, I argue, reveals some commonalities in relationships with water rooted in inhabitation and attentive to its liquidity.

Moreover, revealing a wide range of cultural relationships with water is itself an important goal in an era where globalized water commodification, water corporations, and water management threaten to flatten and shorten understandings of water and its value. Consequently, this project shares with postcolonial ecocriticism the belief that literary scholarship can "emphasize how experiences of environmental violence, rupture, and displacement are central ecological challenges across the Global South, while at the same time identifying possibilities for imaginative recuperation that are compatible with anticolonial politics" (DeLoughrey et al. 2). At the same time, the theoretical dialogues within postcolonial studies often obscure the ongoing erasures of settler-colonialism that Indigenous cultures around the world continue to experience and resist. Those same dialogues are often complicated by ongoing legacies of chattel slavery and racial discrimination within the United States more specifically. Many similarities of purpose and method connect these disciplines, but I deliberately mention these differences to

draw attention to the range of relationships with water and the range of relationships to institutional power that appear within literature written in English.

Consequently, I also hope to examine the way cultural knowledge about water (and environment more broadly) is acquired and transmitted over long periods of time without fetishizing the role of ancestral claims to land.²⁰ This is not to undermine or invalidate those claims, or to suggest that they should not feature centrally in a culture's self-representation. But in an era where disputed claims of inhabitation are wielded alongside strategic cultural essentialism to further disenfranchise marginalized cultures, and when many cultures cannot return to the lands and waters with which they have deep ancestral connections, I do not want to rely on such claims at the expense of other modes of acquiring watery knowledge. Indeed, I think looking at myriad watery epistemologies is essential to understanding the diverse cultural and historical situations from which those epistemologies emerge.

Doing so also makes it possible to consider marginalized texts and theories alongside dominant texts and theories without essentializing either. As literary scholar George Handley explains, this

demands a recognition of the mutually constitutive forces of nature and culture and the need for shifting and comparing geographical and literary contexts in order to tease out its fullest range of meanings. Criticism, in other words, should not seek to reduce literature, like a dam to a river, to an ideologically fixed point. In comparative and ecological readings, major nature writing from the North becomes less the suspicious enemy and more a valuable point of comparative reflection on similar questions (185).

The goal is not making comparisons in order to either reify or reverse colonial hierarchies of knowledge, but to acknowledge the simultaneous connections and divergences that multiple traditions inflected by sometime-similar histories and environments can create.

²⁰ As I discuss more extensively in Chapter Two, in discussions of ancestral claims, "land" implicitly includes the water that flows through or permeates that land, in part because many Indigenous traditions do not presume a dichotomy between land and water in the first place.

Key to all of this is the idea that metaphor or literary language more broadly provides a means of understanding the world, while focusing on efforts to understand multitemporal qualities of that world foregrounds the importance of culture as both emerging from and shaping the narrative frameworks that relate otherwise disparate conceptions of time and space. Those issues of scale offer a partial explanation for continued engagement with New Materialist thought, much of which focuses on the breakdown of stable categories of the human and nonhuman at the level of the body. As Stacy Alaimo explains it, “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” (Alaimo, *Exposed* 1). Just as individuals become aware of the traces their species leaves in the geologic record, they can recognize the traces of the environment appearing and emerging in them.

Examining the formal structures of mediated efforts to situate individual bodies into planetary systems emphasized social structures, epistemologies, inherited traditions, and rituals entangled with material bodies and processes but transcending them as they connect individuals across spaces and times. Attending to these “less material” aspects of cultural transmission also reveals the extent to which cultural structures can, by reflexively acknowledging their limits, gesture toward Nigel Clark’s reminder that “the physical world operates of its own accord, alongside or in spite of our hefty surcharge” (Clark xiv). These reflexive narratives can offer a mediated understanding of “the condition of being sensuous, sociable beings in a universe that nourishes and supports us, but is forever capable of withdrawing this sustaining presence. And it begins to ask how better we might live—with other things and with each other—in the context of a deep, elemental underpinning that is at once a source of profound insecurity” (Clark xiv).

Literatures, especially those of historically oppressed and environmentally exposed cultures, warrants particular attention because it often already considers individual, cultural, and systemic erasures, and the imperfect, fleetingly hopeful resistance to, or resilience in, the face of such erasure.

Where much material ecocriticism figures the breakdown of bounded subjectivity as a means to de-center the human by expanding it, as “the location of each person’s ethics and politics extend through vast geographical and temporal expanses, affecting countless species” (Alaimo, *Exposed* 10), connecting marginalized literatures to both New Materialism and earth systems humanities counter-intuitively attends to where personal or cultural ethics cannot extend, where human influence ceases, and what remains in the face of those limits. Thus, at the risk of using a book about water to dampen the spirits of increasingly hopeful and resilience-minded ecocritics and activists, *Waterlogged* offers a reading of literary waters that focuses less on the “pleasure” of exposure or the “alliances” with wetness that individuals can experience, but rather on the imbalances, disorientation, and ambivalence that result from situating bodily experiences into cultural traditions and global systems.²¹

Even as Alaimo (among many others) rightly draws attention to the imbalances between humans and other humans/nonhumans as part of this disruption of species-level boundaries, she celebrates the resistive potential and pleasure of bodily exposure, while acknowledging that bodily perspectives of situated knowledges and phenomenology alone remain an incomplete explanatory framework. Her gesture past the bodily, however, remains general, a hope to “stress the immediacy of the naked contact between body and place” while “these dramatizations are staged within a wider context of mediation and the horizons of scientific knowledges” (Alaimo,

21 “Pleasure” is a term central to Alaimo’s understanding of exposure, where “alliances” are essential to Lowell Duckert’s understanding of disintegrating human/non-human boundaries.

Exposed 3). *Waterlogged* takes up that mediation centrally, exploring what it means to stage the bodily within this wider context, and how the power imbalances and cultural difference that lead to simultaneously endangering and (potentially) hopeful exposure cannot simply disappear as boundaries between body and world do.

I have found that turning in particular to texts that foreground imbalanced dynamics between humans reveals similar imbalances in the alliances between humans and their watery environs. Trying to narrate specific waterlogged environments brings individual and cultural experiences into conceptions of earth systems without erasing the global implications of those flows. Waterlogged environments are particularly useful for this kind of work because they inherently undermine the stable boundaries between material categories, and because water itself flows simultaneously in multiple temporal scales.

By contrast, much of the existing work in material ecocriticism describes “the narrative qualities” of matter. Many narrative theorists are rightly skeptical of this use of their discipline’s name, given the way “narrative” signals an individual (and implicitly anthropogenic) arrangement of chronological happenings in written language. Drawing a distinction between “reading” matter and the “storytelling capacity” of matter itself proves useful. Reading places a focus on the reader, the interpreter of matter, who situates it in an anthropogenic framework.

Turning to Alan Marshall’s ideas of postmodern ecological constructionism, however, offers a model more sensitive to the human role in narrative creation: “When we admit to the constructionist ability of non-humans, two particular facets of this constructionism might be identified. Firstly, non-humans may help in the construction of stories we have about them, and, secondly, they construct their own stories about the world which are independent of their relationship to our storytelling” (Marshall 234). Marshall’s insistence on non-human

constructionism reminds us, by contrast, that many of the “stories” humans believe matter tells are those imagined on its behalf, and for our own benefit.

There is nothing inherently problematic about this, especially when Marshall’s second insight is adequately considered; nonhuman matter exists in ways and frameworks humans cannot inhabit, and thus follow principles that we must translate in order to partially comprehend:

When I suggest that non-humans partake (in some small way) in the social construction of our stories about them I am not saying that there is some essence, some independent referentiality, that shines through from an animal or plant despite the various human to human social constructions of non-human nature but that our constructions can be influenced by the behaviour of those non-humans. An animal like a bird, for instance, does not reveal itself via its own objective and intrinsic reality into our stories. The bird that we see in our scientific reports, in our novels and poems and myths, is not a mirrored reflection of some independent real bird. It is just that in some of the stories we have about birds, the 'bird-ness' is negotiated into place with the help of the behaviour and activities of birds (Marshall 234).

As he describes a framework for thinking about ecology, Marshall offers an understanding of interactions between humans and their environments that can hone literary readings of non-human agency. The careful observation he describes (and its effects on social constructions of environments that individuals and groups create) appears throughout the waterlogged texts that are this project’s focus. With that in mind, *Waterlogged* functions something like a meta-analysis, collecting and considering the observational and narrative methods that these texts showcase and enact. Doing so reveals patterns and tendencies without erasing the environmentally- and culturally-specific features of each of these narratives. As Marshall continues, “a postmodern ecology would acknowledge that communications are polysemous, plural and open to confusion. Postmodern associationism is capable of doing this because it acknowledges the unique and specific experiences of individual members within an ecological community” (Marshall 238). There are real limits to the lawful unity that a project like this

demonstrates. Even as this project provides frameworks for reading water across different temporal scales and cultural reference points, it also acknowledges the chaos, heterogeneity, and contradiction that characterizes these works.

And just as Marshall focuses on physical ecosystems, New Materialism is concerned with physical manifestations of matter, especially as it acts on or changes human beings. Therefore, it's important to draw a distinction between examining water itself and examining the material properties of water as they appear within fictional stories presented by potentially-unreliable narrators, all created by and printed on behalf of authors living in London, New York, Delisle, Mississippi, and the Chickasaw Nation. The change from singular "water" to plural "properties" here is deliberate: in "the world" water seems to be an object, a thing (albeit one whose discrete properties and boundaries are, like all matter, notoriously hard to pin down), whereas no such "thing" appears within a book outside of descriptions thereof. Even if water within a novel is merely present and does not "do" anything, it must be described and attributed with characteristics. Reading for "liquidity" thus means shifting the focus of reading from the presence of water as an object in a narrative to the ways hydrological properties manifest and generate effects in the world of the text.

This distinction between examining the world directly and examining literary representations of it is a central methodological concern within ecocriticism, as the field grapples with the role of literature in understanding the environment and human relationships with it, potentially to influence human interactions with environments. These kinds of questions have been taken up most clearly within ecopoetics, which pays close attention to formal qualities of language, and thus proves useful for literary readings of prose texts as well. Scott Knickerbocker, among others, argues that all art and artifice emerges from the pre-existing, material, non-human

world, even if it does not attempt to represent that world in a realistic way (or at all).²² This does not eliminate distinctions between different kinds of art or artifice or the way they engage with the implied non-human world behind the text. As Knickerbocker explains, the question “is not how to get around figuration and language to contact the real world (as if that were possible), but how to figure forth the world and what kind of figures and formal devices best dramatize the complex relationships between the human and nonhuman” (16). This view presupposes an unbridgeable gap between word and world, and in doing so, makes studying that gap and its characteristics a way to reveal aspects of human/non-human relationships.

One key way texts can elucidate these relationships is through the use of figurative language. As Knickerbocker continues, “because metaphor structures the very way we think and perceive, such figurative devices such as personification and apostrophe should not be dismissed as anthropocentric pathetic fallacies with which we merely project the human onto the nonhuman” (Knickerbocker 5). Knickerbocker relies heavily on the work of cognitive linguists George Lakoff and Mark Johnson, who explain how metaphor functions as a means of making sense of an increasingly complex world. Personification, for instance, can “allow us to make sense of phenomena in the world in human terms—terms that we can understand on the basis of our own motivations, goals, actions, and characteristics. Viewing something as abstract as inflation in human terms has an explanatory power of the only sort that makes sense to most people” (Lakoff and Johnson 34).²³ This kind of work, in trying to explain the cognitive functions of the mind, has not yet reached a consensus about the fundamental structural similarity between literary metaphor and the function of the human brain, but it does serve as a

22 Knickerbocker makes this argument in the introduction to his book *Ecopoetics*, but while he focuses exclusively on poetry (more specifically, on poetry not typically considered “ecological”), he also states that his model for the connection between word and world here need not apply only to that medium.

23 Much of this work, such as that by Benjamin Bergen, is still relatively new and unsettled within the field, but the idea that the mind uses metaphor as a means of translation is increasingly common.

powerful reminder that sensual perceptions of the “real world” still undergo a measure of cognitive processing, adding a level of mediation just as written representation does. And where Knickerbocker focuses on a gap between word and world in moments of personal, embodied experiences of environments, these issues of mediation are only compounded when the environments being considered are either distant from the individuals imagining them (in either time or space), or—as exemplified by the idea of a constant, planet-wide circulation of water over billions of years—impossible to perceive at all.

In these cases, David Herman’s idea of the “storyworld” offers another way of recognizing the gap between word and world without ignoring words as a result. David Herman argues that a key quality of narrative is its presentation of “what it’s like” to live in a particular storyworld. More specifically, though, he points out that “narrative allows for more or less direct, explicit reflection on—for critical and reflexive engagement with—competing accounts of the world-as-experienced” (Herman 150).

Taking up Herman’s ideas more specifically in relation to cultural difference connects the “word/world” gap to the gaps between specific cultural experiences of a given world. Obviously, reading Leslie Marmon Silko’s *Ceremony* does not allow a reader to fully know the bodily and cultural experience of a Laguna Pueblo war veteran any more than it can be a substitute for physically visiting northwestern New Mexico. And, as Erin James points out, “reading narratives is not a solution to these problems in itself. In many ways sensitivity to the subjective experiences that storyworlds encode complicates potential solutions by pluralizing our understanding of how people can perceive and engage with the world” (James xvi). For James, these cross-cultural readings are still worthwhile because “the conversations catalyzed by the imaginative inhabitation of storyworlds suggest an ideal respect for comparison, difference, and

subjectivity that can challenge the universalizing assumptions that often dominate such issues” (James xvi). While this is true, it still understates the ways in which pluralized understandings can reveal either similar experiences or similarities between different environments. In either case, reading does not simply “translate” one experience or culture to another, but offers nodes of connection, if imperfect and ephemeral, between times, places, and peoples at great physical and cultural distance from each other.

Which Books Are Wet?

Since part of my argument rests on the idea that water transcends traditionally conceived temporal and geographic boundaries, (and since water appears so frequently in literature) selecting a group of texts proves challenging. The texts I examine do not provide a comprehensive history of representations of water, nor do they attempt to provide cultural “coverage.” That being said, all the texts, through both content and setting, enliven the kind of thinking Wai Chee Dimock calls for in *Through Other Continents*, exemplifying the ways given texts transcend their apparent national and temporal borders. Because they consider water in its fullest extent, they necessarily delve into the *longue durée*, revealing the entanglements of contemporary concerns with their complex spatial and temporal histories. For Dimock, considering long histories demands transnational thinking: “The study of the United States can never be tautologically identical to the borders of the United States, because it can never keep the “outside” a permanent outside, externalized by defensible borders. The field then ... can bear no resemblance to the territorial form of the nation. The nation is sovereign, or imagines itself to be. The field can have no such pretension” (Dimock 38). This holds especially true in the late-twentieth century, as both awareness of water’s global circulation increases, and as both

practices for managing water, and local resistances to those practices circulate in a similarly global manner.

Moreover, as David Ekbladh explains in his recent examination of international development and its ideological roots, “particular localities, nations, or regions can be discussed within a larger international framework. It acknowledges the uniqueness of the experience and influence of one site while exposing linkages to bigger structures and ideas indispensable for contextualizing that site in its historical milieu” (Ekbladh 6). Drawing on texts from different geographical areas and cultural traditions should not indicate a belief that national and cultural distinctions disappear when considering water. Rather, it reflects my desire to show how distinct experiences and traditions participate in a global hydrological system that connects cultures, their internal tensions, and their sometimes-contentious interactions with water.

The four novels at the heart of this project—*Waterland*, *Solar Storms*, *The Hungry Tide*, and *Salvage the Bones*—explore the above issues in part because they attend to the cultural conflicts that emerge when competing systems of value surrounding water come into contact. The sense of multi-layered agency that emerges (either consciously or unconsciously) through the narrators and characters of these texts directly contradicts the idea that water is a manageable resource and commodity. Moreover, characters’ recognition of the scope of that agency leads them to imagine water—and follow practices of living near it—that treat it as more than simply a commodity. In an era where water is often more generally scarce and (via climate change) exerts its agency on the global poor ever more powerfully, imagining other relationships with water as these texts do is especially important.

Each of the project’s chapters takes up a prominent critical reading of a text to examine how attending to mediations of flowing waters disrupts (and ultimately enhances) existing

scholarship on these novels. In the first chapter, I discuss Graham Swift's novel *Waterland* and its partially-aware narrator Tom Crick. Crick's effort to tell the "natural history" of the Fen swamps and the waters that comprise them enacts imperial conceptions of time and space from which the rest of the novels in *Waterlogged* break, yet juxtaposes them with his self-reflection on the limits of those imperial histories and epistemologies. Existing criticism on *Waterland* focuses almost exclusively on the novel's metafictional presentation of history, but Crick's narrative efforts reveal how the geomorphology of the Fens defies both imperial efforts to manage it and literary representations thereof. None of this is to say that water cannot be written or read. But *Waterland* shows—through Crick's partial awareness of the ancient trans-corporeal waters all around him—that the notions of order, progress, and structure that undergirding British nation-building and imperialism ignore the degree to which the water flowing through that nation remains outside efforts to control it either in narrative or in practice.

The subsequent three chapters discuss narratives that strategically employ colonial literary forms and structures alongside epistemologies and narrative strategies that have resisted colonial expansion as a means of challenging dominant, homogenizing understandings of water and its flow. The second chapter argues the water throughout Linda Hogan's *Solar Storms* highlights the importance of not only preserving the cultural practices and water management strategies of the James Bay Cree, but more importantly, the way of seeing the world that undergirds such practices and inspires their transmission through story. Figuring land and water as simultaneously foundational and disrupted, the novel replaces a stereotypical harmonious relationship between Indigenous people and surrounding environments with relationships foregrounding uneven, violent mixture and disruption. As this story emerges through Angel's personal experiences, *Solar Storms* offers a vision, through its watery setting, of what a world

not premised on stable ground looks like. Doing so also foregrounds the role of storytelling as a way to both learn about and share knowledge about the world. *Solar Storms* shows how both observing and describing water make it possible to understand it and carefully respond to both its tendencies and unpredictable changes.

Chapter Three takes up these questions as they appear in the Sundarban estuary of Amitav Ghosh's *The Hungry Tide*. Where most readings of the novel focus on cultural difference, especially as it relates to environmental attitudes, I argue that characters in *The Hungry Tide* turn to watery language and to practices of "reading" water even as they acknowledge its inadequacy in making sense of the way estuarine waters upset hydrological, cultural, temporal, and corporeal boundaries, and offer a limited avenue for characters to learn about and understand each other in spite of linguistic and cultural barriers. By foregrounding the structural interrelation of linguistic limits—barriers to translation between languages and cultures; the gaps inherent in textual depiction of material phenomena—Ghosh's novel shows that principles of interpersonal and intercultural translation are key to understanding water, so that "reading" water in translation reveals connections between individuals' experiences of water, cultural practices, and hydrological cycles.

The fourth chapter undermines traditional readings of Hurricane Katrina as an "unnatural disaster" by examining the role of water in shaping the bayou of Jesmyn Ward's *Salvage the Bones*. Reading for the water present in the bayou environment even when storms are absent shows how the unequal exposure to flooding and environmental change experienced by Gulf Coast residents demands unique forms of situated knowledge and environmental attitudes as responses to that exposure. As the narrator Esch describes and historically situates her experience of Hurricane Katrina, she foregrounds the importance of passing on stories to explain climatic

properties and the potential for Gulf hurricanes that are otherwise largely ignored. This influence of water on life and culture is not environmental determinism, but suggests that cultural formations emerge from dynamic interactions between environments, knowledge of environments, and individuals.

By connecting ongoing separate conversations about environmental epistemology and global change, I hope to open up important dialogue between ecocriticism, post-colonial studies, Indigenous studies, African-American literary studies, and narrative theory. By considering the persistent bodily, cultural, and global necessity for water, I hope to suggest how those necessities must be compared and balanced if healthy and sustainable relationships with water can be cultivated and shared globally. In doing so, *Waterlogged* demands consideration of the ongoing role literature and its formal analysis should play in the consideration of complex, multi-faceted environmental issues.

Chapter One: The Geologic Fairy-Tale of Graham Swift's Waterland

Graham Swift's 1983 novel *Waterland* opens with a pair of epigraphs that juxtapose a definition of "*Historia, -ae, f.* **1.** inquiry, investigation, learning. **2.** a) a narrative of past events, history. b) any kind of narrative: account, tale, story" with a Charles Dickens quote situating the novel in a specific location: "'Ours was the marsh country...'" The definition foregrounds the narrative quality of history, and with it narrator Tom Crick's belief that history is as much a constructed narrative as it is the actual past events themselves. It is this aspect that most critics focus on, most famously when Linda Hutcheon presents the novel as a touchstone work of "historiographic metafiction," that "directly addresses the intersection of the debates about representation in both the novel and history" (54). Like many others, Hutcheon suggests that "Tom Crick is in some ways an allegorical representation of the postmodern historian who might well have read, not just Collingwood, with his view of the historian as storyteller and detective, but also Hayden White, Dominick LaCapra, Raymond Williams, Michel Foucault, and Jean-Francois Lyotard" (56).

As a result of this focus on textual and social construction, the ideas evoked by the second epigraph have gone largely overlooked. The Dickens quote (from the opening page of *Great Expectations*) is part of Pip's effort to explain who he is, where he comes from, the specific environmental information that helps readers of *Great Expectations* understand the conditions that underlie the "historia" Pip then provides. But where Pip introduces the marsh country as his origin, a "habitat" from which he tries to escape, *Waterland* takes place entirely in the marsh country, and its narrator repeatedly tries to explain how water flows through it.

Juxtaposing these epigraphs highlights the importance of considering both the location of

historical events and the hydrological properties of that location. These two epigraphs also mirror the two distinct influences on history that appear throughout *Waterland*. On one hand, Crick describes history as a man-made invention, something that man as “the story-telling animal” creates to try and combat the truth that “reality is an empty space” (61–62). On the other hand, the novel reveals how the water that constantly re-shapes the Fenland marshes also shapes the lives of the novel’s characters and the stories they tell about themselves and their world; their narratives are as much nature-made as man-made.

This chapter argues that *Waterland* provides a “historia” of water that situates the novel’s personal and historical narratives within a geomorphological²⁴ one, revealing the extent to which those narratives inter-penetrate each other. Moreover, Crick’s efforts (and failures) to adequately narrate the water that surrounds and influences him calls into question the efficacy of the personal narratives he uses to explain his own life, while critiquing the narratives of British imperial growth and supremacy that Crick reveals to be constructed. *Waterland* reveals a simultaneous unfolding of narratives and the agencies—both human and non-human—that permeate them, situating individuals and cultures in temporal and spatial frameworks that profoundly de-privilege human action and importance without ignoring or mechanizing them.

Crick’s efforts to describe other-than-human forces throughout *Waterland* call to mind New Materialist assertions that “textual approaches associated with the so-called cultural turn are increasingly being deemed inadequate for understanding contemporary society, particularly in light of some of its most urgent challenges regarding environmental, demographic, geopolitical, and economic change” (Coole and Frost 2–3). Understanding the complex interconnection of humans and their environments demands recognizing a non-human world and understanding

24 I use the term “geomorphological” here as opposed to “geologic” because while the scales of time considered here are best measured on a geologic time scale, the processes themselves are geomorphological ones, focusing on the transformation of geologic formations as opposed to the formations themselves.

how that world functions and unfolds over time. Jane Bennett's *Vibrant Matter*, for instance, re-frames matter as fundamentally emergent, vibrant, and in flux, such that it is able "to animate, to act, to produce effects dramatic and subtle" on human lives, while Stacy Alaimo's theories of "trans-corporeality" extend the influence of these effects, "emphasizing the material interconnections of human corporeality with the more-than-human world" (Bennett 6; *Bodily Natures: Science, Environment, and the Material Self* 2). Considering *Waterland* through theories like these foregrounds the importance of the physical world in cultural and political thought, challenging the idea that matter is the inert, static counterpoint to the dynamism of human life and culture.

At the same time, Crick's efforts to convey the "reality" of Fenland waters re-figures the "marsh country" and the water within it as key characters in the novel as opposed to its setting. Making water a character as well as a powerfully/obviously non-human and non-narrative force de-privileges the human elements of that narrative. In essence, Crick uses anthropogenic narrative structures as a corrective to anthropocentric views of the world. This also reveals the multitemporal agency of that world, as the immediate movements and relationships with water function and appear different from those that unfold much more slowly over time. Crick is at least partially aware of the way the waters of the Fens defy efforts to constrain, harness, or manage them, just as he is aware of the ways those waters permeate both his body and the histories he creates. Using narrative to highlight water's dynamic qualities presents water as a force that transcends its frequent treatment as an agricultural resource or medium of transportation to be managed by Catchment Boards in East Anglia.

This structure of simultaneously unfolding, entangled narratives makes *Waterland's* insights about water less explicit than its title would suggest. The novel is a series of short

anecdotes and explanations, both contemporary and historical, that combine to present a loose chronology of narrator Tom Crick's life, along with that of Mary (his wife), Henry (his father), Helen (his mother), Tom's maternal and paternal ancestors (the Atkinsons and Cricks, respectively), and the natural history of the Fen country they all inhabit. These musings are the final lessons Crick, as a soon-to-be-fired history teacher, gives to his class, arguing for the continued importance of studying history in spite of the "Here and Now," of potential nuclear apocalypse. To make this point, Crick tries to entangle his lessons deconstructing the French Revolution with the story of his own life, his role in the death of a childhood friend, his brother's suicide, Mary's pregnancy and subsequent abortion. All of these personal stories appear as efforts on Crick's part to explain why Mary tried to abduct a stranger's baby from a supermarket.

This culminating event also leads him to connect his childhood stories to the history of his parents' families, the Cricks and the Atkinsons, and their arrival in the Fen Country several hundred years earlier. And in telling the story of the Atkinsons, who gradually build a brewing and shipping empire in the Fen Country, Crick also narrates the rise and fall of imperial Britain, further connecting "traditional" historical lessons with personal and familial histories.

Throughout all of these, Crick presents the history of the marshland that makes up the Fens and the water that runs through it, which spans millions of years and unfolds largely independent of human beings. Crick does this in part to provide environmental context for his "yarns" about his life, family, and country. But by providing these natural histories in the same structure and style he provides his familial and personal histories, he situates his own narrative into a much longer span of time, presenting human beings as only one of many actants that drive the events of the novel.

This appears most clearly through the underlying structure of the novel as its attempts to define “Reality” and “History” trouble both terms. Doing so reveals the environment as understood through anthropogenic narrative meaning-making, even as that meaning-making process is largely driven by (often imperceptible) other-than-human forces. Unlike the influence of history and narrative, which Crick deconstructs throughout the novel, Crick privileges water as somehow more real because water not only exerts influence, but does so in spite of and outside of human constructions, not as a result of them. Crick makes that agency visible by translating it into human terms; he describes water’s fundamentally defiant and non-human agency as if it were human.

Key to this personification of water is Crick’s use of fairy-tale tropes and structures to convey the temporal scales of geomorphological change in the Fen Country. As a result, *Waterland* appears simultaneously as a geologic fairy tale and a failed history, where environmental conditions interrupt both imperial practices and the “Grand Narratives” used to justify them. But as Daniel Lea points out, Crick is also “forced to account for his role in the trying circumstances that assail him, and effectively to acknowledge his own mistakes. His attempt therefore to construct a narrative of cause and effect is at once self-justifying and self-lacerating” (75). Just as Crick struggles to fit his own life into a Grand Narrative, he fails to narratively situate the waters he admits have a strong influence on both him and his stories. As a result, those waters appear influential without being determining.

That influence appears both formally and physically, as water appears to disrupt both the lives of Fenland inhabitants and the stories they attempt to tell. To be clear, this formal disruption does not figure water and silt as metaphors. Rather, it is an effort to narrate their material properties entangled with an effort to narrate the process of meaning-making. Both

through dramatic flooding and the slow processes of siltation, Crick's narration offers a distinction between "reality" and "realism," drawing attention to the persistently humanistic qualities of narrative meaning-making, the ways those narratives necessarily reach limits in their ability to explore profoundly other-than-human times and spaces, and the useful approximations of those times and spaces that still appear. Crick's perspective is certainly limited because he focuses on human notions of progress and history. But even as he does this, he shows off the larger time scales into which human life and history are situated. By describing those time scales in humanized terms, Crick helps reveal the limits and failures of the perspectives to which (as a historian) he remains attached.

History and Postmodernity

Most of the criticism examining *Waterland* focuses on its simultaneous construction and deconstruction of history, perhaps due to the popularity of Hutcheon's larger argument about historiographic metafiction, and the fact that her work was the first major scholarly reading of the novel. As she explains, *Waterland* pays close attention to the idea that "history" can describe both past events that occurred independent of an outside observer, and the narration of those events after the fact, often in ways that transform history into History, something that appears more stable and fixed than Crick or Hutcheon knows it to be. Within (and because of) this methodological framework, famous historical events appear juxtaposed with the novel's much more local concerns. These juxtapositions are often described as another part of the novel's challenge to a singular Grand Narrative; overlapping views of history, all filtered through the self-consciously unreliable mind of a historian narrator, show how the process of historical

inquiry is central to and necessary for contemporary society, while denying the possibility of an end or answer that could emerge from such a process.²⁵

This contradictory waffling about the value of history reflects the novel's underlying presentation of reality more broadly. As David Malcolm points out, "reality" is difficult to define within *Waterland* because the narrator "plays with different meanings and associations of the word ... On one hand, reality is something that can be contrasted with legend, fairytale, and illusion. Imperial myths and yarns, ghost stories, narratives of progress, and delusions can all be contrasted with material facts" even as "these illusions and these yarns have effects. They shape history, events, and actions just as reality does." At the same time, "reality is thus the uneventfulness of hidden, dull lives" and "also—as Crick explicitly and implicitly indicates—a matter of event, of the here and now which overtakes people, which they seek out and wish upon themselves to relieve the flatness of their lives" (Malcolm 93). This pair of definitions, each orbiting around a contradiction, exemplifies another strong thread of criticism about the novel: the way Crick, as a highly self-conscious narrator, presents the world as either not truly knowable, or at least not finally understandable. These definitions of reality and history are often treated as contradictory by critics, but this chapter argues that the novel's competing definitions of history and reality appear contradictory when considering only an anthropogenic viewpoint in anthropogenic time scales. By contrast, situating those viewpoints into the geologic and other-than-human histories throughout the novel reveals how what appears to be "uneventfulness" is, in fact, just much slower eventfulness, as the experience of material facts as real and static are largely driven by the extent to which those facts shape the anthropogenic efforts to explain them.

At the same time, a number of scholars have argued that Crick's focus on historical narratives and their deconstruction erases or overlooks female autonomy and agency throughout

25 Malcolm 83, 97

the novel. As Katrina Powell puts it, “Swift’s representations of women’s bodies, in particular Mary Metcalf’s, contribute to his privileging of the (male) act of story-telling as means to control reality ... while Swift’s narrative is postmodern, his representation of women’s sexuality is not” (60). Ashley Orr argues that this problematic representation of female bodies by Crick combines with the text’s portrayal of Crick as a partial and failed narrator to provide a sense of female agency through corporeality as it appears in the novel; an embodied response to the ways Crick’s narrative silences female voices. These scholars agree that Crick’s discussions of Mary, Mrs. Parr, Sarah Atkinson, Helen Atkinson mirror the imperializing, structured attitudes that he critiques in historical construction.²⁶ While Crick may not realize he does this, his failure to effectively narrativize the women in his stories reflects the ways female autonomy and agency do not fit into narrowly-focused narratives of (traditionally male) control and power any better than the other-than-human world he struggles to describe.

Pamela Cooper offers a loose connection between discussions of gender and environment within the novel, drawing attention to the way *Waterland* equates the female body to the landscape of the Fens to show that “*Waterland* articulates the functional mutuality of sexuality and imperialism, weaving both the inscriptions of gendered anatomy and the rhythms of empire into the irresolute fabric of history” (373). Cooper’s reading combines Freudian and post-structuralist analysis to connect discussions of the female body within the novel to discussions of the Fenlands, all to argue that *Waterland*, through Crick’s depiction of Mary, offers a potential hybrid (in Homi Bhaba’s sense of the term) that opens up potential critiques of imperial expansion. This reading presents the Fens as “a sort of miniature simulacrum: a tense

26 As further indication of the erasure of female perspectives in the novel, Mrs. Parr’s first name never appears in the novel, though she is described as a woman of “remarkable forbearance” who does her husband’s job of keeping trains running and preventing accidents while he is too drunk to do so (a daily occurrence) (Swift 113).

impersonation of the ‘natural world’ at a levitated remove from itself, a performance of a performance within a performance. Thus the marshes suggest at once a blunt facticity operating in the text (at least ostensibly) as nontransferable, and the translation of that facticity into abstraction through displacement and imitation.” This sense emerges from Crick’s repeated use of the Fen Country as a metaphor for his own work as a historian, and for the processes of human life more generally, as materiality “offers equivocal embodiment to Tom’s theories and abstractions” (Cooper 376). For Cooper, Crick’s privileging of the Fens as materially real and factual legitimates the metaphors he makes out of them. This insight about the appearance of the Fens as simultaneously factual and narrated is valuable, but does not ultimately consider how the extensive hydrological details underlying the “facticity” of *Waterland* themselves shape the narratives Crick creates, or as Orr points out, his limited ability to do so.

Cooper’s engagement with the Fens reflects a larger scholarly pattern: because of the novel’s extensive focus on the shortcomings of local histories and historical “Grand Narratives,” the water that permeates *Waterland* often goes overlooked or under-examined in criticism about the novel. Very often, it is treated as only metaphorically present, so that the “the novel’s fens landscape opposes the flux of water (an image of both time and space) to the attempt at fixity by land reclamation—and also by the discipline of history (both as memory and as story-telling)” (Hutcheon 72–73). Water and its presence in the novel are examined as ancillary pieces of the larger historical concerns that arise.²⁷ But, as Ronald McKinney notes, the symbolic significance of water in the novel remains as unstable and fluid as the water itself, sometimes attached to “reality,” other times to “a history lesson,” and still other times, to “Nothing” or to chaos.²⁸ Very

27 Elisabeta Catană uses the novel’s discussions of siltation to make a similar point about storytelling, arguing that “The outcome of Tom Crick’s stories is similar to the outcome of the process of siltation, as it amounts to reconstructing the world of the past. Stories are like silt, as their purpose is to recreate the past (12).

28 McKinney 826

often, scholars invoke the Fens and their watery characteristics only as the metaphor for the novel's fluid presentations of history and reality, which as they note, are themselves defined in myriad different ways by the narrator over the course of the novel. The Fens provide a perfect backdrop for a postmodern musing on history because they mirror the sort of narrative and historical waffling that defines the structure of the novel itself.

But because of the limited focus on water and its metaphorical properties, the hydroecological functions of water within *Waterland* are either ignored or discussed only implicitly. Malcolm goes further than most in noting that “there is a dark sense of the massive destructiveness and viciousness of historical events,” but places his emphasis squarely on the human actors, as he focuses “especially at the hands of those animated by ideals and illusions” (Malcolm 87). Much of the massive destructiveness described explicitly within the novel, however, is the result of flooding, storm, and drainage, while the classically vicious events of History, such as the World Wars, appear peripheral to the central story and its marshy setting. Within *Waterland*, it is often not humans causing destruction, but rather humans failing to prevent or inadvertently enabling non-human forces—especially water—to wreak havoc on the Fens and those who live there. Indeed, Crick draws attention to his failed attempts to create History by acknowledging how water's simultaneous fast and slow flows shape the Fens, defy explanation within unifying historical narratives, and confound attempts at stable meaning-making.

Eric Berlatsky's recent work on *Waterland* offers a model for considering water's hydroecological effects as they are mediated through Crick's narrating lens. Berlatsky sees the novel's presentation of history as an attempt to unify Hutcheon's sense of historiographic metafiction with Malcolm's recognition of an underlying reality, arguing that although it

“presents narrative as a complex and subtle barrier to historical reference, it refuses to see history as a mere textual byproduct” (Berlatsky 102). Because of this, Berlatsky argues, *Waterland* “suggests that this faith in ‘progress’ and narratability is not the real at all. Indeed, lack of change and stasis, the forward and retreat of siltation is real, implying that, in fact, the past is not irremediably passed but is always at least partially present not only through its discursive traces but also in its materiality” (Berlatsky 89). Even though the entire narrative appears through Crick and his perspective, he draws attention to the materiality that exists outside of his perspective, defying his efforts to accurately capture it. The constructed meaning overlaid onto events does not fully encapsulate the events themselves. Since both direct experience and narrative organization form the basis for patterns and principles of individual behavior and cultural practice, they can combine to help make partial sense of that potentially infinite morass. This chapter argues that water is one of the key material markers Crick uses to upset his position as narrator, and that in futilely attempting to narrate its connection to both his life and the stories he tells about it, he draws attention to qualities of its flow that might otherwise go unnoticed.

Reclaiming Fenlanders

Given the narrator’s subject position, and the novel’s aforementioned gender politics, using *Waterland* as part of a larger argument about culturally-marginalized relationships with water demands specific discussion. But while *Waterland* appropriately registers as a canonical novel written from a white, British, male perspective, the history of the Fenlands, efforts to drain them, and their inhabitants complicate this canonical positioning. The presentations of Fenlanders as backward, superstitious, and out of touch—both geographically and culturally—from the rest of England serves as a reminder that “even generally affluent nations have their neglected, marginalized, and degraded communities and ecosystems” (Slovic et al. x). This certainly does not mean Fenlanders experience the same marginalization as communities

colonized by Britain, or that Crick (as a narrator) imagines himself and his family as part of an Indigenous movement. That said, Crick's introduction of traditional Fenland culture and descriptions of Fenlanders' resistance to reclamation projects resemble those in many texts—like Linda Hogan's *Solar Storms*—where populations with long-standing cultural-environmental practices attempt to prevent large-scale changes to their surrounding watershed in an effort to preserve those practices. Crick asks, for instance,

Is it desirable, in the first place, that land should be reclaimed? Not to those who exist by water; not to those who have no need of firm ground beneath their feet. Not to the fishermen fowlers, and reed-cutters who made their sodden homes in those stubborn swamps, took to stilts in time of flood and lived like water-rats. Not to the men who broke down the medieval embankments and if caught were buried alive in the very breach they had made. Not to the men who cut the throats of King Charles's Dutch drainers and threw their bodies into the water they were hired to expel (10).

This description ties early Fenlanders' epistemologies and ontologies to the ways water permeates their environment. And just as in this project's other texts, the recognition of a watery world drives both day-to-day habits and political resistance—both informal and organized. In *Waterland*, though, these practices, this history, and these inhabitants are all part of the past. Crick knows, as readers do, that the Fens were eventually drained, transformed into an agricultural resource that helped fuel the rise of Imperial Great Britain.

That added historical distance matters for two key reasons. First, it offers a perspective on environmental attachment and identity that is less reliant on direct community connections. Tom Crick admits that while “my father's forebears opposed [the Dutch]; and two of them were hanged for it ... my paternal ancestors threw their lot with the drainers and land reclaimers. Perhaps they had no choice. Perhaps they took their hire where they were forced to. Perhaps they responded, out of the good of their hearts, to the misery of inundated crops and water-logged homes” (Swift 11–12). Where *Solar Storms* begins imagining persistence in the face of cultural

loss, *The Hungry Tide* imagines how cultural communication might forestall cultural loss, and *Salvage the Bones* imagines cultures defined by loss, *Waterland* situates cultural loss as a single piece of contemporary Fenland identity that neither disappears nor overwhelms other components. Moreover, since historical distance denies the reasoning and decision-making behind this shift, Crick focuses instead on the vestiges of that culture persist in the “amphibians” of contemporary Fen culture, as well as the new knowledge of mixed water and land they maintain—without answering the question of whether Fenlanders were right to stop resisting monarchic control, the focus remains on that culture and its slow change over time.

Secondly, attention to this historical distance frames the relationship between the Fens and the rest of England as deeply and persistently colonial—figuring the King and his men as outsiders who worked to “conquer” the Fens and their inhabitants during medieval times filters future descriptions of the Fen Country through that history. The Atkinson family is, in contrast with the Cricks, not native to the Fenlands and, like the King, is invested in altering them, cultivating them, and changing them. Their attitude strongly resembles that of outside colonizers: “William [Atkinson] clasped his son’s shoulder and said perhaps some such words as these: ‘We must help these poor besodden Fenlanders. They need a little cheer in their wretched swamps. They cannot survive on water.’” (68). This language resembles British attitudes toward colonized peoples abroad. But since Crick invents these words, they reflect less an actual event and more the perceived hierarchy as understood by the Fenlanders whose history he recounts; whether or not the Atkinsons imagined themselves as saviors of the Fenlands, local inhabitants, according to Crick, felt patronized and looked down upon by their less watery neighbors.

This pattern recurs throughout the novel as the Atkinson family's political stances (as indicated by their beers) repeatedly connect efforts to alter the Fens and harness their waters to Britain's global colonial expansion (and to the role the Fens played in that expansion):

but after the Grand '51 Ale and the Prince Consort Ale and the Empress of India Ale and the Golden and Diamond Jubilee Ales, not to mention the notorious Coronation Ale of 1911, no Armistice Ale flowed in the Fenlands in November, 1918. The River Leem flowed, into the Ouse, past the Atkinson Lock, past the Hockwell Lode ... but no Victory Ale flowed ... Because for one thing, there was no brewery to make it; and for another, a large part of the beer-drinking population was no more (213).

Of course, young men from all over England died in World War One, and nothing suggests Fenlanders served or died in greater proportions, but this addendum is not explanatory since the lack of a brewery precludes considering customers for a non-existent beer. Rather, it localizes the global effects of WWI back to the Fenlands and, through a non-existent addendum to a beer list, situates Fenland war efforts into the longer history of domestic costs for international endeavors.

I do not mean to read either Crick as narrator or *Waterland* as a narrative as wholehearted critiques of the dominant British imperial perspective from which they emerge. Rather, Crick's ambivalence about the success of empire-building efforts, his awareness of its local effects, and the way both are wrapped up in personal and environmental histories allows for a reading of the novel that recognizes both Crick's perspective and the things about his own life and environment he fails to see. And while Crick is a self-aware and self-conscious narrator, the moments where he shows something different than he claims are just as important as the contradictions to which he draws direct attention.

The Materiality of Nothing

Moments of inconsistency like these form the heart of *Waterland's* structure, as Crick's reflective discussions of history and story-telling (both of which he distinguishes from "Reality")

reveal a world of overlapping temporal and spatial frameworks. Crick's inability to account for water within any single epistemology or framework highlights their simultaneity, while his acknowledgment of water's disruption of human life and narrative emphasizes its influence on both life and epistemology in the Fenlands. The interconnected narrative and epistemological structures of *Waterland* situate human action into geomorphological scales without ignoring the immediate—and often deleterious—impacts of that action. Similarly, Crick's efforts to situate water's role in his larger reflections on history and storytelling create the contradictions from which most of the scholarly discussions of history emerge, highlighting the way water's influence does not simply determine human existence or choice, but exists alongside individual and cultural forces that, like water, can unfold both quickly and slowly.

Crick's early efforts to define water in terms of appropriate human relationships with it showcase his inability to neatly describe and contextualize it, since “when you work with water, you have to know and respect it. When you labor to subdue it, you have to understand that one day it may rise up and turn all your labours to nothing. For what is water, which seeks to make all things level, which has no taste or color of its own, but a liquid form of Nothing?” (13). This description belies the ways in which water's physical presence interrupts, disrupts, and disturbs both the lives of his ancestors and his efforts to tell stories about them. Moreover, it directly contradicts the detailed description Crick had just provided of the ways hydrological principles stymied early modern water management practices, during which he draws repeated attention to water's physical presence and its disruptive impact:

Vermuyden did not foresee that in cutting new courses for the rivers he reduced, not quickened, their flow; since a divided river conducts at any one point a decreased volume of water, and the less water a river conducts the less not only its velocity but also its capacity to scour its channel. The Earl of Bedford's noble waterways gathered mud ... and Vermuyden did not foresee one other thing. That reclaimed land shrinks—as anything must shrink that has the water squeezed out of it ... The Fens are shrinking.

They are still shrinking—and sinking. land which was above sea-level in Vermuyden’s day is now below it. Tens of feet below it. There is no exaggerating the dangers. The invitation to flooding; the diminution of the gradient of the rivers; the pressure on the raised banks; the faster flow of upland water into the deepening lowland basin . . . In the 1690s the Bedford River burst a sixty-foot gap in its banks. In 1713 the Denver Sluice gave way and so great was the silting below it that the water from the Bedford River was forced landwards, upstream, up the old Ouse to Ely, instead of discharging into the sea. Thousands of acres of farmland were submerged. Cottagers waded to their beds (11–12).

Crick’s hydrological knowledge (learned experientially by either Vermuyden or someone thereafter) validates his call to respect water’s capacity to overpower and destroy human efforts to alter environments. All of this, however, can be reconciled with a description of water as capital-N “Nothing” only by turning away from established definitions of nothing as material absence or lack. Water is clearly “something” insofar as it can exert pressure, scour channels, submerge farmlands, and combine with other physical presences like accumulated silt.

But in the same way that the capitalization of “History” distinguishes the study of past events (and the “Grand Narratives” often constructed by that study) from the events themselves, a capitalized “Nothing” suggests a lack of meaning or order that can be situated and described. Crick’s extensive knowledge about water’s flow does not allow him to fully explain its influence on Fenlanders, or to describe it as something that fits neatly into his stories—even his idea of water “making all things level” describes equalizing distributions of energy and pressure across a hydrological system even as it suggests water possesses a philosophy or purpose. Crick sees a historical pattern of water’s repeated defiance of human efforts to contain it, but describes it as existing and operating at least somewhat independently of the historical narrative it disruptively flows through.

Shortly thereafter, Crick highlights the way difficulties in defining water are enhanced by the temporal scales across which it flows. He again emphasizes the hydrological properties governing its physical influence, but now over longer periods of time, since “however much you

resist them, the waters will return; that the land sinks; silt collects; that something in nature wants to go back” (17). Realism; fatalism; phlegm. To live in the Fens is to receive strong doses of reality” (17). Even as “Nothing,” water is an essential component of “reality,” which here seems to comparing human life and effort to the forces exerted by slimy, brackish, mixed waters. Determining the importance of human efforts seems less important here than acknowledging that those efforts are neither unique nor alone. The waters will return, or more accurately, they never really left; they have just been temporarily relocated. A “realistic” view of the world accounts both for trans-corporeal permeability and for total immersion; the environment integrates into the body, and cannot be prevented from doing so. Water is the means by which this reality becomes visible, figured as “strong doses” of environmental medicine that cures humans of the belief they act alone, or that they could “reclaim” their environment either philosophically or hydrologically.

This understanding of reality drives Crick’s belief that humans are “story-telling animals” who need narrative to help make sense of the otherwise unintelligible. In this sense, *Waterland* offers a narrative theory for explaining the inexplicable. At various points throughout the novel, for instance, Crick further defines reality as nothingness and boringness *and* as that which interrupts narrative; something “so strange and unexpected” (Swift 25). In either case, reality in *Waterland* is that which defies narrative, both because it transcends human perception and because it eclipses any individual’s ability to describe it. Crick gestures toward that reality, knowing a gap remains between the stories he tells about the world and the world itself. As Eric Berlatsky argues, “reality is not merely the prospect of mortality, but the realization of one’s own existence outside of a scripted, easily explained Symbolic, a momentary sense of uniqueness and presence not easily explained or transformed into narrative, and which gives the sense of one’s own participation in the world, not merely as an observer” (91). While this definition equates reality with a recognition of individual agency, *Waterland* more broadly situates individual

moments like this into myriad interconnected slow and fast agencies that are explained by, but never contained wholly within, anthropocentric narrative.

Crick's assertion that water, as reality manifested, defines Fenlanders also positions "reality" in opposition to imperial notions of progress. More accurately, water acts as a corrective for the belief that changing the environment is true progress, placing anthropogenic changes back into a timeline that includes a future where they no longer matter. Since much of this "reality" also unfolds more slowly than humans can perceive, or occurs in the absence of human beings, *Waterland* relies on temporal frameworks that are not (strictly speaking) "storyworlds." They move beyond "what it's like" in a world as experienced, turning inaccessible aspects of the other-than-human world into narratives of what it *would be like*, worlds that human beings can then imagine and engage with. As a result, examining water within *Waterland* reveals the aspects of its physical force and influence easiest to overlook from a single contemporary vantage point. Crick's struggles to describe water therefore explain his willingness to anthropomorphize it throughout the novel. Doing so translates it into human scales that can fit into stories in ways that Crick acknowledges water cannot and will not—he pretends to grant water consciousness, narrativizing its purposeless, self-organizing actions so they can be recounted in temporally and spatially specific ways.

Doing so demands a reconsideration of narrative categories to better account for other-than-human presence. In David Herman's effort to define characteristics of "narrative," for instance, he explains that since "*stories* are prototypically concerned with particular situations and events, it can be argued that *explanations* by their nature concern themselves with ways, in general, the world tends to be." (Herman 92, italics mine). With this definition in mind, *Waterland* seems to juxtapose the stories of the Cricks, Atkinsons, Tom, his wife Mary, and Great Britain with explanations of the Ouse, the Leem, and the Fens. At numerous points throughout the novel, however, this distinction blurs as descriptions of the natural world become

temporally and spatially specific, and a narrative about water and its flow emerges. Crick turns the rivers and the waters that flow through (or flood out of) them into the characters around whom these narratives center. This situates the rivers into the inherently anthropocentric frameworks created by narrative, which Herman argues “roots itself in the lived, felt, experience of human or human-like agents interacting in an ongoing way with their cohorts and surrounding environment. To put the same point another way, the less markedly a text or discourse encodes the pressure of events on an experiencing human or at least human-like consciousness, the less amenable that text or discourse will be to interpretation in narrative terms” (Herman 21). The first part of Herman’s definition leaves itself open for blatantly non-human agents like water to become center-pieces of a narrative.

All of this means self-consciously narrative texts like *Waterland* can, through their contradictions and gaps, offer insights about the other-than-human world, as “The highlighting of artifice in postmodern narrative may be read as a revelation of the artifice of our daily lives. At the same time, however, it reminds us of the distinctions between fictional narrative and life experience,” thus highlighting the “‘Here and Now,’ a moment of an encounter with the real that cannot be integrated into an explanatory narrative” (Berlatsky 108). Critically examining the material properties of water within a text cannot provide the same kinds of knowledge or insight that either scientific investigation or phenomenological experience can. It is not supposed to. But in acknowledging the distinction between the two, narrative can draw attention to how “real” the real world can be, putting human agency in direct comparison with its anthropomorphized watery counterpart, making it manifest in literary form, and making the simultaneity of water’s immediate agency and its creeping geologic influence perceptible.

The Fairy Tale of the "Here and Now"

Indeed, water's persistent physical presence in the Fens leads Crick to describe it as the "Here and Now" his students so crave. But in order to reveal how water is a manifestation of "Reality" in contrast to the stories of history, Crick must tell stories about it; distinguishing between what counts as the "Here and Now" and what doesn't further connects the two. Although Crick doesn't seem to realize it, the waters he uses as examples and lessons are more fundamentally shaping the way he understands and sees the world. As he explains, "if you're tired of school and lessons, if you want to be out there, in the real world of today, let me tell you ... *About the Ouse*" (142).²⁹ He presents water as real in a way that his history lessons are not, yet his descriptions of history could just as effectively describe the flow of a Fenland river: "how it repeats itself, how it goes back on itself, no matter how we try to straighten it out. How it twists and turns. How it goes in circles and brings us back to the same place" (142). Crick speaks here about the French Revolution, but in doing so, reflects on the way history defies efforts to give history a clear narrative of progress, a clear trajectory. This connection between the "flow" of history and the flow of a river is what inspires him to present the river as an example of the "reality" of the world. The waters of his childhood are therefore not just a way to help students learn history, but the framework through which Crick understands history in the first place.

In other words, Crick's insistence that water is real even as he treats it in unreal ways indicates its physical presence has a lasting influence on narrative and culture. In order to describe the "Here and Now," for instance, Crick turns it into a geologic fairy tale:

Once upon a time there was a river which flowed into another river which one day men would call the Rhine. But in those days there were no men, no names and no North Sea and no island called Great Britain and the only beings who knew this river which followed into the nameless Rhine were the fishes which swam up and down it and the giant creatures which browsed in its shallows and whose fantastic forms we might never have guessed at were it not for the fact that now and then they lay down to die in

29 This last phrase is actually the title of the subsequent chapter, a trope Swift frequently employs to signal his narrator's transition from one "yarn" to the next.

circumstances that would preserve their fossilized bones and so, millions of years later, became a subject for human inquiry (143).

On one hand, the structure of this description reveals that even the Here and Now has a history, drawing attention to the way natural history is also a narrative construction. There may be a real river that transcends human life, but describing that river means telling a story about it using human language and cultural structures. On the other hand, presenting natural history as a fairy tale emphasizes the river's transcendence of narrative. History is a fairy tale here because the storytellers, the language of the story, and the world human beings recognize are added after the fact as descriptions of what this ancient world is not. The story is self-consciously overlaid onto a world that could not have produced it. Even in conceding that the ancient Ouse was known by ancient fish and dinosaurs, Crick emphasizes that these creatures are known only indirectly, our knowledge of their presence emerging only through a series of historical contingencies. The Ouse is the "Here and Now" because efforts to describe and explain its history are obviously fictitious, so it remains strangely outside the narrative even as it is narrated.

This contradictory narrative structure allows for a description of humans as narrative objects instead of as narrators. When human beings finally arrive in the fairy-tale to perceive the Ouse, they appear as "two-legged intruders who by daring to transmute things into sound were unconsciously forging the phenomenon known as History," which is itself simply a "new-fangled invention" in the eyes of the "river which flowed on, oozed on, just as before." (143). The river can ignore efforts to situate it historically because the history of the river isn't one that human perception or description actually accounts for. But to describe human beings as objects, Crick (as I just did) makes the river the grammatical subject of the fairy-tale and personifies it. Crick explains this shift by arguing that these primitive humans "...very probably thought of the Ouse as a God, a sentient Being)" and thus grants the river a mind capable of viewing humans

“with indifference” (143). Relegating this explanation to a parenthetical, providing no evidence to support it, and never referencing the river’s god-like qualities again make this moment more of a post-hoc justification than an analogy. In contrast to the specific hydrological language that appears elsewhere in the novel, this moment paradoxically humanizes the Ouse to make the least anthropogenically-knowable aspects of its history more accessible.

Using fairy-tale to describe natural history also draws attention to the ways the other-than-human world—because of its sheer scale, interconnectedness, and dynamism—feels unreal or impossible when considered from an individual person’s viewpoint. As Laurence Talairach-Vielmas points out, this use of fairy-tale and the obviously fictional to describe science has a strong precedent in Victorian literature, for

“while natural history was redefining the term 'nature' and permeating culture in the second half of the nineteenth century, a series of motifs borrowed from literary culture helped naturalists form a language that could convey emerging theories about nature ... fairies and fairy-tales alike pointed out new ways of thinking about nature and the natural world” by connecting them “with the search for a language to express a new reality--a modern world which to many Victorians often looked stranger than fiction” (5).

On one level, this fairy-tale exposition by Crick furthers the sense that “*Waterland* offers a formally surfeited and unstable rewrite of nineteenth-century novelistic conventions” as Crick provides a wide-ranging historical analysis of his life and family (Cooper 375). But Crick’s fairy tale adds a recognition of other-than-human agency to the increasing awareness of evolution, geologic time, and human impacts on the environment that emerged from the scientific revolutions of Victorian England, even further de-privileging the role of human impacts on the environment.

This diminishment of human influence does not lead toward environmental determinism, however, since the river appears personified only in resistance to outside (human) forces, not as a being exercising free choice. When the ancient Romans try to regulate and control its flow, the Ouse becomes “sullen and disdainful ... footloose and obstinate”(143–44). Even when the Ouse

appears constrained, the narrative framework of natural history distinguishes those constraints from the ones shaping human history: “The Ouse flows on, unconcerned with ambition, whether local or national ... it flows—oozes—on, as every river must, to the sea” (145). That the river “must” do something reveals it is not omnipotent—it operates within the principles of hydrology, fluid dynamics, and climatology. And so the Ouse’s flow reflects a strange hybridity of conscious choice and adherence to natural law, as when “under license of great floods, the Ouse took it upon itself to flow eastwards up one of its own westward-flowing tributaries ... it abandoned its outfall at Wisbech to the encroachment of silt, and found a new exit at Lynn. Thus the old river became extinct and a new river, a great ragged bow thrown out to the east, was formed.” The passive voice concluding this description makes it clear that the river is the product of processes as opposed to a conscious entity making mindful decisions. Yet the river still seems to have control in ways that human beings do not. For when the Ouse moves or abandons old channels, some people become happy and others upset, but the river still seems to dictate human behavior, including efforts to “manage” it. The Ouse may not “choose” these channels per se, but it still appears to have more control than those who live(d) on its banks. Furthermore, this description of rivers living and dying foregrounds the necessity to consider how something labeled “a river” is an assemblage of its location, the cultural histories emerging from that location, and the waters flowing in that location facilitating those relationships.

Attending to the interactions of these components of a river's flow provides an understanding of hydrological control distinct from conscious defiance, as “without the old Ouse’s perpetual if unhurried unruliness, without its ungovernable desire to flow at its own pace and in its own way, none of those cuts and channels and re-alignments ... which ensnare the the tortuous, reptilian Ouse in a net of minor waterways, would ever have been necessary”

(144). What's being ensnared here is the power of the water to reshape the riverbed and surrounding area. It is, in effect, an effort to make the laws to which the Ouse conforms more helpfully suit human needs. The river dictates human action, but not as a deity does. Just as humans react to the Ouse, the Ouse responds to human efforts to control it. Crick's metaphor of the ensnared snake maintains the sense that the river is both alive and active, but denies it a sense of over-arching purpose. This idea of the Ouse taking on life as a defiance of human efforts appears throughout the novel, as time and again, "they are still trying to straighten out the slithery, wriggly, eel-like Ouse" (15). The river appears alive insofar as it cannot be subdued to human desires.

Of course, framing the Ouse as an ensnared animal requires a time-scale wholly outside human perception. The reclamation projects ensnaring the Ouse take generations, and over such a large area that they cannot be seen in their entirety, so framing the Ouse as a living creature within this fairy-tale makes its flow and movement perceptible to human beings. These scales are fundamental to the river itself, as even saying the river's name aloud "exudes slowness. A sound which suggests the slow, sluggish, forever oozing thing it is. A sound which invokes quiet flux, minimum tempo; cool, impassive, unmoved motion. A sound which will calm even the hot blood racing through your veins" (142). Crick attaches the river's qualities to its name—he reconnects material characteristics with anthropogenic categorization thereof. In this case, though, human efforts to categorize and narrate (which Crick repeatedly highlights as failing to adequately capture "Reality") etymologically link the river, through its name, to the speed at which it flows.³⁰ That connection between name and water allows Crick to explore other unsettling pairings: change that occurs quietly, moving at speeds hard to recognize. And in comparing it to

30 "Ooze, n.1"

the flow of human blood, Crick draws direct contrast between the speed at which human beings move, act, and perceive, and that which the river occupies.

These dramatic contrasts in speed make possible a temporal critique of efforts to harness and control swampy waterways. Crick re-introduces Vermuyden's reclamation efforts as part of this fairy-tale, now framing them in the river's time scale (in contrast to his opening discussion of cultural conflicts over reclamation). In doing so, "we have now moved into a period which even historically speaking is recent and which in the limitless life of a river is but yesterday" even if the river is "in the hands of those local men of ambition so characteristic of this island which as a nation was approaching the peak of its worldwide ambition" (146). Crick juxtaposes what appears to be human control with the historical scale on which the river operates, wherein ideas of human control and ambition seem largely irrelevant. The "men of ambition" in the novel are responsible for the monetary and human costs paid in the name of Britain's imperial expansion, and while Crick himself doesn't seem to recognize his connection to these men throughout the novel, by repeatedly situating individual and national ambitions into the temporal contexts of the Ouse, he undermines the importance of those ambitions.

Considering rivers in time-scales more relevant to them (as opposed to humans) also demands acknowledging that what seems static, fixed, or immutable is actually dynamic, if slow. Applying this recognition to Crick's assertion that history-making is "the desire to make things happen ... History, the fabrication, the diversion, the reality-obscuring drama" means the failures to create coherent, inclusive historical narratives are not, as Crick says, a failure to realize that reality is flatness and nothingness. Rather, they are a misunderstanding of the place of human action in connection with (and in comparison to) the fast and slow forces shaping both humans and their environment. This is not an unstoppable (human) force meeting and immovable

(natural) object, but a confluence of human and other-than-human dynamism into which Man fails to see he is swept up.³¹

For example, because the water cycle moves water from the river into the sea, back into the clouds, and ultimately back into a river again, “that impression that a river moves only one way is an illusion” when considering the river’s flow as one aspect of a larger hydrological system. Furthermore, from the river’s perspective, that “remark ... by Heraclitus of Ephesus, that we cannot step twice into the same river, is not to be trusted. Because we are always stepping into the same river” (146). Over a long enough period of time, the same water will eventually appear in the same location. Moreover, since no meaningful amounts of water are gained or lost through the water cycle, the same water is flowing through all rivers around the world.³² They are *all*, in some sense, the same river. When considered from this perspective, even individual rivers appear to demonstrate Nietzsche’s principle of the “eternal return,” the idea that, as Elizabeth Grosz explains in *The Nick of Time*, “in the infinity of time past and time future, every conceivable combination of matter has already occurred, and will occur again, an infinite number of times” (143). For Grosz, this reframes eternity as “eternal becoming. Eternity is not stillness, the unchanging, the immutable, but endlessly varying difference, difference that ends up exploring every element of phase space, every possible combination, probable and improbable” (143).

This conception of time proves key to understanding *Waterland* because it means natural history need not be—indeed cannot be—interpreted as somehow fixed in relation to the human beings that can act and change. In stark contrast, the “eternity” of natural history and natural

31 Given the above, specifically gendering this failure to see seems appropriate.

32 As Charles Fishman explains, “the creatures that have lived on Earth have easily required a thousand times the amount of liquid fresh water available on the planet. And we only have that one allotment of water—it was delivered here 4.4 billion years ago. No water is being created or destroyed on Earth. So every drop of water that’s here has seen the inside of a cloud, and the inside of a volcano, the inside of a maple leaf, and the inside of a dinosaur kidney, probably many times” (Fishman 17).

laws, the “return” that Crick speaks of throughout the novel, remains forward-looking and dynamic, even as it stymies these notions as they relate to human conceptions of national progress, meaning “the Ouse *flows on*, unconcerned with ambition, whether national or local” (Swift 145, italics mine). Water may flow in cycles, but that structure does not suggest stability, either in immediate or geomorphologic time-scales.

All of this becomes clear when the river becomes a narrative focus, as opposed to a piece of the setting. What matters most is that human beings pay attention to the vastly different temporal and spatial scales that the river occupies. As Crick explains when trying to teach his students that “there can be no success with impunity, no great achievement without accompanying loss,” he makes it clear that balance need not be divine or supernatural, as “even nature teaches us that nothing is given without something being taken away. Consider water, which, however much you coax it, this way and that, will return, at the slightest opportunity, to its former equilibrium” (72). Crick then juxtaposes this tendency to childhood mortality, to the death of his great-great-great-great grandfather, and finally to the futility of his paternal ancestors’ efforts to “reclaim” the fens, for “they know that what water makes, it also unmakes. Nothing moves far in this world, and whatever moves forwards will also move back. A law of the natural world; and a law, too, of the human heart” (73). Water here is not just a reminder of “reality” but a model for understanding it. This is true in direct and obvious ways, as flowing waters shape and re-shape the Fens, demanding the care and attention of Fenland inhabitants. But just as fairy-tales help bring those waters’ hidden (and most improbable) characteristics into focus, so too does the acknowledgment that the Fens are “a fairy-tale land,” mean when their inhabitants hear “that the Colonies had rebelled, that there had been a Waterloo, a Crimea, they

listened and repeated what they heard with wide-eyed awe, as if such things were not the stuff of fact but the fabric of a wondrous tale” (18).

Crick’s description in this moment appears dismissive of Fenlanders treating “the stuff of fact” as fairy-tale, yet the rest of the novel—indeed, Crick’s own description of these historical events and the imperial ambitions that drive them—suggest that they are more like fairy-tales than most of the involved parties and historians want to admit. And just as Fenlanders, by contrast, can see the ways in which “Grand Narratives” of British imperial history are stranger and more unbelievable than the stuff of fairy-tales, they experience the battlefields of World War One in a watery context unavailable to their nationalistically-oriented peers, “see the wide world—which is not a wondrous fable. The Cricks see—but this is only some nightmare, some evil memory they have always had?—that the wide world is sinking, the waters are returning, the wide world is drowning in mud” (19). Telling stories and fairy-tales does not allow for an escape from the hard physical facts of existence, or for ignorance of the very real suffering Men of ambition inflict upon each other in the name of making History. Quite the contrary. Telling stories as the Cricks do offers a way to understand the full scope of the surrounding waters, the way they inundate lands and lives, and the ways pretending otherwise simply ignores the long-term unfolding of both human choices and other-than-human forces.

Brown, Swirling, and Threatful

While Crick attends explicitly to those forces through the long history of Fen Country waters and the more recent history of failed reclamation projects, his descriptions also reveal the emergence of the geomorphological into and within cultural and personal narrative frameworks of the world. Water’s physical presence throughout *Waterland* disrupts both life in the Fens as well as to efforts to describe that life in narrative, and those twin disruptions undermine the

stability of histories that fail to account for either short-term or long-term environmental dynamism.

Discussing the day of his great-Grandmother Sarah Atkinson's funeral, for instance, Crick describes the burial (like many of the novel's historical events), as a fairy-tale that will be "resolved in good old story-book fashion" (Swift 96). Consequently, the heavy rain falling at her funeral is part of the narrative mood because "rain is good for a funeral: it masks human tears and suggests heavenly ones" and thus "rain is a good sign." Yet the rain is falling "not heavily, not torrentially, but with a steadiness, a determination that Fenlanders have come to know cannot be ignored ... they are watching water-levels, fuelling auxiliary pumps, tending sluices and floodgates" (97). Even as rain carries symbolic resonance for those who see Sarah's death as the conclusion of a fairy-tale rainfall brings the symbolic moment to an abrupt close, as "thoughts of divine weeping and so forth are soon put to one side as the flood takes hold" (Swift 97-98). Hydrological knowledge doesn't erase the rich symbolism of water that Crick draws attention to here, but the danger caused by "real" water transforms the storybook ending, as symbolism cannot defy hydrological principles.

The disruptive effects of this water are described in explicitly living and agentic terms: "the Leem has thrown in its forces" with the "brown, swirling, and threatful" Ouse and in doing so, did "show such contempt for its confines" that it reveals how much more powerful the water of the Fens is relative to efforts to constrain it: "the lock-gates have been wrenched loose and the iron sluice-gate, so accustomed to restraining water, has been torn bodily from its supports and flipped like a slate into the current" (Swift 100-01). This is no oozing river. Its power appears direct and overwhelming, tossing the strongest elements of water management infrastructure about carelessly, and simply erasing others. The river appears as a character that takes over story

about Sarah Atkinson and her family. The narrative about water, its flow, and its destruction supersedes human stories as efforts to grant water a symbolic place in an anthropocentric narrative are thwarted by the water itself. Here again, Crick narrates water in order to contrast its narrative to those of human beings, centering water's narrative while pushing human stories to the periphery. Whether the water oozes or gushes, it serves as the "real" anchor in the narrative, even as it is narratively described in the same way a human character would be.

By juxtaposing water's interruptive force with the history of the Atkinson family and Crick's critiques of grand historical narratives, *Waterland* foregrounds the way efforts to create British imperial supremacy relied on a deliberate ignorance of hydrological and environmental dynamism. As Crick describes the initial rise of the Atkinson brewing and shipping empire, he situates it within the rise of British power around the same time, culminating in the construction of the Waterloo Maltings in celebration of the recent British victory. Yet the next year, "rain swells the River Leem which bursts its banks ... and floods six thousand acres of newly ploughed farmland." Though it is a "grievous but sufferable disaster" (73) and does not prevent the rise of either the Atkinson or the British empires, moments like these connect the water's history with that of the country it flows through and the people who live along it, and in so doing, foreshadow the result of all three as Crick presented it in the opening: equilibrium. The British Empire will wane alongside the ambitions of the Atkinson family, while the water uniting them will continue flowing through (and disrupting) life in the Fens, whether or not people pay attention to it.

In this way, water within *Waterland* appears as a hallmark of reality while remaining obviously narrated and entangled with other narratives. As Crick explains, "the waters rise. They wash up rumours and strange reports of many kinds, but they also flow over them again and

sweep them aside. The [Atkinson] brothers will perhaps be grateful (though why should they be grateful?) for these floods which so dominate attention and divert thoughts to practical matters” (103). Even these moments where a narrative falls apart do not signal a failure of narrative more fully. One narrative is simply replaced with another. But in drawing attention to the way that shift occurs because of non-human agents instead of human ones, Crick signals an awareness that even his position as narrator does not shield him from the material effects of the world he tries to frame, simplify, and narrate.

Slow, Sly Silt

Considering water within *Waterland*, however, means confronting its fundamental impurity. This impurity appears especially important over long time-scales as Crick discusses siltation. Silt, and the ways water’s flow is directly and intimately connected to the matter suspended in it, forms the basis for both the geography of the novel and the lessons Crick draws from that geography. Much of the criticism on *Waterland* also ties the novel’s engagement with history to the Fen country specifically and often, as Hutcheon does, to the silt that permeates the novel, because “a more perfect image of postmodern paradox would be hard to find.” For Hutcheon, the process of siltation that Crick describes throughout *Waterland* reveals that “historiography’s causality is only a construct” and that the “reality” of nothing much happening emerges from a close examination of the novel’s setting, where silt moves and circulates but always settles and flattens into equilibrium (55). This reading, however, pays no attention to individual experiences of siltation, or to the idea that the silt in the novel is important because it is silt, not because it stands in for postmodern historical constructionism.

Indeed, Crick pays as much attention to the silt itself as he does the historical lesson it teaches, attending (in ways most scholarly treatments of the novel do not) to the role of the

dynamic physical environment—profoundly muddy/silty/waterlogged in the case of the Fens—as it combines with and enhances the narratives attempting to explain human relationships with it. For as he explains, “the Fens were formed by silt. Silt: a word which when you utter it, letting the air slip thinly between your teeth, invokes a slow, sly, insinuating agency” (Swift 8). As with his description of the Ouse, Crick simultaneously draws attention to the representational quality of his effort, splitting attention between the silt and the word used to describe it. In both cases, saying the word reflects the physical qualities the word represents, and here especially, words are themselves physical even as they stand in for other things. For Crick, the word silt and the act of saying are conduits for understanding the presence and quality of the lively forces shaping the Fens.

Elsewhere, Crick reads silt for the results and history of water’s force that become legible through the silt it carries and leaves behind. Indeed, as hydrologist Luna Leopold explains in *Water, Rivers, and Creeks*, “whenever water is handled, sediment is handled” (59).³³ It is not possible to understand the way fresh water moves and shapes human life over time without considering sediment. As he continues, “it is the sediment load, not the water, that keeps the channel shape constant” (60). Of course, that sediment only maintains the channel *because* it is carried by moving water, and so the water and sediment together act as what Jane Bennett calls assemblages, “living, throbbing confederations that are able to function despite the persistent presence of energies that confound them from within” (23–4). Water and silt function together, but never quite synergistically. Fittingly, Leopold compares a river to a human being to explain how this assemblage interacts with humans themselves: “When human activities change the

33 Leopold is also the son of Aldo Leopold. He wrote *Water, Rivers, and Creeks* in an effort to bring his extensive hydrological knowledge to a broader audience, believing that education “represents one of the ways people can be led to see the large picture of their dependence on the natural environment. The better we understand the workings of the biota and the landscape, the more likely we are to learn to appreciate and value the environment.”

sediment load of streams, the channel adjusts itself to accommodate the change just as a human body adjusts to seasonal changes in weather, to new bacteria, to new diet. When a person moves to a different altitude or climate, or changes the dietary environment, subtle changes in metabolic rate or water loss occur. The river similarly adjusts to changes in sediment load or water discharge” (60). Leopold deftly portrays both human beings and rivers as trans-corporeal assemblages who exert agency on each other.

Of course, the changes Leopold describes occur quite slowly, and Crick (like Leopold) conveys the hydrological principles of this achingly slow process by describing silt and water as watery human beings. Doing so reframes the narrative of “reclaiming” land for human use into an ongoing struggle between competing forces. At the Fens’ border with the sea, for instance, “it is more apt to say that the Wash summons the forces of the North Sea to its aid in a constant bid to recapture its former territory. For the chief fact about the Fens is that they are reclaimed land, land that was once water, and which, even today, is not quite solid” (Swift 8). Water appears alive here, and more importantly, engages in the same process that human beings engage in—reclamation—back in the opposite direction. Instead of rational, organized human forces teleologically bringing order to a chaotic and dangerous zone of mixture, personifying the ocean highlights the fragility of reclamation efforts, which seem fleeting and tenuous in comparison to the forces continuously working to undermine them.

This personification also transforms the conception of a coastline as relatively stable into something more dynamic. Instead of a boundary between land and sea, a living Wash creates a constantly shifting front in a centuries-old battle between two forces. As Cecilia Chen argues, the presence of linear boundaries on maps has more to do with the simplicity of mapping than with the material interactions themselves, since shorelines change, move, and build themselves more

quickly than maps can be produced.³⁴ Chen's point unsettles the idea of a boundary between what counts as land or sea, and through that, what counts as human or non-human agency. In both cases, the focus is not on a pure water or a linear progress, but rather a persistent intermediacy.

Crick uses the natural history of this slow siltation as the foundation for his philosophy of history. As I mentioned above, this is not using water and silt as metaphors; Crick's personal experiences with silt combine with his abstract and culturally-transmitted knowledge about it to help him make sense of the less silty aspects of his life. At first, its inspiration appears indirect, as Crick asks his readers to "consider the equivocal operation of silt. Just as it raises the land, drives back the sea and allows peat to mature, so it impedes the flow of rivers, restricts their outfall, renders the newly formed land constantly liable to flooding and blocks the escape of floodwater." (Swift 9). This equivocal operation covers such long stretches of the Fens' geomorphological history that what appear to be linear processes—water receding, rivers carving courses—are actually parts of a much longer ebb and flow between land and water. Since none of these processes are visible to the human eye, Crick makes them visible by comparing them to faster-acting human processes: "What silt began, man continued. Land reclamation. Drainage" (Swift 9–10). Describing the water-land interface of the fens in terms of early modern land reclamation both makes visible the slow agency of watery silt while undermining the apparent agency of the human land reclaimers whose work, in these protracted time scales, appears temporary and unstable.

Consequently, slow agency offers a temporal dimension to ongoing discussions of infrastructural development. Where David Ekbladh focuses on the "unintended consequences" of "potentially negative political, social, economic, or health effects" and Timothy Mitchell argues

34 Neimanis et al. 284

those unintended consequences result from an oversimplification of the complex (and often other-than-human) forces shaping these projects, *Waterland* reveals how dramatic transformations of watersheds—often pitched as culturally transformative and monetarily lucrative—either fail or create cascades of unintended consequences because the narratives underpinning those projects remain too temporally restricted (Ekbladh 239).³⁵ Even when narratives of development “zoom out” to consider future generations or the historical legacy of the family/business/government responsible for so-called development, they still take for granted the geologic conditions of the Holocene, which are a relatively recent development, geologically speaking.

Considering a longer temporal scale also undermines narratives of reclamation because human reclaimers are not any more successful in permanently tipping the balance in one direction or the other than the rivers and sea: “The Fens are still being reclaimed even to this day. Strictly speaking, they are never reclaimed, only being reclaimed. Without the pumps, the dykes and embankments, without the dredging programs ... and you do not need to remind a Fenman of the effects of heavy inland rainfall, or of the combination of a spring tide and a strong nor’easter” (Swift 9–10). Crick refuses to say directly what will befall the Fens and their residents if these fearful events come to pass, heightening their danger. This swampy section of northern England seems actively dangerous, even in the late 1980s, and even in an era of global industrialization.

Acknowledging water as silty means considering short-term histories, or even the length of human history, as small pieces of the time scales of natural history: “So forget, indeed, your revolutions, your turning-points, your grand metamorphoses of history. Consider, instead, the slow and arduous process, the interminable and ambiguous process - the process of human

35 See Mitchell’s chapter “Para-Sites of Capitalism - Can The Mosquito Speak?” in *Rule of Experts*.

siltation - of land reclamation” (Swift 10). Human action here is framed in terms of non-human agency; land reclamation, like human history, is just a sudden version of the slower natural process. The similarity between these processes both undermines the assumptions underlying narratives of imperial prowess, while re-situating individual human beings into a much longer, larger history of interactions, as “there’s this thing called progress. But it doesn’t progress, it doesn’t go anywhere. Because as progress progresses the world can slip away” (Swift 336). Progress is a narrative unfolding on a human time-scale that oversimplifies and overlooks the material reality of the world itself.

Attending to slow environmental changes does not mean ignoring short-term cultural changes or “progress” across generations. Rather, their focus is too limited, as Crick’s “humble model for progress is the reclamation of land. Which is repeatedly, never-endingly retrieving what is lost. A dogged vigilant business. A dull yet valuable business. A hard, inglorious business. But you shouldn’t go mistaking the reclamation of land for the building of empires” (Swift 336). It’s important to note that Crick sees reclamation as a model as opposed to a metaphor. He suggests that the physical world, even when filtered through narrative, should shape human perception and behavior, as opposed to the other way around. This is a much more explicit version of the historical lesson he made earlier to his class. Humanity, in Crick’s narrative of progress, loses its novelty, becoming slow and mundane. Human progress, it seems, flows more like the Ouse than humans want to admit, and Crick tries to show it. This also means, by extension, that humans can exert the same kind of slow agency that the river does.

As a result, humans and their narratives appear both literally and structurally immersed in the waters of the Fen Country. As he introduces the River Leem and the lock his father operates in the novel’s opening chapter, Crick points out that “flood or no flood, the Leem brought down

its unceasing booty of debris. Willow branches; alder branches; sedge; fencing; crates; old clothes; dead sheep; bottles; potato sacks; straw bales; fruit boxes; fertilizer bags” and finally, “something extraordinary and unprecedented ... a body.” (Swift 4) The discovery of this body serves as the centerpiece of the “mystery” that structures the novel, but the method by which it appears remains mundane. Crick introduces it as a generic piece of “flotsam” that, like everything else that washes down the Leem, “struck the iron-work of the sluice and, tugged by the eddies, continued to knock and scrape against it until morning” before revealing that it is a body, let alone someone he knows (Swift 4). While this structure makes for a dramatic revelation of key information, it also de-privileges the humanity of the body, and focuses more centrally on the river and its processes. Whether for waste, organic detritus, animal carcasses, or human remains, the river’s flow animates other things. Of course, the presence of a human body gives the river’s ability to convey other matter an added layer of power. Even as a relatively still and benign river, the Leem appears capable of drowning out human life. When Crick reveals “the well-known fact, only confirmed by this morning’s discovery, that Freddie Parr could not swim” (Swift 29), the river’s ability to move other things appears tied to its destructive capabilities.

This geomorphological power appears more indifferent than malevolent. For Crick also pulls from the river an ale bottle, one he believes Freddie Parr drained of its contents shortly before he was hit with it and shoved into the river by Crick’s brother Dick. In this moment, the river appears both as accomplice to murder and as witness, providing the evidence of the crime it facilitated. This does not seem to be a matter of fate, or luck, but rather simple expectation: “Dick throws the bottle into the river too. And, like Freddie, the bottle floats downstream...” (Swift 59). In contrast to the guesswork surrounding his own life and the unfolding mystery of Freddie’s death, Crick imagines the river as having, at least from his perspective, a sense of

constancy. It always carries other things; it always keeps flowing. This applies both to calm periods and to raging floods, like those in 1874, during which he notes that “Down the swirling, swelling, slowly relenting Leem come willow branches, alder branches, fencing posts, bottles ...” (Swift 105). This repetition of the novel’s opening description situates the river’s flow historically: it does in 1947 what it did in 1874, and regardless of the year or the power of the flow, the same types of things flow downstream.

Ultimately, this consistent conveyance undermines Crick’s assertion that Reality means “nothing” is happening in the Fens. Instead, it shows how much of reality happens at an unsatisfying pace (10). While narrative theorists like Berlatsky call this “non-narratable,” that only holds true from a wholly anthropocentric narrative perspective. Crick expands this perspective by zooming out in ways that retain anthropogenic narrative structures while focusing on the other-than-human world. And in connecting other-than-human changes to the Fenland environment to the “human siltation” of centralized land reclamation, Crick shows how siltation “makes things happen” in *Waterland*, both as a process human beings have little influence on, and as the model for other processes.

Phlegm

Given the extent to which brackish, unpredictable Fen waters have shaped life and history in East Anglia over thousands of years by mixing with and inundating the land, considering how those same waters render human beings permeable offers Fenlanders (and through Crick, readers) a model for understanding and responding to the intermingled forces of fast- and slow-flowing waters. Crick makes this clear in the novel’s opening chapters, as he explains, “my

ancestors were water people” who “acquire[d] the virtue, if virtue it is, of which the Cricks have always had good supply: Phlegm. A muddy, silty humour” (15). Phlegm, the Hippocratic humor rooted in water, connects the marshy Fens with the watery bodies and temperaments of their inhabitants.³⁶ While humors are traditionally understood as inherent or biological characteristics, Crick figures them as primarily driven by environmental characteristics; Cricks do not possess phlegmatic tendencies, they “acquire” them from the water all around them. The marshland shapes the novel’s characters, affecting both their life choices and the way they narrate them.

This temperament appears both physical and intellectual, both environmentally determined and learned. When explaining the Cricks’ status as permanent “humble servants” to those (like the Atkinsons) with grand political and economic plans, Tom suggests it is both “that old watery phlegm which cooled and made sluggish their spirits” and because “they did not forget, in their muddy labors, their swampy origins; that, however much you resist them, the waters will return; that the land sinks; silt collects; that something in nature wants to go back” (17). Although many aspects of phlegmatic temperament were traditionally attributed to direct ingestion, in *Waterland*, they are “acquired” by working with water, and with “time to sit and ponder” such work day after day (15). The result of all that sitting and pondering is paired with a shift from third-person to second-person, transforming the humorist temperament of Crick’s ancestors into a learned understanding of the world, passed down from generation to generation as part of the community knowledge about the Fenland environment and how to survive in it.

This environmental reading of phlegm shows how living near water transforms water into a way of seeing and understanding both the environment and its inhabitants. All life is waterlogged, but Fenlanders allow watery qualities to shape their sense of personal and

³⁶ The novel also mentions the sanguine (associated with air and blood) humor of Crick’s Atkinson ancestors. The choleric (fire and yellow bile) and melancholic (earth and black bile) humors do not appear prominently.

community identity, using them as a watery lens through which to understand the world.

Consequently, Crick's ancestors recognize that the world is not inert or lifeless, but full of vitality; mixed land and water returning, sinking, collecting, and going back. This calls to mind New Materialist uses of the term "vitality," which Jane Bennett uses to mean "the capacity of things ... 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" (Bennett viii).

Waterland offers a narrative version of New Materialist theory as the Cricks extend this definition by inverting her standard: Bennett suggests matter can go beyond simple resistance to human designs into its own productive capacity, but Crick suggests the water is so vital that *we* cannot even impede *its* productive power.

These insights about water's productive power combine with discussions of its tendencies toward mixture and inundation to suggest that human labors remain muddy and their origins swampy because these heterogeneous, constantly changing mixtures of land and water (and the entangled agencies they entail) are the true state of the world. The Fenlanders' reticence to transform the Fens exemplifies decision-making driven by an awareness of "trans-corporeality," which as Stacy Alaimo explains, demands that "ethical considerations and practices must emerge from a more uncomfortable and perplexing place where the 'human' is already part of an active, often unpredictable, material world," revealing "how an epistemological shift can become an ethical matter; trans-corporeal subjects must also relinquish mastery as they find themselves inextricably a part of the flux and flow of the world that others would presume to master" (*Bodily Natures: Science, Environment, and the Material Self* 17). Those "others" are the Atkinsons, who cannot see what the Cricks can see because they do not live and labor in the swampy waters as the Cricks do. They are "humble champions of Progress" who ignore that

“this natural stuff is always getting the better of the artificial stuff”(Swift 205). Progress implies a structure and an order that trans-corporeal heterogeneity, the phlegm of the world, undermines and inhibits. Importantly, the Atkinsons’ humility suggests that the problems facing narratives of progress are fundamental, not situational. The Atkinsons are not greedy, imperialist businessmen who seek to defraud the Fenlands, but well-intentioned and thoughtful. But these good intentions, combined with environmental ignorance, still lead to severe misreadings and difficulties. This means simply tempering or improving anthropocentric narratives will not address their core failings.

Phlegm itself exemplifies the permeability and interactivity of matter at the heart of trans-corporeality, and which serve as a corrective to narratives of control. In the chapter “About Phlegm,” Crick describes it as “neither liquid nor solid ... benign ... yet disagreeable” (344). Phlegm is a slime, but it is also considered water. Just like the mud and swamps that create it, it remains inherently mixed in both structure and bodily effects. And just like the knowledge of the Fens that accompanies a phlegmatic temperament, phlegm itself “accumulates with experience ... eases yet obstructs; assists yet overwhelms” (344). These descriptions mirror Crick’s descriptions of silt and siltation, further blurring the boundary between the slow, seeping processes outside the body and those inside it. Moreover, it blurs the boundary between environmental effects and the environment itself. Admittedly, Crick’s descriptions of phlegm are only loosely attached to its history as a medical idea, already thoroughly debunked even by the era of Crick’s fictional grandparents. But the novel itself doesn’t treat phlegm as a medical doctrine or myth so much as it uses it as the material proof of the permeable boundaries between the material world and the material beings who occupy it, and the structurally similar principles that govern them both.

In this sense, the “back” that nature “seeks” in Crick’s above description is not teleological reversal of narrative human progress, but a tendency “back toward” the heterogeneity and permeability that govern the trans-corporeal systems of the novel land reclaimers and empire builders attempt to resist. Philosopher Peter Gratton makes similar (if brief) connections between the humors and a trans-corporeal heterogeneity when he remarks that “even the antiquated notion of “humors” within our body showed how we are afflicted by a “nature” within us” (125). For Gratton, “the task, then, has been less to create a ‘new’ materialism than to remind us that the human sovereignty often taken for granted has always been drowned in the shifting waters of material assemblages. This is the politics whose assembly has begun in Bennett’s work” (125). Gratton rightly highlights the way ideas like Bennett’s or Alaimo’s are not new, but simply newly articulated. Indeed, part of what makes the Cricks able to understand the world as they do is their continual inhabitation of the Fens.

Acknowledging the long-standing recognition of these ideas prevents these theories from being a marker of progress or intellectual progress that replaces imperial growth or economic expansion. This becomes clear in the end of the novel, as interpenetration and mixture erases not only efforts to change the environment, but even the stories about it. As Tom’s father Henry Crick dies: “it had flowed back into him once more, reclaimed him. That old Crick phlegm. It had been seeping back, trickling back, ever since she— But now it had repossessed him utterly, extinguishing even that old story-telling flame inside him ... Phlegm flowed back. The glide of the river, the tedium of the tow-path” (342). On a literal level, this is the fulfillment of Crick’s promise in the novel’s opening: the waters have returned to “reclaim” his father, interrupting and silencing a story about his life. At the same time, this moment signifies the way the entanglement of human life and watery agency washes away attempts at human meaning-making precisely

because the water will always outlive both human beings and the stories they tell. The “glide” and “tedium” that overtake him signify the slow, inexorable movement that characterizes Fen water.

Crick adds these qualities of slow, constant flow to his definition of “Natural History. Which doesn’t go anywhere. Which cleaves to itself. Which perpetually travels back to where it came from” (Swift 205). Strangely, Crick’s description still relies linear models of history that his description of lively waters over millions of years undermines. Elizabeth Grosz’s explanations of temporal unfolding, however, reconciles Crick’s claims about natural history and the ways he describes it throughout *Waterland*, as changes occur “not through conformity to a plan, an ideal, or a law, but through processes of differentiation, whose "plan" or direction is only emergent, in the process of being developed" (Grosz 215). As Grosz continues,

these temporal features characterize not only all living beings; they can also be attributed to material systems outside the experimental control of variables under scientific conditions (the weather, large-scale geological shifts, the spread of epidemic infections, etc.). The interpenetration of states, the arbitrary nature of divisions and cuts in natural systems, the fundamentally unpredictable character of change, the fact that change occurs as a kind of internal growth rather than an external upheaval, are as relevant to our understanding of nonorganic natural systems as they are of organic ones (221).

One could include flowing river water in Grosz’s parenthetical; it may be more measurable than the weather (at least in a given moment), but over the lengths of time that Crick and his ancestors consider, the Ouse, Leem, and other waters of the novel function as slowly and continuously emergent. The constant flowing and mixing of the Fens reveal that the material world remains in flux, and can never be fully ordered or explained.

Combining this sense of constant change with Crick’s suggestion that water signifies both “reality” and “nothing” provides a model for the usefulness of narratives. Crick and other Fenlanders receive strong doses of “reality,” the knowledge that everything they know, everything they have built, and everything human beings create is, when considered in relation to

the Fens and the water that flows through them, fragile and momentary. Water is “Nothing” because there is no single narrative, framework, or explanation that can contain and subdue it. Stories—as Crick both states explicitly and shows through his narrative shortcomings—remain culturally-situated, mimetically inaccurate, and unable to offer the kind of immortality and constancy often granted to them in contrast to fleeting individual human lives. That threat of “nothing” has both physical form and material repercussions; one can try and subdue the water, and it will resist. This constant threat of impending nothingness alongside its guaranteed return make water a physical vehicle for abstract reality while de-privileging its physical components. Yet describing all of this, self-consciously and inaccurately, clarifies that water is not a symbol for nothingness, but the opposite: the erosion of one reality—the lives, cultures, and concerns of a present moment—by the emergent unfolding of natural history in which individuals and their narratives remain situated, whether or not they allow themselves to realize it.

Chapter Two: Living, Land-Broken Waters: Spiritual Epistemology in Linda Hogan's *Solar Storms*

As part of his long-standing focus on structures facilitating Indigenous erasure, settler-colonial studies scholar Patrick Wolfe argues “land is settler colonialism’s irreducible essence in ways that go well beyond real estate. Its seizure is not merely a change of ownership but a genesis, the onset of a whole new way of being—for both parties . . . Along with the land, then, come identity, selfhood, family, belonging, all the qualities that make us fight” (Wolfe 1). Wolfe does not mention water directly as he emphasizes connections between land, people, place, and identity in efforts to erase Indigenous life and culture, but he—like many scholars of settler-colonial and Indigenous studies—implicitly includes it in his understanding of “land” as simultaneous geographic space, culturally significant place, and sovereign territory.

Juxtaposing Wolfe with the opening lines of Linda Hogan’s novel *Solar Storms*, however, suggests that settler-colonial studies, Indigenous literary studies, and their ecocritical variants should carefully consider distinctions between land and water in an era of continuing struggles over Indigenous access to—and relationships with—both. *Solar Storms*, I argue, reveals how characters’ relationships with water blur boundaries between the human construction of story, the human bodies transmitting those stories, and the hydrology of environments they inhabit, all in the face of colonial efforts to enforce those boundaries as justification for the so-called development of long-inhabited watersheds. Reading for water in *Solar Storms* thus provides an understanding of setting and character reminiscent of “the entangled territories of material and discursive, natural and cultural, biological and textual” that characterize material ecocritical literary analysis, yet centered on the historical and political conditions underlying conceptions of identity within Indigenous literary studies (Alaimo, *Bodily*

Natures: Science, Environment, and the Material Self 3). *Solar Storms* uses linguistic liquidity to elucidate water's role in ecological systems, Indigenous cultural traditions, and shared physical experiences across thousands of years without ignoring its persistent unpredictability in either immediate and geomorphological time scales.

Combining a focus on cultural erasure and colonial expansion with descriptions of water as simultaneously local, global, immediate, epochal, situated, and trans-cultural reveals an other-than-human vibrancy that both enhances and critiques trends in material ecocritical scholarship by demanding a turn to both “indigenous analytical frameworks” and literature that, as Kim TallBear explains, “never lost sight of the profound influence in the world of beings categorized by Western thinkers so hierarchically as animal, or as inanimate.” Since “theorists seek frameworks for dismantling the hierarchies so long undergirding Western thought, indigenous standpoints that never constructed such hierarchies in quite the same way can and should be at the front edge of this new ethnographic and theoretical work. We can converse with the existing work and we bring additional insights” (5).³⁷ This is one of the strongest critiques of New Materialism: it is not “new” at all, but is influenced by long-standing indigenous epistemologies, yet fails to acknowledge the history or depth of those epistemologies or the cultures from which they emerge.

With that in mind, bringing tribally specific and broadly indigenist conceptions of land, water, and human relationships into conversation with hydrology or New Materialist theory through a text like *Solar Storms* reveals how these frameworks remain at least somewhat situated in the particular place and culture from which they emerge. Just as Hogan balances tribal

37 TallBear responds here to the absence of indigenous theory and scholarship in the work of New Materialist thinkers like Dorion Sagan and Jane Bennett specifically, which she finds especially surprising since these theorists' arguments seem to intersect so fruitfully with both indigenous scholarship like that of Vine Deloria, Jr., and the spiritual and religious traditions of the Sioux (TallBear's own tradition) and other North American tribes.

specificity with transcultural worldviews, this chapter reveals how describing water's agency demands balancing multiple epistemic frameworks for understanding water, each of which emphasizes different aspects of its properties, through different temporal and spatial scales. While New Materialism and material ecocriticism offer a detailed vocabulary to discuss the agency of non-human matter, the storytelling capacity of that matter, and the blurred boundaries between the human and non-human shaping both the production of texts and the characters within them,³⁸ reading *Solar Storms* alongside Anishinaabe and Cree scholarship foregrounds the limits of that vocabulary—and the importance of considering the inherent unpredictability of the other-than-human world—by describing North Country waters as other-than-human persons whose lives unfold in times and across spaces humans can neither inhabit nor fully understand.

Descriptions of water as unpredictably alive in *Solar Storms* reveal the epistemological assumptions accompanying New Materialist descriptions of other-than-human agency. Nigel Clark's *Inhuman Nature*, for instance, asserts the importance of considering non-human agency as more than a mere social or textual construction. Contemporary earth science, Clark argues, showcases the planet's inherent volatility and the relative lack of human control over it, undermining "our primary experience of the earth is as a supportive and sustaining ground — as the resting point from which we register the movement and thingness of all other things" (5). Clark argues that the tectonic movement of the earth's crust and its volatile climatic history thus serve to question if "any approach that rebukes the exteriority or independence of nature, any theorem that restricts globality to an effect of human orchestration really get to grips with the full potentiality of the earth and cosmos—or the extent of human vulnerability to this eventfulness?" (25). In other words, while advances in astronomy and earth science call the philosophical

38 Prominent examples of these theoretical trajectories appear in Coole and Frost (28); Iovino and Oppermann (1–2); and Phillips and Sullivan (446).

concept of “stable ground” into question, they do so in such a way that the physicality of the planet remains apparent amidst the socio-linguistic constructions used to make sense of it.

All of this, however, assumes the phenomenological experiences of stable ground are foundational in the first place. The opening lines of Linda Hogan’s 1995 novel *Solar Storms* undermine the symbolic separation of land and water, as the narrator Angela Jansen (also known as Angel Wing) introduces “the north country, the place where water was broken apart by land, land split open by water” (21). Angel’s insistence that water is “broken apart” emphasizes its cohesion and persistent physical presence; water does not simply fill in around land, or signify its absence, but must pre-exist the land and possess some measure of solidity that land can break apart. Land is no longer the only medium on which human beings build the wide spectrum of bonds Wolfe describes. Instead, land and water persistently disrupt each other, even as each one is described as the foundation of the North Country, its definitive characteristic as a setting.

On one hand, Angel’s statement that intermingled land and water formed a pact shows how both are colonized in a manner that, as Wolfe explains above, erases cultural practices to facilitate political domination. On the other hand, since Angel describes land and water as distinct and mutually disruptive, *Solar Storms* suggests that the dynamism and instability Clark sees in the physical world are philosophically and environmentally essential to understanding the novel’s Indigenous characters. *Solar Storms* shows how inhabiting waterlogged environments reveals epistemologies of liquidity that challenge monolithic conceptions of earth systems and globalized, singularized relationships with water as facilitating larger colonial erasures of cultural difference.

This juxtaposition suggests that water, separate from land, is also an “irreducible essence” of settler colonialism in the North Country, and a key piece of the epistemic framework

that underlies conflicts over identity and environmental exploitation at the heart of the novel. Upon disembarking the ferry at Adam's Rib, for instance, Angel realizes her "legs still held the rocking motions of water. It seemed to move beneath my feet. In every curve and fold of myself, I knew that even land was not stable" (22–23). Figuring land and water as simultaneously foundational and disrupted replaces a stereotypical Indigenous harmony with nature with human/non-human relationships foregrounding uneven, violent mixture—the world is always already "broken" and "split." *Solar Storms* offers a vision, through its watery setting, of what a world *not* premised on a "stable ground" looks like, and how characters' recognition of their world as "broken" and "split" by water defines their daily lives and their avenues of resistance to settler-colonialism.

This combination also reveals the difficulties of using a term like "anthropomorphism" to address subtle distinctions between human and other-than-human manifestations of life and agency that shape personal and cultural identity, even when those agencies are described using traditionally anthropomorphic language. Where the term "anthropomorphism" implies similarity, equivalency, or the addition of non-existent attributes, descriptions of water in *Solar Storms* reveal a power to shape environments that humans can neither possess nor fully comprehend, and an inherent unpredictability demanding careful human attention and response. In other words, the liquidity of language and stories that make up *Solar Storms* are both a reflection of, and a way to understand, the dynamic watery environment.

Much of the existing scholarship on the novel attends to the intersection of conflicting epistemologies and to relationships with surrounding environments, but (like Wolfe) tends to include water within a larger sense of "land." These ideas are key to Indigenous literature more broadly, since, as Simon Ortiz explains, environment cannot be separated from Indigenous

notions of identity: “these lands and waters and all elements of Creation are a part of you, and you are a part of them; you have a reciprocal relationship with them. This belief is expressed time and time again in traditional song, ritual, prayer, and story, and in contemporary writing” meaning Indigenous literature is a means of “simply continuing a tradition” (Ortiz xiv). Even as Ortiz separates land and water, their impact is generalized—the holistic interdependence of person, environment, and culture underlies the production of Indigenous literature. In *Solar Storms*, however, Angel comes to recognize how water more specifically permeates and destabilizes the land she lives on, a realization that re-shapes her understandings of self, culture, and politics; its simultaneous physical, cultural, and geomorphological properties shaping her burgeoning sense of Indigenous identity.

This reading of water and its influence on both environmental and cultural structures recasts colonial expansion and environmental degradation—manifested primarily through the construction of a large hydroelectric dam that floods Angel’s ancestral home—as simultaneous environmental destruction, cultural threat, and epistemological erasure. But just as water provides Angel and her ancestors a model for living in and knowing the world, its dynamic, unpredictable flow provides Angel a model for resistance to colonial erasure by fostering a sense of hope in the face of environmental destruction and cultural loss through its persistent transcendence of human life and defiance of human constraint. Moreover, *Solar Storms* juxtaposes narratives about defiant water with colonial efforts to obscure the properties of water that cannot be physically or economically harnessed. In doing so, the novel figures attention to watery environments—and narratives exploring those environments’ lively qualities—as part of effective resistance to colonial expansion.

Those lively qualities also appear prominently in the way water in *Solar Storms* appears both as a subject of human storytelling and as a storyteller. Thinking of water as “telling stories” is essential because the physical world of *Solar Storms* is imbued with the storytelling capacity that structures and guides the entire novel. By synthesizing water’s storytelling capacity with theories of stories as vehicles of knowledge and action, *Solar Storms* demonstrates how “writing has been a tool of both colonialism and survivance” that “negotiates the tensions between the oral and the graphic, inviting readers and their communities to enliven their own critical impulses in the process” (Teuton xix). Since Angel both “tells stories” through the written novel and “listens” to the stories of the water flowing through and around her, *Solar Storms* shows how specific experiences, and the stories about them, are key to understanding the way humans define themselves in relation to the water they both need and fear, even as individual stories are part of a larger body of stories revealing cultural, spiritual, and geologic histories that remain fundamentally important to the lived experiences of contemporary storytellers. In showcasing these overlapping understandings of water, the novel reveals the tension between the personally experienced, the culturally transmitted, and in the case of twentieth-century water resource policies, the nationally harnessed and managed.

Return, Resistance, and Renewal

That tension emerges through the structure and plot of the novel. Published in 1995, *Solar Storms* presents a fictionalized version of Indigenous protests against the Québec Hydropower projects in the James Bay region through the past-tense first-person narration of seventeen year-old protagonist Angel Wing. The early chapters deal with Angel’s return to “Adam’s Rib,” the Anishinaabe village where she was born, and from which she was removed after her mother abused her. Once there, Angel begins to learn about her family history and their

cultural traditions. The middle portion follows Angel, her great-Grandmother Agnes, her great-great-Grandmother Dora-Rouge, and her grandfather's ex-wife Bush as they travel by by canoe into northern Québec to Dora-Rogue's birthplace at "Two-Town." The final section of the book follows the women as they witness the dramatic effects of the James Bay Hydroelectric Project on the rivers, lakes, and inhabitants of the region, and join the local resistance to the project, though they fail to prevent the construction of major dams and the flooding of Adam's Rib. These narrative arcs overlap as Angel tells the story of connections she gradually established with her native heritage, land, and water as they were slowly and inexorably transformed and destroyed by the damming of rivers and the development that accompanied it. The novel thus reads as a story told by Angel to the readers with multiple narrative frames; as Angel recounts this central narrative, she also retells and reflects on stories she has heard from her relatives.

These overlapping stories weave the novel's accounts of culture and environment together. Almost all the criticism on the novel offers a version of the argument that *Solar Storms* shows "the landscape in its indispensable connection to the human beings inhabiting it" such that "the interaction between human and nonhuman nature, as well as the disruption thereof, has an undeniable influence on a person's sense of self" (Schultermandl 67). Through this connection, most scholarship also examines issues of identity as they relate to legacies of colonialism, development, and efforts for Indigenous self-determination, suggesting that "only when Angel asserts control over her identity is she able to undo some of the damaging effects of colonization" (Blend 76). My reading of the novel does not contradict this critical consensus, but rather attempts to highlight the complex role of water specifically as a means for Angel to narrate it effectively.

In doing so, I also reflect on the ways this scholarship necessarily instrumentalizes the text and its characters. This is particularly relevant to *Solar Storms* because the novel itself focuses on tribes of which Hogan is not a member; indeed, all her novels to date have been accounts of historical events befalling non-Chickasaw cultures (in this case, Anishinaabe and James Bay Cree).³⁹ Hogan explains her fictionalization as part of a desire to tell stories about an Indigenous way of knowing the environment, but as she explains, “I’m sensitive to how it feels to be a tribal person and to have the intrusions of others into your intimate connection with your own tribe and land, even if it’s a more pan-Indian native view. So one of the things that I have been doing is fictionalizing the tribes that I’m writing about so nobody feels they’re being invaded once again” (qtd. in Cook 43). In spite of this care not to specifically mention these cultures, Hogan’s careful descriptions of historical events near James Bay and her attention to the accuracy of traditional stories such as that of the *windigo* indicate that she certainly represents them in practice, if not in name.

That said, the novel’s structure and characters indicate Hogan’s awareness of her own limits as an author who does not live the traditions she writes about. The descriptions of Bush as a part-Chickasaw woman who remains a spiritual outsider metafictionally calls attention to her own authorial position. Acknowledging those limits also casts the intermingling of different knowledges and traditions as the reality of contemporary Indigenous life, moving beyond notions

39 While Hogan has not faced specific criticism for doing so in this case, writing about histories, ceremonies, events, and traditions outside of one’s specific tribal background remains contentious among indigenous authors and scholars, especially when such writing seems to articulate a pan-Indian sensibility. Craig Womack (in *Red on Red*) and Elizabeth Cook-Lynn (in *Why I Can’t Read Wallace Stegner*) both articulate the connection between tribal self-description and sovereignty. That connection also underlies critiques of the pan-tribal nationalism in Leslie Marmon Silko’s *Almanac of the Dead* by Cook-Lynn, Paula Gunn Allen, and others. Those critiques, Ernest Stromberg argues, could also apply to Hogan’s work, in part because “representations, whether in images or words, are ways of knowing; and what we know or think we know about an object or people informs how we treat it or them” (98). This connection between representation and action is an underlying justification for the continued importance of contemporary literary and cultural studies, and in this particular case, it suggests that Hogan, in “representing” a tribe whose insider knowledge she lacks, may negatively mis-represent that tribe, its beliefs, and traditions, all while impeding those tribes’ abilities to assert their own sovereignty via literary and cultural self-representation.

of cultural homogeneity or exclusivity in such a way that Bush appears *both* valuable and distant because of her perspective: “She was an outsider. Maybe she was wise, and maybe she knew how fear worked, but there were ancient animosities she didn’t know in that place, old memories and rage” (Hogan 324). Hogan seems to acknowledge, through Bush, the way her own observations of the James Bay Cree occurs from a distance. As a non-Indigenous scholar who therefore views both Hogan’s novel and the cultures it fictionalizes from a distance, I feel compelled to point out, as Hogan does, the complex flux at the heart of the cultures and epistemologies within *Solar Storms*, as well as my own inability to either adequately represent or encapsulate those cultures in their fullness through my scholarship.

The bodies of scholarship on gender and indigeneity in *Solar Storms* reflect this complex flux. On one hand, since the population of Adam’s Rib is historically female, and since Angel returns to find only her matrilineal ancestors, the novel is often read as an ecofeminist revision of a coming-of-age or “homing narrative.”⁴⁰ As Angel’s efforts to re-connect with her absent mother, Hannah, lead to her discovery of the physical and sexual abuse her mother and ancestors faced, the intersectional violence of colonial expansion and environmental exploitation as experienced by Indigenous women permeates *Solar Storms*. Internalized experiences of physical and sexual abuse are central to Angel’s struggle and growth, as is her realization that she shares those experiences with her mother and ancestors both literally and as an inherited intergenerational trauma.

On the other hand, this body of criticism is often critiqued for essentializing gender and understating the role of Indigenous identity. As Christa Grewe-Volpp argues, “women *and* men demonstrate a close relationship to nature because of their insight into their own material

40 A term coined by William Bevis in his 1987 essay “Native American Novels: Homing In,” which describes the journey of an Indian who has been away from her tribe and traditions returns to discover or re-discover them, and, in doing so, undergoes personal growth and healing.

embeddedness as well as their socialization in an indigenous tribe with its emphasis on kinship and interdependence, not because of notions of naturalized gendered attitudes” (280). This articulation still allows for the idea that women within *Solar Storms* have a unique experience of environment because of their gender and the gendered violence they experience, while highlighting the synergistic combination of personal experience, cultural history, and repeated practice that underlies epistemological frameworks throughout the novel.

As I mentioned above, this portrayal of Indigenous identity demonstrates the difficulty of representing culture in narrative, both fulfilling and undermining stereotypes about Indigenous environmental attitudes. Grewe-Volpp, for instance, argues that *Solar Storms* deploys a version of the “Ecological Indian” trope, which is often (as in this case) self-applied by Indigenous peoples as a means of self-definition and resistance to forces of cultural erasure and outside development.⁴¹ Doing so reveals Indigenous ways of life that break down dualisms and hierarchies, subverting and countering representations of Indians as exemplifying the natural side of a Cartesian binary opposing the culture or civilization of outsiders.⁴² This, however, still relies on a binary view of the ideal human/non-human relationship common in much of the scholarship on *Solar Storms*: the novel “describes Angel’s re-initiation into an older knowledge of a world where human and nonhuman nature are connected in a harmonic balance” (Schultermandl 70). While I agree that the novel highlights key cultural differences in human relationships with the environment, this focus on the novel’s disruption of western/Indigenous or male/female binaries often ignores internal variability within the North Country environment, or presumes that

41 The term “ecological Indian” was coined by Shepard Krech to describe native characters within literature who stereotypically understand and appreciate the life of all things, often deployed as a critique of the dominant civilization’s perceived destruction of the non-human world

42 Grewe-Volpp 270, 272

colonial expansion disrupts otherwise harmonious relationships between Indigenous inhabitants and their surroundings.

This chapter further argues that the relationships between humans and their environment within *Solar Storms* are not at all harmonious. Examining water within *Solar Storms* reveals a set of long-standing relationships between humans and non-humans that are fragile, unstable, and fraught with danger. The intersectional violence enacted on non-human nature, Indigenous populations, and Indigenous women proves especially damaging because it disrupts an already tenuous network of relationships. Since much of the scholarship surrounding *Solar Storms* challenges clear binaries between western/indigenous and male/female identities, I argue that exploring the novel's careful attention to water foregrounds the blurred boundaries and dynamism at the heart of human relationships with environments, supporting and enhancing existing scholarship on the novel's intersectional explorations of gender, Indigenous identity, and colonial violence.

The few existing readings of water within *Solar Storms*, by contrast, treat it as a validation of characters' political philosophies. Julie Sze, for instance, describes water "as a metaphor for border environmental and justice issues and their gendered dimensions in North America ... because of the unique properties of water and environmental pollution to cross boundaries. In crossing political boundaries, water symbolizes the contested politics and the geographic and cultural spaces between nations and communities that hold unequal power" (476). Although Sze rightly points out the way water defies political boundaries (though it frequently defines them, as well), her assertion that water's presence illustrates a political point ignores the degree to which its unpredictability and liveliness are foundational to the spirituality and epistemology of the novel's characters; water shapes both personal encounters and the

cultural knowledge of those encounters passed on through storytelling. More often than not, water in *Solar Storms* represents water itself. Obviously, water has metaphorical value in the novel, especially as Angel compares herself to water throughout her story. But in those more obviously metaphorical or symbolic moments, I argue Angel is modeling herself and her self-identity after the watery world around her, as opposed to using the environment to confirm her existing self-concepts.

Distinguishing between taking inspiration from the environment and using the environment to validate human choices is especially important, as some scholarship on *Solar Storms* treats water in the novel as validating Indigenous action. Catherine Rainwater, for instance, argues that the “resistant force of water in *Solar Storms* becomes a trope for the persistent efforts of Native peoples to change the world” as the omnipresence of water, its persistent flow, freezing, and thawing in a place where political activism and non-violent resistance takes place “signals the power of Native people to affect the world through words. Angela's reconceptualization of self in water tropes and her subsequent communal, political actions align the powers of tribal people with the powers of nature to restore a healthy environment, despite the interference of white people living in disharmony with the earth” (Rainwater 100, 102). While Rainwater's reading exemplifies the value of centering Indigenous perspectives, drawing attention to water's lively qualities and to connections between language, epistemology, spirituality, and environmental conditions, her suggestion that “organized action ... even more significantly, seems reinforced by Nature itself” positions the other-than-human as peripheral to (and in support of) primary human action (Rainwater 102). Treating water as synecdochical for the non-human world overlooks how the novel's characters describe water's physical and symbolic defiance of human interests. Expanding Rainwater's insights to consider

this defiance, however, suggests that water inspires and shapes Indigenous politics more than it validates or reinforces them. In *Solar Storms*, water appears as a physical presence to be learned from and learned about, fostering entangled material/cultural relationships underlying Angel's desire to listen to stories water tells, while simultaneously sharing its impact on Indigenous life and culture.

With those stories in mind, I use Hogan's self-conscious distance (and the value she draws from it) as a model for my own position as a scholar. From the distance she maintains as a result of her heritage, Hogan uses fiction to remind readers that these tribes are not historical relics or symbols of a dark history, but still extant, often struggling, and in a constant process of re-defining themselves in relation to their past traditions and to the settlers with whom they are forced to live. From my own position, I hope to allow Hogan's work to continue fulfilling this purpose, highlighting the ways Hogan's descriptions of water deepen larger conversations about life and agency occurring both within Indigenous cultural studies specifically and within literary and cultural studies more broadly. Much as Hogan concludes her novel with the possibility of further growth, change, and self-determination by the native peoples she writes about, I hope my scholarship reflects the tension between tribally-specific sovereignty and Indigenist sentiments of disenfranchisement and resistance that demand continuing scholarship, dialogue, and consideration of Indigenous authors who might otherwise go ignored, while calling attention to the complexities inherent in the intersections of Indigenous traditions, western literary forms, and North American academic scholarship.

"And all of it was storied land..."

The idea that water cannot be wholly restrained by development nor wholly encapsulated by cultural forms reveals the fundamental challenge *Solar Storms* faces as a textual version of an

oral recounting of water. But Angel's efforts to "sensitively interpret" the water without hoping to fully understand it or control it expands the definition of what counts as a story while emphasizing the role of "water stories" in developing relationships with water that more fully account for its agency and importance to human life. As Angel shows, this is as much about "listening" to the water as it is about how to translate what is heard.

Thinking of water as "telling stories" helps explain the world within *Solar Storms* because, as the quote above indicates, the physical world is imbued with the kind of story-telling capacity that structures and guides the entire novel. The novel's prologue highlights the physicality of these stories and the role they play in passing on entangled environmental and cultural knowledge. Angel reflects on an account of her removal from Adam's Rib as a toddler, figuring storytelling as a conduit for histories and connections that have been taken away, while suggesting that stories transcend the temporality of the events they describe: "Sometimes now I hear the voice of my great-grandmother, Agnes. It floats toward me like a soft breeze through an open window" (Hogan 11). Agnes (as readers will discover in the middle of the novel) is already dead, so this opening detaches the voice of the storyteller from the person telling the story, associating it instead with the environment. Separated from its utterer through the passive voice, and appearing atemporally in the present tense, Agnes's voice is more like the weather than a memory: sensually experienced and ephemeral, as opposed to a mental reconstruction of previous times and places.

The novel's closing paragraphs mirror its opening exposition, as "even now the voice of Agnes floats toward me. I hear her say, 'Once the whole world was covered in water.' I hear her sing, stepping out of the fog the way she did when I first saw her" (350). For Angel, this is more than memory; Agnes and her voice remain physically present, just as Angel explains that

“sometimes Dora-Rouge touches me. It’s her, I know ... there are times I would think her hand was the wind, but in another brush of her hand, I hear her say that a human is alive water, that creation is not yet over” (350). Dora-Rouge’s presence is (like Agnes’s voice) environmental: her touch can be mistaken for wind, while her voice figures human beings as materially comprised of and continuing the formative processes of the waters from her ancestors’ creation stories. This environmental persistence of Angel’s ancestors highlights the importance of intergenerational storytelling and the ecological impacts of cultural knowledge. Agnes and Dora-Rouge remain present because Angel carries on her family’s storytelling tradition, integrating stories she received into the new stories she seeks out and passes on. Furthermore, equating their presence with “environment” foregrounds how storytelling transforms personal memories into collectively experienced knowledge at the heart of intergenerational environmental relationships and traditions.

That collectively-experienced knowledge and its long environmental history refigures individual human bodies as the products of both environments and the human relationships with them. As Angel explains, “if you listen at the walls of one human being ... you will hear the drumming. Inside ourselves we are not yet upright walkers. We are tree. We are frog in amber. Maybe earth itself is just now starting to form ... I turned to Bush and I said, ‘Something wonderful lives inside me.’ She looked at me. ‘Yes,’ she said. ‘The early people know this, that’s why they painted animals on the inside of caves” (351). The “drumming” of human life is a living residue of the origins of the non-human world and its creation. By explaining early art as an effort to render the fundamental interconnection between humans and their environments, *Solar Storms* blurs the boundaries between the “human construction” of story, the human bodies

who transmit those stories, and the environments they inhabit. Anishinaabe scholar Kimberly Blaeser argues this type of boundary blurring is common in Indigenous traditions because

Native people understand that the landscape itself is storied, that it is peopled with our past and the imprints of the spiritual. The natural and what is often called the supernatural are understood as being woven together in the essence of place, both realms a natural part of our experience. And this weaving is explored in story. Indian people don't really instruct their children, they story them—that is, not only tell them stories, but encourage them to hear and see the stories of the world around them, admonish them to remember the stories, and encourage them to create or discover their own stories (101).

This understanding of “storied landscapes” connects the physical and cultural residues of storytelling without flattening the distinctions between them—Dora Rouge feels like the wind, but is not the wind; if human beings in *Solar Storms* are “alive water,” water is alive in a different sense than humans are. But in spite of those distinctions, individual bodies and stories carry with them the residue of times, places, and people far beyond themselves, a residue that materially and intellectually forms and re-forms human beings and their environments in the way Blaeser describes. Understanding either human beings or the environments they inhabit means paying attention to, and creating, meaningful stories about them.

Story-telling also explains the blurring of boundaries between life and agency within the novel. As Angel canoes with her foremothers, she realizes that they cannot return to Adam’s Rib, both because the water behind them has likely changed from damming, and because “everything had changed. We’d gone too far to turn back. Not too far in distance alone, but too far inside ourselves. No longer were we the women who left Adam’s Rib ... now our arms were strong and we were articulate in the languages of land, water, animal, even in the harder languages of one another. I’d entered waters and swamps, and been changed by them” (Hogan 193). The longer Angel and her family spend surrounded by North Country water, the more they learn from it and the more it changes them. Framing this knowledge as “language” does not equate the rushing

sounds of water or the noises of animals with the language Angel uses to tell her story, but rather highlights the way the environment (including the people in it) can be “read” for patterns of understanding and knowledge. Attempting to understand the “language” of the surrounding environment leads both to information about it and personal transformation resulting from that new information.

Consequently, Angel frames her own work as bringing these (and other) ways of knowing into the realm of what typically counts as story, revealing and filling in gaps in colonial story-telling, expanding what counts as a story worth telling. By blending the characteristics of individuals, stories, traditions, and environments together through the shared language she uses to describe them, Angel expands the circle of responsibility of care, attention, and humility to more of the other-than-human world. Presenting *Solar Storms* as a story also highlights the role of the human perspective in prioritizing and relaying this experience of existing interdependently with the non-human world, while arguing for the role stories play in re-creating that world anew.

These Land-Broken Waters

These stories present a world full of other-than-human life that extends beyond non-human or inanimate objects to the literal and philosophical ground on which the characters and tribes in the novel build their homes and traditions. Where Nigel Clark describes the “primary experience of the earth” for modern Western cultures as “supportive and sustaining,” the culture and people of the North Country are built on their sense of land-broken waters, and the physical differences between stable ground and mixed ground form the heart of the tension between the outside, dominant culture and that of the people at Adam’s Rib (5). It manifests both in the way characters describe the setting of the novel through the disruptive action water and land enact on each other, and in the way “this place of divided waters and land” therefore demands concepts of

culture and identity that, because of the persistent intermixing of land and water, are not reliant on “stability” more generally (Hogan 200).

Solar Storms takes place in a world of permeable environmental, temporal, and material boundaries. As Angel travels through areas recently flooded by damming, she explains that “I was awake in time that was measured from before axes, before traps, flint, and carpenter’s nails. It was this gap in time we entered, and it was a place between worlds ... everything merged and united. There were no sharp distinctions left between darkness and light. Water and air became the same thing, as did water and land in the marshy broth of creation” (177). This is both philosophical and material, as water literally permeates the air and the land. It blurs the boundaries of things considered separate, as in a rainstorm, when Angel notices “it seemed there was no difference between the water below us and the water above” (178). Even water that has risen “unnaturally” because of damming maintains this unity of form, as Angel, swimming near some cave paintings, notes that “through water, the flooded land looked perfectly normal, except that grasses swayed with the currents and not with the wind. A trail was still visible between the drowning trees” (179). The structural similarity across each of water’s different forms (rain, cloud, mist, lake) combines with Angel’s realization that even before the rivers had been dammed, water had already been surrounding her; damming has simply made it more obvious.

This moment also reflects a broader pattern: Angel’s descriptions of setting and characters blur the boundaries between the two. When Angel and her family arrive at Holy String Town (Dora-Rouge’s ancestral home and the site of the novel’s dam protests), Angel momentarily stops recounting the women’s journey and consequent personal awakenings to describe the surrounding environment in detail. In calling it “a raw and scarred place, a land that had learned to survive, even to thrive, on harshness,” Angel calls to mind descriptions of her own

scarred face and brutal childhood in the American foster-care system, expressing her “sympathy with this ragtag world of seemingly desolate places and villages” (224). This association between an individual and an environment reveals how

they are one and the same essential matter of Existence. They cannot be separated and delineated into singular entities. If anything is most vital, essential, and absolutely important in Native cultural philosophy, it is this concept of interdependence: the fact that without land there is no life, and without a responsible social and cultural outlook by humans, no life-sustaining land is possible (Ortiz xii).

For land to be “life-sustaining,” though, it requires water, and thus *Solar Storms* shows how the interdependence Ortiz identifies between people and land only holds if “land” includes the water flowing over and through it. Angel emphasizes this expansive definition of land when she describes how

water ran across all the earth’s surfaces in every way it could, in rivulets and bogs, ponds and streams, all of it on its way to a river where it would roar away to another America or to empty into a bay. I understood this water to be the source, the origin of all the land. I saw the land in its fullness, even the trees that had been twisted by wind and dwarfed in poor soil. Everything had been strengthened by desperate and hungry needs, and by the tracts of running water” (Hogan 224).

Angel ties water’s motion, its “running” and “roaring” through land, or its seeping into it in rivulets and bogs, to its creative properties—water is “the origin of all the land” because it transports sediments and shapes land via erosion. Moreover, those creative properties remain ambiguous: it is unclear whether water strengthens “everything” by inspiring creative responses to its destabilizing force, or if water strengthens by transporting nutrients and hydrating plants that stabilize soil.

As Chippewa scholar Melissa Nelson explains, ambiguity is at the heart of many North American Indigenous cultures’ understandings of water, especially as exemplified by the mythical creature Mishipeshu, the underwater panther. Mishipeshu is “so powerful that his authority can be used for malevolence or compassion . . . his power is ambivalent, indeterminate;

therefore Ojibwe must constantly be wary and cautious and make proper offerings for safety and long-term balance” (221–22). Since ambiguity emerges from the imbalance of power between humans and Mishipeshu, it necessitates forming relationships with surrounding waters and other inhabitants. Angel connects “seeing the land in its fullness” explicitly to those relationships, explaining that “like me, it was native land and it had survived” (Hogan 224). In this moment, Angel links human and environmental resilience in spite of settler colonialism, foregrounding the continuing influence of the other-than-human world on cultural identity. Even as Angel casts the movement and creative flow of water as fundamentally different from her own human agencies, water creates and shapes the land by flowing over it, shaping Angel, her ancestors, and the story she tells.

Because the combination of embodied experience and cultural tradition from which it emerges is inaccessible to outsiders, this blended relationship with environment is often passed off as either cultural difference or mere superstition. As Angel explains, “my life, before Adam’s Rib, had been limited in ways I hadn’t even known. I’d never have thought there might be people who found their ways by dreaming. What was real in these land-broken waters, real even to me, were things others might call the superstitions of primitive people” (189). Moments like these throughout *Solar Storms* demonstrate that cultural difference, while predicated on social constructions, gains much of its influence from the material and physical conditions that foster it. Stories like Angel’s are thus essential for ecological survival, social cohesion, cultural identity, and cosmology: “what are often called ‘myths’ are very old stories that have been passed on intergenerationally and are based on careful observation of natural cycles . . . they contain sophisticated abstract knowledges about space, time, cosmology, cosmogony, medicine, and emotional, artistic, and spiritual states of consciousness” (Nelson 217, 219). Angel’s efforts to

connect the story of surrounding waters to her own story and those of her foremothers help her better understand their combined physical and cultural impacts.

Lakes and Rivers and Things With Teeth

The depth of this entanglement demands a reconsideration of anthropomorphism, which Grewe-Volpp describes “as a—paradoxical—effort to realize and appreciate nature's very own laws. The protagonists do not project their own feelings into a realm understood as fundamentally different from themselves. On the contrary, they try to articulate the close relationship of human and nonhuman realms with the aid of human attributes” (277). While this is generally true, anthropomorphic descriptions of water as both alive and other-than-human showcase how different water’s liveliness can be from that of human or animal life. Furthermore, Grewe-Volpp’s suggestion that anthropomorphism is an effort “to see the natural environment, living and nonliving, as being on equal terms with humans, without ignoring its fundamental difference” still dramatically *overstates* human power and influence in networks of human/non-human relationships like those that permeate *Solar Storms* (278). Angel uses anthropomorphism to explain the flow of water through and around her, but in a way that foregrounds the magnitude and scope of its non-human agency, even (perhaps especially) in contrast to large-scale development projects designed to contain and control it.

Even before Angel encounters those development projects, she connects her emerging identity to the magnitude and scope of water’s life. The first autumn rainstorm Angel experiences at Adam’s Rib “had the force of a sea behind it,” while “the sound of water lashing down filled me with such a longing, an ache in my chest I could not yet fathom” which she paradoxically inverts: “I lived inside water. There was no separation between us. I knew in a moment what water was. It was what had been snow. It had passed through old forests, now

gone. It was the sweetness of milk and corn and it had journeyed through human lives. It was blood spilled on the ground. Some of it was the blood of my ancestors” (Hogan 78). Water shapes Angel’s individual identity precisely *because* it has such wide geographical coverage and persistent transcorporeal importance in human life. Her connection to water emerges from its flow through and around her as a piece of its own long-unfolding history. It surrounds Angel and passes through her body in the form of food. Since that water was once snow, and moves with the force of the sea, this moment further situates Angel’s personal experience of a storm in the global water cycle, connecting the specific to the systemic.

This description also highlights structural connections between cultural and physical systems, as Angel transforms clichéd distinctions between blood and water by connecting them to histories of violence generally and of colonial violence more specifically. If the people of the North Country know themselves through the waters surrounding and permeating them, the suffering and oppression those cultures face has simultaneous cultural and environmental registers. Understanding this full range of connections makes visible “this older world that was lost to me, this world only my body remembered. In that moment I understood I was part of the same equation as birds and rain” (79). This way of being and knowing is rooted in particular cultures and places, but connected by flowing water to times and places well beyond the North Country by stories that describe the physical, personal, communal, and systemic dimensions of water, all reflexively acknowledged by Angel as narrator.

Those overlapping qualities are always present, and become obvious when paying attention to water’s flow. Just after arriving from their canoe journey to Two-Town, Angel thinks of the hot shower as “heavenly” not just because she has gone so long without one, but because “it was the many hands of touching gods. It had traveled rivers. It had been to places we had

been. It came down like manna” (217). Shower water is heavenly in the sense that it is fundamentally the same as the water she traveled over, the water that sustains her and provides life. But while God provided manna for the Israelites, this “manna” is a direct interaction with the hands of gods themselves; not a hierarchical gift from above, but a transcendence of boundaries between the earthly and the godly. While Angel does not mention hydrology, it enhances her understanding—considering the global history of the water cycle, it is likely that some of the water she showers with has flowed through the places they’ve just canoed, either recently, or over millennia.

Attending to water’s combined immediacy and omnipresence transforms Angel’s way of knowing the world (and consequently, her place in it) so drastically that “it was as if there had been no years in school learning numbers, no fights, no families who wouldn’t keep me ... none of it mattered now, not the lives on Adam’s Rib or Fur Island, not even the future. What mattered, simply and powerfully, was knowing the current of water and living in the body where land spoke what a woman must do to survive” (204). This immersion erases both her native and non-native pasts. Living consciously with water—instead of harnessing it or ignoring it—dominates the senses and overwhelms the mind, as survival and direct sensory knowledge lead to epistemological transformation.

That transformation is inherently connected to the danger of moving across or near water, as Angel explains, dreaming of herself

Floating. I looked down from above and had no sense of what world was there except that it was alive, immense, and it took us in. For great distances ahead of me was the shining water. But a kind of sorrow stood by the bed ... somehow I knew I would lose a part of myself on this journey, as if, when we cast off into water, I would step outside my skin. It was a kind of dying. And I was afraid. Before then I’d feared that night and sleep could swallow me, that I would drown inside darkness, but now my fears grew to contain lakes and rivers and things with teeth” (159).

Before Angel lives with, near, and on water, it is a metaphor for her psychological fear—she can “drown” only in sleep. The journey to discover her personal and cultural heritage begins to assuage those fears, making her new (as she describes it after the fact), and making her fears of water more immediate and physical—she must reckon with it more directly, repeatedly facing a physical danger that destroys her former identity even as she survives. Describing that danger through reflective storytelling figures that loss as a resurrection:

The world of water, in truth, had claimed [Bush] the way it did with people, the way it would one day claim me, although nothing (on that first day) could have convinced me of this. I was afraid of water. I couldn't even swim. But still, something inside me began to wake up right then and there. It was only a felt thing ... I sensed already that the land on Fur Island, the water, would pull a person in, steal from them, change them, that it would spit them up transformed, like Jonah from the belly of the whale (67).

By emphasizing her past fear and lack of vision, Angel emphasizes the importance of her actions and experiences in helping her grow and change. But since it is water claiming, as opposed to people, Angel remains passive in her own transformation; if “something inside” Angel wakes up, that “something” has more agency than Angel, even as she embodies the transformation. And since water “would pull,” “steal” and “change” people, it implies that water itself is the agent that “claims” people for the “world of water;” it defines the parameters of the world and the experience of being in it, its “claim” a holistic awakening to its enveloping, permeating liveliness.

This awakening, as something “felt,” further undermines notions of clarity and purity. When Angel first arrives at Bush’s home on Fur Island, she notes that Bush “seemed rooted where she stood, at the boundary between land and water ... what had been covered by water not long before was now mud. Bush stood barefoot in that dark, newly exposed clay, as if she’d just been created by one of the gods who made us out of earth ... she wore a light green dress, the color of water ... the lake’s reflected light and the moving shadows shimmered across her. She

was, in the first moment of my seeing her, equal parts light and water” (67). Bush is rooted in a muddy area created by the constantly rising and receding waters of the lake, indicating the depth of cultural attachment Angel’s family feels to this place, “rooted” somewhere temporary, constantly changing, and unstable, yet still providing contrast to the rootlessness Angel feels early in the novel.

Angel’s memory of this moment also suggests personal and cultural identity need not be fixed, clearly demarcated, or essential. Her descriptions of Bush—first as a being created from earth wearing a watery dress, then as a being comprised of light and water—suggest a much more fluid model of identity, both literally and figuratively. The first description highlights the double meaning of “rooted,” calling to mind a cultivated plant with an affinity for land saturated with water, grown in and sustained by mud as opposed to dry land. This “rootedness” also calls to mind familial and cultural connections without equating them to genetic or biological ones, since Bush herself is not ancestrally linked to these lands. Rather, she appears as a created product of the land/water mixture, and herself mirrors that mixture, being made of earth and wearing water. Bush’s simultaneous “shimmering” as a combination of light and water, however, foregrounds the role instability and perspective play in her identity: while water itself remains in motion regardless of who views it, the effects of light and its reflection depend on the combination of moving water and the location of the viewer. In both definitions, though, Bush appears defined by where she is rooted, and models for Angel the personal consequences of trying to know and live closely with water.

Kinship in/with Environment

That Angel sees this through Bush is no accident. *Solar Storms* repeatedly conflates kinship with human connections to environment. As Angel experiences the violence and

impurity of water and its flow, water and human relationships with it become a physical medium for understanding and responding to the colonial violence that permeates the novel, as well as to anxieties surrounding notions of ethnic or cultural purity.

This happens (almost too conveniently) in the water of Adam's Rib itself, as "the bathroom sink was stained red with the iron-rich water that made everything on Adam's Rib look and smell like blood" (33). There is a chemical similarity between the waters flowing inside people and the water flowing around them. As Angel comes to know her foremothers, she also discovers that bonds between people are structurally similar to those between humans and their environments because of their spiritual and physical roots. As Angel remembers seeing Bush for the first time, she explains, "she was one of the women who had loved me. Between us there had once been a bond, something like the ancient pact land had made with water, or the agreement humans once made with animals. But like those other bonds, this bond, too, lay broken" (22). Angel rebuilds these bonds over the course of *Solar Storms*, and more importantly, rebuilds the support structures for these bonds: "as Dora-Rouge, Agnes, and Bush begin to provide missing pieces that mirror the reality of Angela's identity, and as she finds her place among them, Angela begins to see possibilities of a very different self. With this shift comes a marked transformation of Angela's relationship to the natural world" (Smith and Fiore 73). For Angel, it is not simply that she re-connects to both her physical surroundings and her relatives, but that she *recognizes* the kinship between the two.

This becomes clearer once Angel tries to make sense of her new, temporary home in Two-Town: "a part of me remembered this world, as did all of Dora-Rouge; it seemed to embody us. We were shaped out of this land by the hand of gods. Or maybe it was that we embodied the land. And in some way I could not yet comprehend, it also embodied my mother,

both of them stripped and torn” (Hogan 228). By refusing to clarify whether land embodies people or the other way around, Angel presents a multi-faceted relationship between people and the land—always figured as mixed with water—that relies the multiple senses of the word “embody.” If Angel remembering the place is the reason it embodies her people, then it is the site of their cultural memory and collective history; the other-than-human world transcends and outlives individual people, so *it* is the physical manifestation (embodiment) of the culture, as opposed to temporary human bodies. The spiritual understanding that individual people are made from the land furthers this sense of the relationship. By juxtaposing creation with the idea that humans embody the land, Angel also draws attention to the way individual human bodies are particular, narrow iterations (embodiments) of the less-perceptible whole.

This relationship with water becomes a model for materialized temporality that helps Angel define her place amongst her ancestors and her tribe, as

I was like Agnes had said: water going back to itself. I was water falling into a lake and these women were that lake, Agnes, with her bear coat, traveling backward in time, walking along the shore, remembering stories and fragments of songs she had heard when she was younger and hearing also the old songs no one else remembered. And Dora-Rouge, on her way to the other world, already seeing what we could not see, answering those we could not hear, and, without legs, walking through clouds and waters of an afterlife (55).

These women are discrete manifestations of larger cultural and historical identities that are imperceptible in their totality and recognizable only through individual people. It also redefines kinship, transforming a line of passed-down information into something always collective and shared. Moreover, since Agnes travels backward for memories and Dora-Rogue forward into the afterlife, both associated with water, Angel and her ancestors are, by virtue of their collective watery identity, unstuck from single moments in linear time. Furthermore, since these people

themselves change, they reflect different aspects of the larger (similarly dynamic) aggregate, even as they reveal the strange simultaneity of the particular and the systemic.

But as indicated by the trauma both Angel's mother and her environment have endured, if kinspeople are equated to human relationships to the other-than-human world, the breaking of either bond is doubly destructive. When Angel finally meets her mother Hannah, she notices that her mother seems to fear her even as she denies ever hitting Angel or laying a hand on her—a true statement only insofar as Hannah bit Angel and beat her with weapons. In that moment, Angel realizes “what I saw was more ruined than the land. My hopes for this reunion are gone” (231). Angel equates psychological ruin with environmental degradation. The destruction visited upon the land and the abuse visited upon Hannah seem equivalent, tying images of rape in “stripping” and “tearing” of clothing to the removal of resources and physical alteration of the land. Ecofeminist criticism has long argued for both metaphorical and structural connections between the exploitation of the environment and that of the female body, both of which Angel sees as she seeks to understand herself through her mother: “my beginning was Hannah's beginning, one of broken lives, gone animals, trees felled and kindled. Our beginnings were intricately bound up in the history of the land” (96). This is not simply a historical legacy of oppression, but an erasure newly experienced by each generation as its effects resonate through individual and cultural relationships, revealing, through the lives of Indigenous women like Angel and her mother, the ways environment, gender, and personal identity co-create each other.

This serves as a reminder that the histories of environmental and cultural violence and erasure remain interconnected and ongoing, while Angel's recognition of those connections helps her better define herself and forgive her mother for the abuse she sustained. As Bush says, a “person can't blame the wind for how it blows and Hannah was like that. She wanted me to

know that what possessed my mother was a force as real as wind, as strong as ice, as common as winter” (Hogan 115). Here again, the physical experience of water (in this case frozen and moved by the wind) helps Angel understand herself and her relationship with her mother. Ultimately, comparing human experiences to the relationships between people and their surroundings serves not to illustrate how those relationships are socially constructed, but the degree to which individual identity, culture, and the environment co-create each other over time. Grounding the emotional and mental trauma Angel and her mother experience in the circulation of water emphasizes the degree to which those traumas are inaccurately treated as “less real” than that water. Literary representation connects one to the other, entangling them to offer an account of colonial violence that neither diminishes the importance of the non-human nor ignores the profoundly human concerns that remain, generation after generation.

Flooded and Drowned

While the intersection of colonial environmental degradation and cultural destruction is central to *Solar Storms* and its plot, the most concrete manifestations of that intersection—the mega-dams themselves—remain conspicuously absent. Their effects appear as raging rivers, dried up lake beds, and the electricity that comes to Holy String Town and Two-Town, but the physical barriers to water never appear in the novel. Showing only the effects of the dams instead of the dams themselves undermines the representations of dams—as masterpieces of engineering, as symbols for Man’s ability to conquer nature, as sublime in their size and their success in holding back a whole river—that their proponents try to associate them with as a means to conceal the sometimes disastrous effects they create elsewhere. This formal erasure microcosmically reflects the way *Solar Storms* “re-writes” the account of colonial expansion in such a way that, through its attentiveness to water and its flow, foregrounds the negative effects

of that expansion on human and other-than-human life, all while looking to those waters as avenues for resistance. In his study *Slow Violence and the Environmentalism of the Poor*, which explores intersections of post-colonial scholarship and ecocriticism, Rob Nixon argues such re-writing is essential because “big dams are thus diversionary in a triple sense. They divert water—and through water, land—from the powerless to the powerful. But they also divert attention, their glistening enchantments throwing into shadow unimagined communities” (172). By diverting attention back to water and its persistent, lively flow, *Solar Storms* re-writes the story of the James Bay project to make visible the people whose lives and traditions suffer as a result of rising waters. That visibility is key for Nixon, who argues that writers are capable of “drawing to the surface—and infusing with emotional force—submerged stories of injustice and resource rebellions” that multi-national corporations and governments seek to hide, and that might otherwise go overlooked (Nixon 280). *Solar Storms* tells a story of water, people, and the flows of power among them, demonstrating how stories reveal an otherwise invisible reality lived by otherwise invisible people.

Of course, discussing “power” within *Solar Storms* means examining the multi-faceted meanings that word carries throughout the novel, at different moments describing intangible influence, control over physical or political processes, or the way physical mass accelerates across a given distance in a set time. *Solar Storms* connects these definitions through dam-building, which Angel describes as “the desire of those who wanted to conquer the land, the water, the rivers that kept running away from them. It was their desire to guide the waters, narrow them down into the thin black electrical wires that traversed the world. They wanted to control water, the rise and fall of it, the direction of its ancient life. They wanted its power” (Hogan 268). The novel equates a physical transfer of energy from river to turbine to wire with

the political control outsiders attempt to exert on Indigenous communities, as well as to the “resource” they provide in order to do so. That transfer of energy is also, as Nixon explains, “a clash of temporal perspectives between the short-termers who arrive (with their official landscape maps) to extract, despoil, and depart and the long-termers who must live inside the ecological aftermath and must therefore weigh wealth differently in time’s scales” (17). Nixon doesn’t attend to the temporality of the water behind the dams here, but his recognition of temporality proves useful for reading *Solar Storms* because of the novel’s attention to water’s overlapping temporalities, making water and the narration of its flow “iconic symbols that embody amorphous calamities as well as narrative forms that infuse those symbols with dramatic urgency” (Nixon 10). Attending to water (and the way outsiders try to transform it into a resource) is a means of resisting efforts to erase the James Bay Cree and their ways of life.

It is on the level of life-ways that such conflicts appear, as “the river became lamps. False gods said ‘Let there be light,’ and there was alchemy in reverse” (Hogan 268). Turning the river’s hydrokinetic energy into gravitational potential energy and then electricity is equated with the cultural consequences of that process: sacred, care-based human relationships with the river are replaced by a consumerist religion masquerading as a benevolent god hierarchically above (and providing for) human beings. At the same time, that transfer of energy also powers resistance through the radio with which the tribe listens to “Indian Time,” hearing about the struggles of other native communities, and helping disenfranchised activists stand up for their land rights. Elizabeth Grosz believes this type of entanglement reflects the notion that “the history of patriarchy (or racism or colonialism), in fact, the history of patriarchy and feminism’s intertwining and sometimes contrary impulses, produces male domination (the privileging of bourgeois Euro- centrism, global capitalism). It also produces, indeed entails, the rise of (various

forms of more or less effective, historically contingent) resistance” (253). For Grosz too, this entanglement has temporal stakes; attention to and connection with histories (especially ones of oppression) remain important because they are the baseline from which more autonomous, less racist presents and futures can depart.

In *Solar Storms*, those futures rely on water as both resistant to and a means of resistance to colonial exploitation. This appears most clearly within *Solar Storms* as Angel anthropomorphically connects the water blocked by dams with the people affected by their construction. When Angel and her foremothers approach the Se Nay river, into which the Big Arm River has been diverted, for instance, “The Se Nay yelled out in a voice so loud, nothing could be heard above it. ‘It’s angry,’ said Dora-Rouge. I leaned toward her to hear. ‘The rivers are angry. Both of them.’ That was why it sounded like earth breaking open and raging” (Hogan 192). Implied here is that the rivers are angry because they have been altered from the courses they had established and carved for themselves from the surrounding land and rocks. Interestingly, that sound comes from the water running into itself and the surrounding rocks more forcefully because it is flowing through a space smaller than its volume will eventually erode away for it.⁴³ Consequentially, that same water, with its added force, immediately begins wearing away the soil and rocks constraining it. The novel’s depiction of this moment as simile is too indirect; the river actually breaks earth open, eroding it away as it begins to resize its watercourse.

Read this way, Angel’s characterization of water’s flow and geomorphological effects as its “life” forms the ethical basis for protecting existing hydrological patterns. With increasing

43 Increasing the volume of water flowing through a given channel does not always make it louder. Since the sound comes from the compression of air pockets, either between water and the rocks it hits, or in bubbles within the water itself, and those pockets of air compressing, flooding a channel can sometimes make it deep enough to diffuse much of that sound underwater. That does not seem to be the case with this river, though, so its noisiness can be explained by the increased volume flowing through.

damming, for instance, “an entire river to the north had been flooded and drowned” (205). The use of “drowned” separates the concept of a river from the water flowing through it; water itself cannot be drowned, but if drowning is submerging something in water to deprive it of life, then covering a water-course with so much water that its original path disappears “drowns” a particular site and set of flows. Dora-Rouge says as much, explaining that “the mouths of rivers had stopped spilling their stories to the bays and seas beyond them. New waters had come to drown the old” (205). In the Heraclitean sense, new waters flow through a river all the time, but if rivers tell specific stories through their flow and drainage, “new waters” are the dramatically altered courses, sediments, and waters moving through a freshly dammed location. Figuring the water and sediment flowing into a bay from a river as storytelling blurs the boundaries between the oral and material qualities of stories. The river can be “heard” through the specific physical imprint it leaves on the land, and listening to these stories offers another aspect of history Angel recovers when she returns to the North Country.

If listening to rivers offers a connection to cultural histories, damming rivers is akin to silencing the stories of those who live along them. Since *Solar Storms* connects the so-called control of water with the colonial oppression of the native tribes living in these environments, Indigenous resistance is similarly equated with the physical resistance of the environment. Angel, in describing her ancestral homeland as “native land” that “had survived,” explains that “in time it would be an angry land. It would try to put an end to the plans for dams and drowned rivers” (224). What Hogan calls “angry land” is actually angry water, as “an ice jam at the Riel River would break loose and rage over the ground, tearing out dams and bridges, the construction all broken by the blue, cold, roaring of ice that no one was able to control. Then would come a flood of unplanned proportions that would suddenly rise up as high as the steering

wheels of their machines” (224). Trying to alter or constrain geomorphological processes runs counter to natural principles of water’s flow—downhill and toward the sea under the influence of gravity (Fagan xix). Moreover, since the North Country is geographically defined by the water flowing through it, harnessing it is not simply constraint, but comprehensive (if temporary) change. That the flood is “unplanned” seems particularly important here since dams are designed (in part) to mitigate flooding; dams are the plan that water thwarts. This draws a contrast between a resource-oriented approach premised on organization and statistics, and Angel’s account of how water actually flows, overwhelming both human efforts to plan its flow and the machines they use to carry those plans out.

Fittingly, the connection between resistant water and resistant people appears explicitly, as “the Indian people would be happy with the damage, with the fact that water would do what it wanted and in its own way. What water didn’t accomplish, they would” (Hogan 224). Water happens to advance Indigenous interests, stymieing the settler efforts to control it, while remaining defiant of human interests more broadly. This is not a manifestation of Krech’s “ecological Indians” in the sense that Indigenous inhabitants are not “in harmony with” water because of their appreciation of its power. They simply accept that power and hope to facilitate its continuing movement. There is no mystical connection to the environment that whites or settlers lack; Angel and her tribe are simply paying attention to, and refusing to stand in the way of, forces that move and change in ways they cannot.

This becomes unsettlingly clear through Angel’s understanding that water itself (as opposed to the outsiders trying to harness it) causes much of the destruction: “too many animals are gone,” because “the water surged toward them, knocking them over, flooding their world, their migration routes gone now, under water” (246). The actions of settlers and developers

obviously lurk here, but it is important that water does not carry with it any human sympathy or understanding. It has tendencies, likely paths of flow, but more than anything, it simply flows. Water surges, kills caribou, and carves new watercourses regardless of the spiritual practices, political ambitions, or nefarious purposes of the humans interacting with it. Structural similarity and spiritual interconnection do not equate to anthropomorphic benevolence on water's part, since the degree to which water can shape and re-shape the world is dramatically out of proportion with what humans can do either to facilitate it or to harness it. Even though humans created the conditions for watery destruction, the destruction itself

reminds us that we live in a world in which, from time to time, we will be called upon to respond to things for which we are not responsible. That does not mean we are devoid of complicity in the conditioning of these events, but it does mean there is a remainder: a major component of the event in question that cannot and should not be squeezed into the category of socio-political causation; a component with its own irreducible dynamics, and its own demands (Clark 66).

Clark writes here about a tsunami, much more obviously “natural,” but its message still applies to primarily human-caused events like damming. Indeed, Angel's recognition of a “remainder” distinguishes her epistemological understanding of (and resulting ethic toward) the water that surrounds her from that of the developers attempting to re-route (and thus re-write) the rivers.

Consequently, dams appear “unnatural” while the waters behind them remain strangely normal. As “death closed the door” of Hannah's old house, Angel can foretell its future: it will decay in the manner of all wooden structures, as

the nails of the house, driven through the walls, would rust, the slow fire of oxidation would take place, and finally all of it would fall ... in eight years, it would be under water, the forests rotting beneath the muddy waters, the store and school floating up to the surface in pieces like rafts, the rusted machines at the bottom, unnatural and strange, and the animal bones floating, white, in the dark, cold waters, like ghosts or souls in the hereafter (Hogan 254).

The house is constantly changing, or more accurately *being changed*, by its environment. In singling out oxidation, water's role in that transformation appears subtle and omnipresent, as the combination of oxygen and moisture gradually transforms iron into rust. Even human-caused flooding reveals more about water's life than about the developers who facilitate it, as water transforms human shelters from environmental features into rafts, emergency refuge against waters that remain permanently dark and cold, antithetical to life. The contrast of the white bones to that darkness, their connection to souls and ghosts further contrasts creaturely life with the other-than-human life of water.

That contrast is reflected in the linguistic components of conflicts in the novel. As lawyers and power executives arrive to discuss the the hydroelectric project, "their language didn't hold a thought for the life of water, or a regard for the land that sustained people from the beginning of time. They didn't remember the sacred treaties between humans and animals. Our words were powerless beside their figures, their measurements, and ledgers. For the builders it was easy and clear-cut. They saw it only as a two-dimensional world of paper" (279). For both engineers and inhabitants, language is a manifestation of relationships with the environment. Angel uses the outsiders' linguistic refusal of water's life as indication of cultural refusal, a forgetting of ties between humans and their surroundings. Juxtaposing sacred treaties and the language of living water to engineering diagrams and abstract measurements further highlights the way engineering and mathematics are, like story-telling, a way of describing and understanding the world. Rob Nixon defines this contrast in his definitions of "vernacular" and "official landscapes," where the former is "shaped by the affective, historically textured maps that communities have devised over generations, maps replete with names and routes, maps alive to significant ecological and surface geological features" while the latter is "typically oblivious

to such earlier maps; instead, it writes the land in a bureaucratic, externalizing, and extraction-driven manner that is often pitilessly instrumental” (17). Angel’s description of water reveals the linguistic manifestations of the contrast between these definitions. Similarly, describing the dimensionality of settler language also reveals its shortcoming—in prioritizing the abstract and the theoretical, the language of engineering and development doesn’t account for the specific material conditions of the areas where these dams are constructed, leading to both ineffectively engineered structures and an inaccurate understanding of the physical world.

Angel thus draws attention to the way colonizing economies seek to capitalize on both material liquidity and linguistic liquidity by selectively employing and concealing them, and the way resistance to exploitation demands exploring the aspects of materiality and language that colonial structures seek to obscure. In other words, *Solar Storms* offers a reminder that conflicts over resources, struggles for local sovereignty, and assertions of non-Western onto-epistemologies (especially through storytelling) should not be understood as compartmentalized modes of resistance to colonial development through colonial structures (law, diplomacy, and religion), but as an integrated set of emergent structures directly tied to the waters themselves. Just as North Country inhabitants respond to and mimic the waters that shape their homeland, their resistance to colonial expansion is a shifting blend of political, cultural, and personal engagements, not a targeted set of tactics bounded by the rules of colonial structures they hope to resist.

Shiny New Beliefs

Water’s role in this resistance is as much spiritual as it is physical. *Solar Storms* highlights the degree to which Anishinaabe and James Bay Cree spiritual traditions remain rooted in physical practice and cultural knowledge about the environment. Given that, I argue

that the anthropomorphic representations of water in *Solar Storms* demonstrate Anishinaabe poet and critic Kimberly Blaeser's assertion that "writing place ... is not merely a mechanical kind of physical description, or an account of scenery, but rather an attempt to render a sense of relationship, the life or motion of place in our spirit. Our renderings then must cut across the "thingness" or "it-ness" of the physical world, to know a sense of place as a sense of being" (96). *Solar Storms* shows how human relationships with water include and entangle the humans making those observations, blending highly rational, scientific modes of knowledge with personal experiences and culturally transmitted spiritualities that are themselves a composite of embodied traditions, emotions, and beliefs.

This composite is essential to the James Bay Cree worldview, wherein "active phenomena such as winds, water, as well as God and various spirit beings, are all considered to be like persons or to be associated with personal beings. And because all sources of action are like persons, the explanations of the causes of events and happenings are not in terms of impersonal forces, but in terms of the actions of one or more persons" (Feit 185).⁴⁴ This worldview further troubles the understanding of anthropomorphism as a narrative device, because it emerges from a definition of "person" decoupled from a particular species (*Homo Sapiens*) or identity (the colonial subject) and attached to the capacity for dynamism; persons are phenomena that can make things happen. This is not the projection of human structures onto the environment, but rather, "an everyday observation" of the patterns and animal intelligences the Cree see all around them; it is the best way to describe "a world neither of mechanistic determination nor of random chance: it is a world of intelligent order, but a very complex order,

44 While there is a long tradition of non-native anthropologists observing tribes and reporting on them in ways that perpetuate racist stereotypes or justify colonial oppression, Feit both acknowledges this history and published his article with the consent of the Cree, who had asked for his assistance in their resistance to the James Bay Project.

and one not always knowable by men” (184–85). This understanding of the world is rooted in observation and tradition; Cree hunters observe the world around them, and thus learn from it and respond to it “like persons.”

Drawing on this tradition, *Solar Storms* indicates how the dramatic changes wrought on the environment by colonial expansion and environmental degradation disrupt the observational framework at the heart of this spirituality. Dora-Rouge and the other elders frequently speak of “the time when everything was still alive ... the time when people could merge with a cloud to help it rain, could become trees, one with bark, root, and leaf. People were more silent in those days. They listened. They heard.” (Hogan 203). The elders explain that “there had once been a covenant between animals and men ... they would care for one another. It was an agreement much like the one between land and water. This pact, too, had been broken, forced by need and hunger” (35). Two important things occur here. First, human relationships with the environment are described as equivalent to the way the environment interacts with itself. The mixing land and water of the North Country is (as in the novel’s opening sentences) described as having a pact, suggesting that while there may not be clear boundaries between the two, land, water, their movement, and their mixing remain within the intelligent, complex, unpredictable, not-fully-knowable order Feit describes above.

Second, the *way* the pact is broken—the way the intelligent order is disrupted—matters, a synergistic failure of embodied practices and the spiritual frameworks conjoined with them. Angel suggests this doubled loss is not limited to those who see spirituality as her ancestors do, since “[Europeans] had trapped themselves inside their own destruction of [the world] ... their legacy, I began to understand, had been the removal of spirit from everything, from animals, trees, fishhooks, and hammers, all things the Indians had as allies” (180). Spirit here does not

mean a floating ethereal presence, or the non-material half of a Cartesian dualism. Spirit means the recognition of what Feit calls the environment's "volitional" qualities: its ability to affect humans, demand reaction from them, or teach them how to live more safely and successfully. Describing water's life as the James Bay Cree do acknowledges connections between the human and the other-than-human without ignoring the limits of human capacities to relate to (or even understand) these other forces and agencies.

Those volitional qualities appear in *Solar Storms* through the persistent and inherent danger in human interactions with water in the North Country, and in the way that volition is understood, through storytelling and language, as life. For instance, as Hogan describes a dangerous spot in the heart of the lake at Adam's Rib:

Young people, with their new and shiny beliefs, called this place the Warm Spot, and thought it was a geological oddity, a spring perhaps, or bad currents. But the older ones, whose gods still lived on earth, called it the Hungry Mouth of Water, because if water wasn't a spirit, if water wasn't a god that ruled their lives, nothing was. For centuries they had lived by nets and hooks, spears and ropes, by distances and depths. They'd lived on the rocking skin of water and the groaning ice it became. They swallowed it. It swallowed them (Hogan 62).

Angel's attention to the learned traditions and personal engagements in the elders' worldview position Anishinaabe and Cree spirituality as environmental and physical practices, not a rejection of scientific explanation. In the nets, hooks, spears, and ropes by which people live, water appears as the vessel for sustenance, means of transportation, and the medium through which the necessities of life are sought. Its status as a god is directly tied to its influence on human life; water holds spiritual significance because it is the material near which/on which/in which/by which people in the North Country survive. That significance is directly related to the dynamic relationship people have with the surrounding water, which changes chemical phases amidst "rocking" and "groaning."

The culminating justification for water's spiritual significance is its persistent intermingling with human bodies, as the human and the watery "swallow" each other. As Stacy Alaimo points out in an analysis of Hogan's poetry, recognizing the permeability of human bodies defines "the body not as a mute, passive space that signifies the inferior part of our natures but as a place of vibrant connection, historical memory, and knowledge" ("Skin Dreaming" 126). Living near water, drinking it, fishing on it, moving through it, or drowning in it are all structurally interconnected, if distinct, interactions with water, and this range of interactions reveals how physical, mental, and spiritual engagements with the environment co-create each other.

The Hungry Mouth of Water also demonstrates persistent unpredictability, a concept central to the James Bay Cree worldview, rooted in the knowledge that "humans never find that all they anticipate comes to be" (Feit 187). That knowledge, re-learned through experience, demands that "at each phase of happenings in the world, humans, spirit beings, and other beings must sensitively interpret and respond to communications and actions of the other beings around them. 'Power' is a relationship in thought and action among many beings, whereby potentiality becomes actuality" (187–88). Paying attention to the Hungry Mouth of Water keeps people at Adam's Rib alive, while their more general understanding of water's multi-faceted, overpowering influence on life demands great practical and spiritual care.

The care and attention emerging from this integration of spiritual/physical engagement challenge static or linear concepts of temporality. As Angel explains,

looking back, I understand how easily we lost track of things. The time we'd been teasing apart, unraveled. And now it began to unravel us as we entered a kind of timelessness. Wednesday was the last day we called by name ... cell by cell, all of us were taken in by water and by land, swallowed a little at a time. What we'd thought as our lives and being on earth was gone, and now the world was made up of pathways of its own invention. We

were only one of the many dreams of earth. And I knew we were just a small dream (Hogan 170).

Since the women view the surrounding water as alive, they engage with it as they would other living beings, trading the temporal and spatial structures that governed their lives at Adam's Rib (days of the week, houses, friends, gatherings) for the temporal and spatial structures of their "new community." Living in the world means living on its terms, and doing so means acknowledging the insignificance of individual habits or cultural structures in comparison to the forces and pathways that shape the water/land mixture. Angel and her family get lost in the time-frames of their environment. The language of "dreams," in particular, maintains the separation between what can be perceived by the senses, and the times and spaces that transcend those senses, the histories that Angel, Bush, Agnes, and Dora-Rogue can imagine but not participate in.

All of this emerges through the liquidity of Angel's language, which she describes as imperfect efforts to account for environmental dynamism, as she "began to form a kind of knowing at Adam's Rib. I began to feel that if we had no separate words for inside and out and there were no boundaries between them, no walls, no skin, you would see me (54). Angel sees objects (like walls or skin) that *appear* to be borders and the words describing them as twin barriers to the truth she comes to know. As she continues, "some days you would see fire; other days, water. Or earth. You would see how I am like the night sky with its stars that fall through time and space and arrive here as wolves and fish and people, all of us fed by them. You would see the dust of sun, the turning of creation taking place" (54). When Angel says she is "like the night sky" she doesn't speak metaphorically or spiritually. She speaks about her literal atomic kinship with the matter of the universe, a juxtaposition she makes immediately thereafter as "I didn't yet know I was as beautiful as the wolf, or that I was a new order of atoms" (54). Angel

references contemporary Western science as another partial, if imperfect, explanation of her ancestral worldview.

This reflects the larger refusal within the novel to portray its indigenous spirituality—like the water it is based on—as monolithic or diametrically opposed to the world-views of non-indigenous people. When Dora-Rouge, for instance, offers tobacco to the raging Se Nay river in exchange for safe passage, Angel admits that “when the tobacco disappeared into the water, I was without faith, but I did what Dora-Rouge said.” (194). Even as Angel spiritually connects with these waters by journeying across them, she still trusts her sensual perception of their danger. Moreover, that lack of faith seems justified, as “my canoe went into the water first, and from the moment it was there the current tried to swallow it” (194). This entire spiritual framework, though deeply entangled with and attentive to the water that permeates the North Country, does not entail a spiritual harmony with the water any more than it entails practical coexistence. And as always, this imbalance becomes clear through storytelling, as Angel recalls a version of the creation story where

the human people, who wanted what all the other creatures had ... went to the large bird and said they wanted to fly. They were granted this wish. They went to the mole and said they wanted to tunnel, and this they were able to do. Last, they went to the water and said, We must have this unbound manner of living. The water said, You have asked for too much, and then all of it was taken away from them. With all of their wishes, they had forgotten to ask to become human beings” (347).

This legend establishes the Cree understanding of the difference between water and the rest of creation; the structure of roles. Because water levels, fills in, and consumes, it remains somehow distinct from the world it creates and permeates. Interconnection and the blurring of boundaries does not mean erasing either difference or the inhospitability and danger that living near water entails for Angel and her relatives.

That danger is both systemic and specific. When Angel bathes at Two-Town, she does so “in spite of water’s hungry desire and its cold temperature,” noticing that “my skin tightened” and that “it took my breath away” because “it was colder than any water I’d entered before ... hypothermia was commonplace in these waters, I knew” (228–29). Angel’s understanding of Two-Town’s water is rooted in its specific location and quality, as water at these latitudes during this season would be cold. But in referencing the water’s hungry desire, she also calls to mind a more general agency reminiscent of the “Hungry Mouth of Water,” a realization that all waters are fundamentally antithetical to human life.

Her response is simultaneously physical and spiritual: her body and lungs contract in an effort to stabilize her core temperature, while Angel describes the experience “such a cold baptism.” Angel then draws attention to the differences between her scientific and spiritual understandings as she explains that she swims fully realizing the danger, having “stepped out of my rational mind along with my sweater and jeans, as if it were just another article of clothing. In the cold water, my feet hurt. I hoped the water would cleanse all the pasts, remove griefs” (229). This passage calls upon a common metaphor surrounding water (that of the cleansing), explicitly referencing the Christian sense of that metaphor in baptism. Yet in highlighting her embodied experience, Angel distinguishes her spiritual experience from that largely symbolic one, further examining the other-than-human force behind her cleansing: “I saw my body from a distance; it was an unwavering flame in the dark room of water, a wick of warmth holding fire in the chill, holding light in the vast immense darkness. I floated in what wanted freedom, in what white men wanted changed” (229). In this moment, the waters do not cleanse sin and bring Angel back into a covenant with God, but affirm her human “flame” in contrast to what surrounds her, even as she remains enamored with (and reliant on) that water. It remains both

thermally antithetical to her survival and philosophically immune to human interest more generally. It can be neither physically nor culturally restrained. This moment reveals the “sensitive interpretation” Feit describes at the heart of James Bay Cree spirituality, and reveals how water, its temperature, and its flow prevent sensitive interpretation from leading to either control or true communion.

Living On Ice

The need for a new set of relationships and explanations becomes most clear when Angel, her stories, and her burgeoning worldview come into contrast with those of the engineers and developers who attempt to transform the North Country. These outsiders not only ignore water’s omnipresence and dynamic flow, but also fail to recognize its presence in other forms—namely ice and permafrost. These present an illusion of stable earth separate from water where none exists. Across the novel, ice also showcases the extent of the imbalance between humans and their environment, while delineating an ethical relationship between the two alongside the hope that such a relationship may re-develop.

These ideas appear through the way Angel encounters and describes the illusory stability and seasonal change of the ice all around her. Formally, this manifests as the same type of anthropomorphism permeating the rest of Angel’s stories. The similarities between ice and water that appear throughout the novel carry over into their similar life-like qualities: “as I crossed the lake and heard its voice, I thought of Husk’s words ... the lake was alive. I was sure of it. Not only when it was large-hipped and moving, but even when it was white, contracted, and solid. The Perdicion River flowing beneath ice was alive. So was the ice itself” (129). Its voice is the creaking and cracking of slowly shifting ice, and by aligning that voice with the flow of a river and the swirling of the lake-water below, Angel reminds readers that water and ice are different

in phase and form, but not in essence. Seeing ice as slow water reminds Angel (and by extension, her audience) how carefully and tenuously she must move for fear of disrupting that ice (or its balance with the water below it) to her own detriment.

The developers' ignorance of these forces appears in an unusually warm bout of weather as "the newly cut road turned into deep ruts of mud that tires sank into, and the flimsy quarters built for the workmen began to settle in various ways ... two buildings dropped, sagged down, and vanished into sinkholes. Electric poles leaned so far down that in one place the power had to be turned off for fear the electricity would reach out along the wet surface of the ground" (272). The ground seems solid only because it is both a mixture of land and water that is temporarily frozen; its flow has not stopped, but paused until warmer temperatures make it possible to continue. And because this water remains in the land itself, it makes the land move as water does. Through that movement, "the fearsome capacity of the earth to undo our sustaining connections and footings, in this way, serves to remind us that all is not equal in the world of mixing and mobilizing things" (Clark xvi). The intermingling of ice, permafrost, and soil is problematic when it is ignored in favor of the assumption that the land would remain stable, whereas recognizing instability, as Angel and her tribe can, does not provide them control so much as its lack.

As a result, the novel suggests that development fails both practically and philosophically. It fails practically because road-builders cannot see, as the locals can, that asphalt will retain heat, melt permafrost, and bring about its own collapse (Hogan 277). But the ignorance of local conditions is repeatedly juxtaposed with the broader ignorance of the relationships between humans and their dynamic environment, an inability to appreciate a world which functions independent of human will or desire. In *Solar Storms*, the characters who

recognize that independence attempt to facilitate it. So when Auntie begins to gather signatures and support in efforts to resist hydro-electric expansion, she does so not only because she does not want or need asphalt roads, but because she hopes “to turn water back to where water wanted and needed to be” (277–78). Auntie’s advocacy on behalf of water’s desire reflects the belief that “the world there was large, had always been large, and the people were small and reverent, but with machines, earth could be reduced to the smallest of elements” (274). Mega-dams and road building are practically threatening to Auntie and her tribe because they stem from the ignorance of the power imbalance Clark describes above. Considering water’s desires, then, is a way to act in accordance with the knowledge of water’s other-than-human, unpredictable life.

That life appears every year as Adam’s Rib is blanketed in the ice and snow of winter which, as Angel explains, “makes its camp everywhere. You cannot step through its territory without knowing that what has fallen over the land has a stronger will than ours, and that tragedy is sometimes held in both its hands” (Hogan 114). Ice and snow appear most alive in their ability to snuff out human life, ensuring that even when water does not appear visibly liquid, its influence on human life and behavior remains.

This is not to say that all forms of water in the novel are seen as identical, as the water, ice, and weather that move through the novel are treated as distinct and interlinked entities. Indeed, specific encounters are remembered and passed along as “people measured their lives by the winters and what happened in each one” (Hogan 108). The passage of time is not an abstract quantitative system of measurement, but marked by specific material situations: by absences (of food, of children); and by what Angel calls “terrible presences, the appearance of influenza, the winter of frozen rain that covered snow in a hard shell of ice so that it broke the legs of deer and moose and left the snow red with their bleeding” (Hogan 108).

Examining this description of time through the lens of what Elizabeth Grosz calls “events” reveal the connection Angel draws between recognizing water’s physical impacts and her consequent responses and actions. Grosz defines “events” as

ruptures, nicks, which flow from causal connections in the past but which, in their unique combinations and consequences, generate unpredictability and effect sometimes subtle but wide-ranging, unforeseeable transformations in the present and future. Events erupt onto the systems which aim to contain them, inciting change, upheaval, and asystematicity into their order (Grosz 8).

Events themselves do not undermine the idea of a system or order, but rather the idea that such an order is totalizing or complete. Water’s seasonal transformation of the North Country reflects both order (winter comes each year) as well as persistent upheaval and asystematicity in the unique (and often terrible) outcomes of each particular winter, demanding constant reconsideration and reaction. Angel, even more so than Grosz, marks time and its passage by environmental events while categorizing those events by their physical consequences. Ice provides both a sense of order and of disorder, but above all, demands immediate and innovative responses from human beings to successfully live with and near it. Ice thus helps Angel understand both herself and her relationship with it as she sees herself

close ... come together in the way ice grew across water, at the edges first, then suddenly, all at once, in the same way Bush said winter fills in the world, like a scar. At first the ice could be broken easily, then only with an ax, then it could not be broken at all. It locked in whatever was there ... a cold firmament, beautiful and frightening, solid and alive. I could hear it, the tribe of water speaking (Hogan 118).

Angel begins by seeing in herself what she sees in the world around her. But as her description continues, only the ice remains, now with its own life, its own voice, becoming the object of narrative attention. Furthermore, ice remains a member of the “tribe of water” here, further cementing the connections between water in its various material forms, each distinct yet fundamentally related. In this way, water provides a model for human understanding while

remaining at least partially unpredictable, outside the structures of understanding that humans use to make sense of and react to it.

Because of this, water and its flow help Angel imagine (if imperfectly) the world she cannot perceive. As she describes the growing tension in Two-Town, her own impulse to violently, and the forces that might divide the local resistance to dam-building, she changes her focus without explanation, remarking that “one day, no matter what happened, no matter who possessed the land, no matter whether there were dams or not, all of this might sink to the bottom of a sea or dissolve in rain ... in time, all things would break and become whole again. The soldiers would grow old and die and be placed in the ground with small white markers. The permafrost would melt, seasons would change” (325). This change appears both predictable and seasonal in examining the permafrost, yet with shades of the indeterminate, event-filled future of watery destruction. Key to “reading water” more broadly, then, is the fact these events are destined, if still unpredictable—water will upset the existing order, it is simply unclear how. This sense of indeterminate yet guaranteed upheaval tempers Angel’s short-term anger at those attempting to flood her home, while providing her hope in the form of a future world shaped by that water.

That tension appears explicitly in the final flooding of Adam’s Rib. Bush waxes the floors of Agnes’s soon-to-be flooded house, “making this place presentable for water,” while Angel sees water “enter the door as lightly and easily as if it were an invited guest” (Hogan 338). In response to this invited guest, the residents of Adam’s Rib “worked ourselves into exhaustion, the rich loamy-smelling soil on us, not wanting to be claimed by water” (Hogan 338). At first glance, this moment exemplifies failure and erasure; the dams are built and the town flooded despite the efforts of its residents. Moreover, it suggests separation, as residents are associated

with soil in contrast to “peaceful,” yet “greedy, hungry water that was, through the acts of men, laying claim to everything it once created,” water that wants “all things equal, level, contained” (Hogan 338). It even, as Angel points out, consumes other water, as “The Hungry Mouth of Water closed. It took in nothing else. Instead, it was taken in, like the turtle, along with the beluga, the snowmobiles, skinned animals, and Frenchie’s [sister] Helene” (339).

That leveling impulse, the degree to which water overflows everything, including itself, makes water simultaneously disruptive and generative. Certainly, the drowning of animals, the submersion of homes, and the re-direction of rivers remains profoundly destructive to the lives of the tribes in the North Country, and Angel’s reminder that this water flows because of “men” highlights the gendered qualities of colonial violence and its long-lasting cultural and environmental impacts. Yet water itself is simultaneously resisted as greedy and welcomed as a guest; its transcendent “claim” to the world is acknowledged even as individuals appear justified in escaping it; it restores order and equality to the world it created while destroying and upsetting it. Water’s simultaneous otherness and its integration into human life remain in formal tension in the novel’s closing pages. Neither colonizers nor colonized can possess the temporal, spatial, or cultural transcendence that defines water, nor can they possess its creative energies. Yet only Angel and her tribe recognize the depth and persistence of their connection to the water in spite of their lack of control over it.

These connections situate Indigenous loss and resistance into longer temporal scales and broader epistemological frameworks. In resisting a development project, “loss” often implies the opposite of success; locals “lost their fight” to preserve rivers and homelands. The ending of *Solar Storms*, however, also defines “loss” as separation or lack; the transformed rivers, people, and cultures are the objects of loss as opposed to the struggle itself. Considering loss in this way

makes it a middle point—the beginning of future resistance—as opposed to a culminating failure. This enhances the value of storytelling as part of ongoing resistance, both as a medium for remembering objects of loss, and as what Heidi Kiiwetinepinesiik Stark calls “methods that teach us how to survive in an ever-changing environment. There is so much change and adaptation going on in many of these stories. The power of [stories] reside in these abilities; they are the greatest tools our people have to survive and live” (Doerfler et al. xxii). This understanding of storytelling’s role in Indigenous identity accounts for entangled ecological, cultural, and political dynamism, emphasizing “survival” and “life” over preservation to undermine the stereotypical projections of “unchanging” Indigenous life-ways placed in binary opposition to settler-colonial “progress.”

Moreover, since North Country waters transform their re-claimed creation, they remain a source of resistive hope, as Angel remembers that “a human is alive water, that creation is not yet over” (Hogan 351). Even if a power imbalance remains, the centrality of water to Indigenous life, and its ability to transcend individual lives and traditions, means the water’s rise also signals a new creation and order. If the flowing, unstable, watery structures of the North Country persist, new creation can and will continue, emerging from even the most misguided efforts of human beings to constrain its dynamism. New creation does not erase or outweigh loss, but transformed physical and cultural engagements offer similarly transformed practices of resistance and response to colonial oppression. Resistance, like invasion, is more like a structure than a series of events.⁴⁵

For Angel, recognizing emergent structures and their presence in her body and culture means that even in the face of resource extraction and cultural erasure, she tells stories to remind

⁴⁵ A response to Wolfe’s famous assertion in “Settler Colonialism and the Elimination of the Native.”

others that “something beautiful lives inside us. You will see. Just believe it. You will see” (Hogan 351). That “something” is water’s ability to connect individual bodies and locations to a rich cultural history and a global hydrological flow that, while temporarily constrained by “development,” cannot be controlled or destroyed. When Angel asks readers for both belief and patience in those connections, she foregrounds the importance of fostering structures of personal and cultural re-invention—storytelling, careful attention to environmental change, and a recognition of the limits of human perception—to perpetuate a decolonizing synergy of individuals, cultures, and environments that can adaptively respond to and transcend structures of colonial erasure and violence.

Chapter Three: The Waters Must Prevail: Reading Estuaries in The Hungry Tide

Amitav Ghosh's 2004 novel *The Hungry Tide* demands both reading in translation and a re-definition of translation. Set in the Sundarban islands at the border of India and Bangladesh, the novel translates Hindi and Bengali into English for its readers, while explicitly discussing the challenges of cross-cultural and cross-linguistic communication. At the same time, the novel metafictionally examines characters' attempts to interact with and explain the brackish waters, mangrove forests, and massive storms of the Sundarbans and the need to "translate" the experience of the waterlogged environment into language. Juxtaposing these translations highlights the difficulty of ensuring these explanations can cross linguistic and cultural divides, while also revealing, I argue, deep structural similarities between cross-cultural translations and efforts to "translate" the environment into anthropogenic frameworks.

Trying to describe the environment in literature without considering the cultural translations that accompany it, however, limits and complicates the insights those translated environmental experiences can provide. Juxtaposing *The Hungry Tide* with Lowell Duckert's 2014 essay "When it Rains" reveals these complications, as both works provide readings of the seventeenth-century non-fiction travel narrative *Voyages de François Bernier*, each examining the effects of labyrinthine river water and soaking rain on Bernier during his multi-day journey across the Sundarban river delta.

Duckert argues that reading Bernier "puts ecocriticism, theory, and early modernity into conversation, establishing Bernier as a theorist of living rain with insights into our current climates," suggesting that early modern authors saw the water falling around them in ways both novel to their own time, and with continuing relevance to the contemporary moment ("When It

Rains” 118). That relevance emerges through an unacknowledged doubled reading—Duckert reads the environment within Bernier’s text as he reads the text itself, arguing for an embodied understanding of water by analyzing the ways Sundarban waters transformed Bernier: “his experience with the infinite islands around him encourages an archipelagic imagination. A new kind of analysis built upon multiplicity and fluidity emerges ... And with this change in analysis importantly comes a change in embodiment. Bernier’s body becomes deltaic, a channel within channels of (non)human things” (“When It Rains” 118,124-25). While Bernier provides personal experiences and attempts to create an account of Early Modern climate and embodiment, Duckert provides a mode of analysis (and accompanying ways of seeing and living) to readers far removed from Bernier and his travels: “by paying attention to rainy texts, even if it means slowing down, we can imagine an ontological approach to ecology that builds upon epistemological modes ... What stories has rain told? What stories can it tell? What “positions” can it still create?” (“When It Rains” 115–16). Rain is a storyteller whose “voice” is transcribed by Bernier into writing Duckert then analyzes. Reading (for Duckert) reveals how human interactions with water microcosmically model an entanglement with the non-human world at the heart of “ecological” theories of human embodiment.⁴⁶

But since Duckert’s readers encounter a contemporary reprinting of an early modern travelogue as opposed to the waters that inspired them, three questions emerge: if rain can be “read,” is it being read in translation? And if “rainy texts” are written by a French traveler and analyzed by an American academic, are they doubly translated? What languages and cultural frameworks are rain and rainy texts translated into? For while Duckert’s analysis emerges in

46 While Duckert claims to focus on rain, his analysis of Bernier, as can be seen here, focuses on the waters of the Sundarbans and their geomorphological effects more generally, as well.

response to the environmental characteristics of the Sundarbans, the cultural frameworks underlying his readings are American and (via Bernier) French.

These questions reveal the difference between narrating hydroecological processes and theorizing through ecosystems—Duckert’s theoretical insights remain constrained by the largely unexamined environmental and cultural frameworks from which they emerged. Using a text as a theoretical guidebook for transforming knowledge and embodiment demands overlooking other, related ways of knowing and experiencing an environment, written or otherwise. Duckert rightly notes that Bernier, by treating the Sundarbans as generally uninhabited *terra incognita*, prefigures “the eventual colonization of India and the harmful extraction of its resources” (Duckert, “When It Rains” 128). While centering this awareness of intercultural politics (largely peripheral to Duckert’s argument) and its effect on reading practices would admittedly narrow the ecotheoretical utility of a given narrative, *The Hungry Tide* shows how examining embodied human relationships with water (rain or otherwise) through the cultural practices surrounding that water alongside its systemic properties and personal experiences thereof offers a “theory-in-practice,” as opposed to a set of theoretical principles.

That theory-in-practice, and its role in shaping narrative accounts of physical environments, appears prominently throughout *The Hungry Tide*, but especially in the novel’s discussion of *Voyages de François Bernier*. The novel emerges through intertwined, third-person narratives centered on two protagonists: Indian-American marine biologist Piyali Roy (Piya), who documents endangered river dolphins with the help of a local illiterate fisherman, Fokir; and Kanai Dutt, a translator from Delhi who returns to the islands to recover and read his uncle Nirmal’s long-lost journal. In that journal, Nirmal recalls a conversation with a local boatman, Horen, about Bernier and his travels. While Horen cannot read and has never heard of Bernier,

he easily identifies the landmarks, climatological phenomena, and hydrological patterns Bernier experiences as a labyrinth, drawing on both first-hand experience and on his knowledge of local interfaith stories about the deity Bon Bibi (Ghosh, *The Hungry Tide* 122–23). An “exhilarating” lunar rainbow, for instance, that Bernier’s Portuguese pilots had “neither seen nor heard of” is commonplace for Horen, who even knows Gerafitola is “the only place where you can see the moon’s rainbow—it happens when there’s a full moon and a fog” (qtd. in Duckert, “When It Rains” 125; Ghosh, *The Hungry Tide* 122). Bernier’s transformative experience may help him theorize the climatological patterns he encounters on his travels, but Horen’s extensive observational knowledge reveals that Bernier’s “epiphanies” are widely known and regularly experienced by the region’s long-term inhabitants, and that much of the “transformative” potential of *Voyages* emerges from Bernier’s ignorance of (and cultural distance from) local knowledge and traditions.

Much of the scholarship on *The Hungry Tide* focuses on its metafictional examination of cross-cultural communication and translation in moments like this one, or examines the way communicative difficulties manifest in conflicts over human and environmental rights. This conversation between Horen and Nirmal, however, also connects differing attitudes and world-views to the dynamism of both tidal and climatological forces, demanding a more specific focus on the novel’s attention to hydroecological dynamics. Horen’s responses to the “amazing” moments in Bernier’s journey reveal the long history of oral knowledge (often connected to religion) used to safely navigate the mangrove forests. Similarly, when Horen ignores Nirmal’s scientific explanation of a storm by suggesting they each “*leave each other to our beliefs and see what the future holds,*” he asserts the importance of admittedly imperfect—and therefore

continually developing—observational knowledge to surviving in the Sundarbans (*The Hungry Tide* 123).

Living in a waterlogged world, it seems, means living in response to instability—both cultural and environmental—without the expectation of eliminating either. Simultaneously, the novel’s focus on how water is narrated suggests that foregrounding the structural interrelation of representational limits—the barriers to translation between languages and cultures, the difficulty in communicating across species lines, and the gaps inherent in textual depiction of material phenomena—serve as a reminder of the limits of both an earth-systems model of understanding water’s flow and of the culturally-situated experiences and traditions surrounding it. Yet within these limits, Ghosh’s novel shows that translating water reveals connections between individuals’ experiences, cultural practices, and hydrological cycles, meaning that examining the limits of those perspectives alongside each other foregrounds the “liquidity” of water’s combined physical and cultural significance.

I argue *The Hungry Tide* narratively and formally showcases how the Sundarban estuary flows across hydrological, cultural, and corporeal boundaries. The dynamic, sometimes violent estuarine waters of the Sundarbans in *The Hungry Tide* destabilize and overwhelm perceptual and representational frameworks of both characters and author, suggesting that either inhabiting or narrating waterlogged environments demands “reading” the environment in translation, while the struggles of individual characters to explain their experiences of those waters across cultural and linguistic boundaries acts as another layer of translation that individuals encounter. The intersection of these material and cultural translations elevates the value of increasing knowledge about the limits of stability and uniformity in a given environment over efforts to achieve them.

This chapter follows these ideas throughout *The Hungry Tide*. First, I examine how the novel's mythical introduction to the Ganga and the Sundarban islands connects historically contingent narratives, the cultures from which they emerge, and the environments they try to describe. Since descriptions of the Sundarban region throughout the novel build on these connections as they emerge through the lives and cultural practices of its inhabitants, I read these descriptions alongside the accounts of the Sundaraban people and environment that inspired the novel to provide a model for understanding the tide country that figures the environment and its inhabitants as both inseparable and shaped by persistent dynamism. I treat these connections between language and environment across the novel as instances of the "liquidity" of language, showcasing how difficulties in interpersonal and intercultural communication mirror the difficulty in accurately perceiving the constantly changing river delta. Time and again, characters in *The Hungry Tide* discover (and try to describe) the extent to which their own sensual perceptions of water are misleading. In spite of this, the novel's characters turn to watery language and to practices of "reading" water even as they acknowledge its inadequacy in fully understanding this waterlogged environment where the intermingling of rivers and tides permeates and reshapes what little "solid ground" exists. Furthermore, writing these already contingent experiences down offers an admittedly imperfect reference point for the constant changes—both fast and slow—in the tide country. Ultimately, the novel's metafictional focus on the limits of reading and writing, juxtaposed with efforts to improve and transmit imperfect readings, reveals the differences between inhabiting a waterlogged environment like the Sundarban islands and simply visiting one; cultural and religious practices shape perceptions of Sundarban waters even as they defy and transcend cultural knowledges because of the extended

temporalities across which they flow, and their outsize influence on human lives across cultural traditions.

Considering these extended temporalities becomes increasingly important as they can (and should) play a role in decisions about how water is used, or how best to live near water in an era of sea-level rise and extreme weather. In his 2016 treatise *The Great Derangement*, Ghosh argues that the novel struggles to represent unthinkably slow or large events (most notably anthropogenic climate change) because “novels ... conjure up worlds that become real precisely because of their finitude and distinctiveness. Within the mansion of serious fiction, no one will speak of how the continents were created; nor will they refer to the passage of thousands of years: connections and events on this scale appear not just unlikely but also absurd within the delimited horizon of a novel” (*The Great Derangement* 61). Admittedly, *The Hungry Tide*—which qualifies as serious fiction—does not present extensive geological or hydrological histories. Yet the novel’s extensive intertextual material—journals, myths, poems, songs, and stories—combines with its entangled cultural frameworks to expand its otherwise delimited horizon; Ghosh’s fiction provides the means to disprove his theory. Like any novel, *The Hungry Tide* remains an anthropogenic creation with a largely anthropocentric focus, and cannot truly think like an estuary, or present the world from the perspective of one. But by foregrounding the myriad perceptions and experiences of that estuary, the multiple time scales they occupy, and the dynamism within those experiences, *The Hungry Tide* shows that narrative—beyond providing examples of environments, or using environments as settings—provides a useful mode of environmental engagement through its ability to blend (and showcase the overlap between) cultural, personal, and systemic frameworks of perception and knowledge.

Texts and Contexts

The heteroglossia and intertextuality throughout *The Hungry Tide* form the basis for overlapping, contradictory narrative frameworks that draw attention to misconceptions, misunderstandings, and the limits of translation across linguistic, cultural, and generational barriers. The novel appears through Piya's and Kanai's alternating close third-person narrative perspectives: Piya's chapters focus on her efforts to learn about the habits of Irrawady river dolphins with the help of Fokir, a local illiterate fisherman who cannot speak English. Kanai's chapters follow his gradual reading of Nirmal's long-lost journal that contains an account of the 1979 Morichjhāpi massacre during which Fokir's mother Kusum was murdered, forming a third story-line nested within the others.

This (and other) intertextual aspect of *The Hungry Tide* foregrounds the presence and importance of stories and legends to the lives of its characters, including: Nirmal's journal, which ends each entry with a translated quotation from Rainer Marie Rilke; the interfaith spiritual system of the tide country's inhabitants, which centers on the stories of gods Bon Bibi and Dokkhin Rai; the legend of Dukhey, a young boy abandoned to be eaten by Dokkhin Rai (in tiger form) who is rescued by Bon Bibi, which appears at various moments as a village play, a story, and as a song. This (perhaps purposefully) counters Ghosh's own account of the novel in *The Great Derangement*, where he argues that "since each setting is particular to itself, its connections to the world beyond are inevitably made to recede ... Unlike epics, novels do not usually bring multiple universes into conjunction" (Ghosh, *The Great Derangement* 59). *The Hungry Tide* does, in a sense, showcase this narrowing through its environmentally specific focus. But entangling that focus with myriad archives of knowledge, multiple narrative perspectives, and their accompanying narrative failures and limits gesture toward those "multiple universes" and the fleeting connections between them, even if the exact nature of those

connections cannot be teased out within the novel. The novel's alternating narrative perspectives add a metafictional awareness to this intertextual structure. Even after Kanai and Piya meet, their perspectives keep alternating, meaning each characters' sense of the other, their beliefs, and the Sundarban islands appears from multiple viewpoints.

Much of the criticism on the novel focuses on the way these multiple viewpoints and tenuous connections either critique the imbalanced power dynamics of race and class at the heart of intercultural interactions, or argue that *The Hungry Tide* calls for "an embrace of a new kind of transcultural engagement that bridges the local and the global, past and present, the scientific and mythic, and that transcends the caste, class, and religious divides that have hitherto hampered visions of global solidarity" (Kaur 134–35). Considering these complexities alongside the novel's descriptions of Sundarban waters, however, reveals how those waters, characters' interactions with them, and their efforts to explain them offer a medium for the imperfect transcultural engagement that Kaur and others are invested in, precisely because those waters flow both locally and globally across time, exerting both physical and cultural influence on the Sundarbans. Describing that influence as a "bridge," however, implies a direct, stable connection that *The Hungry Tide* deliberately withholds in favor of its myriad limits, changes, and contradictions. With that in mind, efforts to "read" and "write" hydroecologies within the novel demonstrate how the syncretic sensibility needed to describe the estuarine environment of the Sundarban islands is better characterized by "liquidity" than "solidarity" or "transcendence." Liquidity calls to mind the physical forces shaping these cultural engagements, while holding space for their combined dynamism and partial defiance of anthropogenic concerns.

As a metafictional novel, *The Hungry Tide* frames these issues simultaneously for its characters and for readers as they observe characters, their interactions, and their insights. All of

this shows, I argue, that the interconnection between water and language in *The Hungry Tide* means accepting—perhaps even celebrating—the limits and imperfections of anthropogenic structures as a way to encounter environments from which humans can never be truly separated. In doing so, I draw on Tuomas Huttenen’s belief that “the novel with its polyphonic character seems to be a good device for ‘staging’ the ethical without explicitly defining it, and in a way inviting the imaginative capacity of the reader to compensate for the incapacities of representation. In general, fiction seems to be a useful discursive mode for framing various topics without defining them to the extent that they no longer seem to exist on their own right or independently” (Huttenen 132). Huttenen uses “fiction” and “the novel” interchangeably, while I think turning to the idea of “narrative” as an arranged description of events better describes Ghosh’s efforts to encapsulate both the tide country environment and the stories that connect that environment to its inhabitants and help those inhabitants connect to each other. Huttenen’s assessment is especially relevant, though, to the way language can simultaneously fail to capture the full, multitemporal qualities of an environment (or even an individual human experience thereof) while connecting some of its qualities that otherwise appear irreconcilable, distant, or contradictory.

These contradictions appear in the scholarly discussions of the ways *The Hungry Tide* connects language and translation to either postcolonial power relationships or postcolonial environmental attitudes. Much of this scholarship argues that the novel simultaneously reveals the barriers undermining cross-cultural communication and postcolonial cultural unity, and the ways language fails to fully capture bodily, kinetic, or unmediated experiences of the environment. While some scholars, notably Ismail Talib and Gareth Griffiths, focus on the communicative failures of language, Pablo Mukherjee argues “the possibilities of readings and

translations are also made available. Nirmal, Kanai, and Piya are all transformed through their encounters with radically different texts and contexts—songs, folk tales, folk theatre performances, oral historical narratives, and above all, the complex networks of everyday lives that they briefly share with the migrants and refugees” (184–85). This reading of the novel implies that exploring the struggles and paradoxes at the heart of cross-cultural engagement is at least as important to multicultural literature as the larger equity and justice of its world and characters. If reading and misreading coexist, simply critiquing or celebrating a piece of literature for the ways it perpetuates or resists colonial hierarchies of power overlooks the way the two cannot be truly separated in individual actions, individuals, or cultural artifacts.

Mukherjee’s willingness to equate the effects of “texts” and “contexts” exemplifies the other major focus of *Hungry Tide* scholarship: the effects of cultural structures on environmental perceptions in post-colonial India. Mukherjee implies, as many ecocritics do, that texts offer a way to change (if imperfectly and indirectly) cultural and environmental attitudes. The simplest versions of this argument appear as peripheral components of readings focused on other social and cultural issues, suggesting a connection between humans and nature that prevents environmental attitudes from appearing independent of their cultural and political contexts, or that long-standing colonial power dynamics shape environmental action and preservation.⁴⁷

While this is essential to understanding the novel’s characters, I argue Mukherjee’s ideas about “texts” and “contexts” apply not only to understanding the lives of migrants and refugees, but to understanding the dynamism of the environment they inhabit. Language makes the estuary and unmediated experiences of it partially intelligible.

47 Versions of this argument appear in the work of Annie Cottier, Jana María Giles, Richa, and Sandra Meyer for instance.

Much of the scholarship focusing explicitly on the relationship between literary form and environment, however, overlooks the role narrative plays in helping characters understand their relationships with their surroundings. Jens Martin Gurr, for instance, argues for an essential difference between language and environment in *The Hungry Tide* that erases internal difference and dynamism in both: “Language shapes landscape just as landscape shapes language. In a sense, landscape appears as sedimented language and language as liquefied landscape” (78). The idea that any landscape is metaphorically sedimented and stable is dubious, but describing a tidal Mangrove forest as “sedimented” in contrast to “fluid” language when Mangrove forests *create* landforms and reshape local environments through interactions with moving water and suspended sediment is especially problematic; fluidity and interaction are primary environmental forces.⁴⁸ That said, Gurr’s assertion that “the entire plot literally grows out of the fundamental characteristics of the landscape” makes sense, if “fundamental” means the specific, local characteristics manifestations of systemic principles, as opposed to an essential quality of the non-human that turns dynamically mixing land and water into something monolithic and stable.⁴⁹ So while Gurr extensively documents how the environment in *The Hungry Tide* can be read like a text, this chapter focuses on the aforementioned local hydrological characteristics—especially extreme tidal cycles, rapid sediment transport, and brackishness—that drive the plot of the novel and shape the fishing, building, cultural, and spiritual practices its characters use to understand themselves and their role in the larger hydroecological system of the Sundarban islands.

The pivotal role of water in Sundarban life, however, avoids appearing as hydrological determinism because *The Hungry Tide* presents them as part of seemingly contradictory

48 The role of tidal Mangroves in these processes are discussed in the introduction to Adame et al. and the oft-cited 1996 paper by Furukawa and Wolanski.

49 The term “landscape” would also need to account for the relative dearth of dry land and the ways land and water mix so thoroughly there. This is a place where “hydroecology” proves a more accurate and nuanced term, I think.

assessments of its environment and characters. As many scholars note, the novel is also full of characters whose thoughts and actions contradict themselves and each other, and full of cultural frameworks that rely on contradictory logics. Shakti Jaising rightly notes the structural connection between these contradictions and the environment from which they emerge, arguing that “The Sundarbans archipelago functions in *The Hungry Tide* as both setting and character and its ecology and tidal patterns inspire the novel's contemplation of the relationship between human beings and their environments,” foregrounding the importance of environmental dynamism in the lives of Sundarban inhabitants, and drawing attention to those inhabitants and the unjust social pressures they face (74). For Jaising, since these ideas appear through the novel's cosmopolitan characters while its rural protagonist, Fokir, embodies an unchanging peasant ideal, the novel undermines its larger efforts to examine rural dispossession and cultural erasure in the name of first-world environmentalism (83). While this critique is warranted, considering the contradictions presented throughout *The Hungry Tide* as a narrative strategy suggests that attending to moments of contradiction or discontinuity offers insights into the inadequacy of the cultural and environmental frameworks characters (and readers) use to make sense of the novel's environments.

A Mysterious Introduction

The constitutive effects of moving water on the environments and characters who inhabit them appears almost too obviously in the novel's title and organization. Reading these structural features in combination with Nirmal's introduction of the Sundarban environment provides a methodology by which its entangled hydrological/cultural framework should be examined.

Narrative makes it possible to convey information about otherwise unintelligible physical phenomena, and—as a cultural medium—both prescribes and shapes relationships with those

phenomena. Consequently, it reveals how environmental changes and cultural practices coexist and often co-create each other. Rajender Kaur argues this “connects language, history, family, and vocation in an intricate transcultural network” so that “the narrative's complex interweaving of these myths and legends from different cultures into one common heritage of humanity to mirror the distant geological era before the different continents were configured gestures, in effect, to the ‘deep time’ of geology” (Kaur 135). Kaur’s argument typifies ecocritical arguments that cultural and social differences remain subject to collectively experienced scientific facts about the world, while connecting individual humans as members of a species. But this focus on a unifying environmental influence underestimates the immediacy and diversity of experiences of “always mutating, always unpredictable” water, and the way those experiences often contradict each other in ways that prevent a singular understanding of an environment or a fully accurate narration of its properties (Ghosh, *The Hungry Tide* 6).

Those contradictions appear prominently through simultaneous descriptions of tides as physical processes, living creatures, and characters in a story. Ghosh divides *The Hungry Tide* into two sections titled “The Ebb” and “The Flood,” while the opening chapter of the first section is called “The Tide Country.” Naming a place after a hydrological process obviously emphasizes the importance of that process, but more importantly, the name of the place is subordinated organizationally to the cycles of that process (the section titles), which in turn are components of the holistically-experienced “hungry tide.” The novel’s title describes both a system perceived as an object, and the experience of that system; a “hungry” tide does not simply ebb and flood, but satisfies its needs by changing the environment it interacts with. Moreover, a description of the Tide Country and an explanation of its importance concludes the opening chapter, appearing

alongside the novel's first descriptions of Kanai and his initial misconceptions about Piya.⁵⁰ The tides are, in a sense, the novel's titular character, demanding attention from the novel's opening moments.

Just as the novel's opening foregrounds Kanai's misinterpreted, mediated view of Piya, the opening descriptions of the Sundarban estuary foreground the ways it is overlooked and misunderstood from both without and within, while calling attention to the narrative structures both shaping and undoing these misconceptions. The tides are first introduced as an afterthought, an addendum to the other hydrological force that shapes the Sundarban islands: the Ganges river. As Kanai sits on the train, he reads Nirmal's account of the Hindu goddess Ganga and her origin.⁵¹ After explaining how Ganga's "*descent from the heavens would have split the earth had Lord Shiva not tamed her torrent by tying it into his ash-smearred locks,*" Nirmal provides his own metafictional commentary: "*To hear this story is to see the river in a certain way: as a heavenly braid, for instance, an immense rope of water, unfurling through a wide and thirsty plain*" (Ghosh, *The Hungry Tide* 6). This connects the flow of the river to the way India and its people have built their culture and civilization around it. It also figures the tide country as a product of a hydroecological system that includes human beings; the tide country cannot exist without the interaction of river and tides, nor can it be understood outside the religious context that shapes Indians' sense of regional hydrology. The idea that Shiva "tamed" the "torrent" of Ganga's flow uses religion to connect several of the river's properties: the force of the river's flow, its irregular motion, its changing course, and its ability to permeate soil it flows past.

50 This moment is typical of the kinds of contradictions throughout the novel. As he watches Piya from afar, Kanai seems to embody the sexualizing male gaze as he inverts the hierarchy of colonial exoticism, the post-colonial Indian citizen gazing on the "out-of-place" American cetologist traveling to rural India for the sake of advancing western science.

51 The photocopies Kanai reads are not specifically identified as Nirmal's, but since they, like Nirmal's journal entries, appear italicized in the novel, and close with a stanza of Rilke, the connection is presumed. Given that the journal was still sealed in plastic on Nirmal's desk at this moment, however, it is unclear from whence this description comes.

Ganga is simultaneously goddess and river, a reflection of its combined physical and cultural importance to India.

As Nirmal points out, however, the traditional Ganga story does not mention the delta or its islands, nor is Hinduism the dominant religion of the people who live there. To correct this, Nirmal writes his own addendum: “*That there is a further twist to the tale becomes apparent only in the final stages of the river’s journey—and this part of the story always comes as a surprise, because it is never told and thus never imagined. It is this: there is a point at which the braid comes undone; where Lord Shiva’s matted hair is washed apart into a vast, knotted tangle*” (*The Hungry Tide* 6). As Nirmal sees it, the river itself alters the story, even as he acknowledges that the impact of a story is predicated on its reception and acceptance. This presents narratives as responsive to both physical and cultural forces even as they influence the latter (and often the former, as well). Understanding the Sundarbans means extending and “re-writing” mainstream cultural metaphors surrounding the Ganga so they better explain local environmental conditions and integrate with the intimate knowledge of the river delta that inhabitants of the Sundarbans possess.

The temporal and spatial range of that local knowledge appears through the shifting metaphors Nirmal uses to introduce the Sundarbans. At first, “*the islands are the trailing threads of India’s fabric, the ragged fringe of her sari,*” tying the geography to identity via culturally significant clothing. This defines the river in relation to a symbolic national body politic—physical territory as the site of Indian identity, and reminiscent of the river as the circulatory system for the national “body” of the country. Once the physical path of the river and the location of the delta are defined, however, the Ganga itself is personified, as “*these islands are the rivers’ restitution, the offerings through which they return to the earth what they have taken*

from it, but in such a form as to assert their permanent dominion over the gift.” Here, personification shrinks geomorphological cycles into human scales that, in juxtaposition with a personified India, simultaneously cast the Ganga as an entity with human values that human beings can interact with, and something flowing well beyond human influence.

These overlapping impressions and the disparate temporal scales they inhabit rely on Nirmal’s use of metaphor to translate the flows of water through a collective cultural framework into anthropogenic terms. The next sentence connects the ancient and the epic to highly localized relationships between the delta and its inhabitants as *“the rivers’ channels are spread across the land like a fine-mesh net, creating a terrain where the boundaries between land and water are always mutating, always unpredictable”* (*The Hungry Tide* 6). Those nets, like those used by prawn seed fisherwomen (among others), call to mind the people who live and work in the Sundarban islands, as well as the environmental dynamism disrupting and troubling their work. The river has dominion in both the long-term and the short-term, which this series of metaphors highlights even as it establishes the distinctions between those time-scales.

Those distinctions emerge through the multiple temporal scales within which Nirmal considers the river. In a geologic time scale, for instance, the river’s flow appears balanced and cyclical, as the deposition of sediments combines with the resultant topographic changes “creates land” to compensate for that which it erodes upstream. But rivers retain “dominion” in shorter time scales because their unpredictable flow, course changes, and short-term movements of sediments from one area of the delta to another prevent the “offering” from becoming stable in the way land is presumed to be. The narrative connections between these seemingly contradictory time scales prevents “deep time” from appearing as the objective temporal scale into which individual human experiences or cultural myths are situated. Rather, emphasizing and

connecting apparent contradictions figures these time scales as overlapping, interwoven frames of reference; impressions of deep time appear in cultural and individual frameworks, and deep time appears only as it is understood or experienced by individuals and cultures. Removing the clear hierarchy from these time scales prevents them—and the epistemologies they inspire—from being treated as distinct and separate.

The connections between these temporal frameworks are both philosophical and practical. Nirmal demonstrates this by equating the natural sciences' reliance on stories to explain the non-human world to the ways stories about gods and goddesses explain religious obligations. As he sees it, "*there's a lot more in common between myth and geology ... heavenly deities on the one hand, and on the other the titanic stirrings of the earth itself—both equally otherworldly equally remote from us ... and then, of course, there is the scale of time—yugas and epochs, Kaliyuga and the Quarternary. And yet—mind this!—in both, these vast durations are telescoped in such a way as to permit the telling of the story*" (Ghosh, *The Hungry Tide* 150). Nirmal's willingness to connect religious explanations to scientific understanding seems especially strange given his belief that religion is "just false consciousness," and his complaint "that in a place like this people [should] pay close attention to the true wonders of the reality around them. But no, they prefer the imaginary miracles of gods and saints" (*The Hungry Tide* 84–85). Yet as Nirmal describes the tectonic shift and orogenesis that caused the rise of the Himalayas and the appearance of the Ganga, he uses stories about both Vishnu and Tethys to explain the geological history (*The Hungry Tide* 150–51). Since Nirmal's belief in the accuracy of geology is clear, his integration of stories highlights their value as vehicles for inspiration more than truth; they are part of a hypothetical classroom lesson, with the explicit goal of keeping children engaged. Similarly, the formal qualities of these stories are modeled after the

world they try to explain. By framing geology as an epic on the scale of the Mahabharata, Nirmal shows how the scope and scale of that epic poem is necessitated by the scale and scope of the geophysical forces that shaped the river.

The conclusion of Nirmal's lesson, however, suggests that narrative explanations of the river do more than imperfectly model the river or translate its qualities into human scales. Nirmal imagines how, "*if their interest wandered*" he would tell them the story of King Shantanu falling in love with goddess Ganga: "*a single besotted moment beside a river, and thus was launched a parva of the Mahabharata. Why should a schoolmaster deny that which even the old mythmakers acknowledge? Love flows deep in rivers*" (*The Hungry Tide* 152). Nirmal focuses less here on the veracity of the Shantanu story than on the qualities of human-river relationships it reveals, attending to the river's impact on those who encounter it, the way actions and emotions emerge from, and respond to, specific relationships between humans and rivers.

Entanglement changes both the river and its human neighbors. Epics and myths about the Ganga transmit information about the river's history and flow and shape human traditions surrounding the river. Therefore, the flow of the river and the actions of humans can no longer be clearly attributed to either the river's effects on them or to the cultural structures surrounding it. Anthropologist Eduardo Kohn explores a similar relationship between human description, human action, and nonhuman world of the Amazon rainforest in his groundbreaking book *How Forests Think*. Kohn tries to account for methods of signification and communication that do not strictly rely on symbolic semiotics, while suggesting such methods make it much harder to disentangle human-nonhuman relationships.

While the social and cultural histories of the Amazon and Ganga are obviously quite different, a similar entanglement characterizes the human/non-human relationships in the

Sundarban river delta. In particular, Kohn's discussion of "emergent form" offers a way to understand how cultural traditions and written descriptions within *The Hungry Tide* (and well as the novel itself) both rely upon, and are inseparable from, the Sundarban islands. Kohn defines "emergent form" as "the appearance of unprecedented relational properties, which are not reducible to any of the more basic component parts that give rise to them" (Kohn 166).

Discussing a whirlpool in the Amazon river, for instance, Kohn notes how

the novel form a whirlpool takes is never fully separable from the water from which it emerges: block the river's flow, and the form will disappear. And yet the whirlpool is something other than the continuous flow, which it requires ... Emergent phenomena, then, are nested. They enjoy a level of detachment from the lower order processes out of which they arise. And yet their existence is dependent on lower-order conditions. This goes in one direction: whirlpools disappear when riverbed conditions change, but riverbeds do not depend on whirlpools for their persistence" (Kohn 166).

The "nested" qualities of emergent forms apply to the spiritual stories about the Ganga as well as to the traditional practices of living near the Ganga. These stories and practices require the river to exist, and neither river nor culture exist independent of the other, even if the river would continue existing if the cultures around it disappeared. An awareness of "nested" relationships allows for a consideration of multiple, interconnected temporal scales without imposing either a simple hierarchy—human concerns are determined by, or are subservient to, geologic forces—or presuming the kind of subject-based relativism that much scholarship with ecocriticism and earth-systems humanities has emerged to counter.

"The story that gave this land its life..."

Ghosh's focus on cultural forms and frameworks in *The Hungry Tide*—a hallmark of his fiction and non-fiction—can be partly attributed to his graduate training in Social Anthropology. Ghosh also explicitly credits the research and guidance of anthropologist Annu Jalais for his

understanding of tide country history and culture.⁵² Consequently, Jalais’s study of the Sundarbans, *Forest of Tigers*, is the primary reference for scholars whose arguments connect Ghosh’s narrative to historical events or social conditions in the region.⁵³ Unfortunately, the cultural understandings of environment—and the language used to describe environment that Jalais weaves into *Forest of Tigers*—are largely overlooked by scholarship on *The Hungry Tide*. Examining these understandings of environment alongside the way they are described and translated through characters’ interactions in the novel reveals the central role of hydrological dynamism in shaping and re-shaping the learned relationships with the tide country environment that its inhabitants integrate into their cultural and spiritual frameworks. It also disrupts hierarchies of knowledge that privilege stable meanings or fixed rational principles over the contingent, collective knowledges used to survive in dynamic environments like the tide country.

Throughout her study, Jalais describes the cultural contrasts drawn between “land” and “the forest,” as sites of divided labor practices, cultural traditions, and symbolic importance, as “land symbolises hierarchy and exploitation and is seen as dividing families” while the forest appears “as the domain of 'equality', a realm which unites every-one in a web of 'sharing'” (62). When Jalais refers to “forest” in the Sundarbans, she is describing mangrove forests, which establish themselves in intertidal zones calm enough for them to trap sediments (Friess). These forests are inherently waterlogged, constantly changing ecosystems. The idea that “forests” in the Sundarbans are diametrically opposed to land indicates the extent to which typical uses of the term “forest” prove inadequate here. As Nirmal explains, “*a mangrove forest is a universe unto itself, utterly unlike other woodlands or jungles ... at no moment can human beings have any*

52 Ghosh, *The Hungry Tide* 331–32

53 While anthropological study would normally qualify as the sort of distant scholarship that situated knowledges critique and undercut, Jalais’s work and methodology rely on her eliminating that distance. Not only did Jalais live with a Tide Country family as she worked there, but she was “adopted” into the kinship networks of the area, became a teacher in the local school, and through her work, became a “circumstantial activist” whose work and life in the area blurred together (Jalais 17–18).

doubt of the terrain's hostility to their presence ... there is no prettiness here to invite the stranger in: yet to the world at large this archipelago is known as the Sundarbans, which means 'the beautiful forest.'" (Ghosh, *The Hungry Tide* 7). In the Sundarbans, symbolic structures and systems of meaning predicated on either stability or clear boundaries between land and water are both misleading and potentially dangerous. Living in the islands demands careful attention to local environmental characteristics and recognition of the ways site-specific language and culture diverge from the systems to which they are related.

These linguistic and perceptual gaps appear in persistent reminders that language fails to accurately represent the waters of the Tide Country, even as its inhabitants have developed both language and culture distinct to the area. As a professional translator, Kanai provides the most obvious descriptions of the deep connections between the tide country, its inhabitants, and the language they use. When describing a song sung by Fokir, he notes that "you asked me what Fokir was singing and I said I couldn't translate it; it was too difficult. And this was no more than the truth, for in those words there was a history that is not just his own but also of this place, the tide country" (Ghosh, *The Hungry Tide* 292). This breakdown in translation stems from more than just the imperfect mapping of some words onto others, or the difficulty in matching meter, cadence, and tone across languages. It showcases the degree to which language is an emergent product of the relationship between its user and their environment; its specific utterance by a person at a particular time is something that the abstracting and generalizing practices at the heart of translation cannot capture.

It also demands a new consideration of ties between indigenous knowledge and environmental practice.⁵⁴ As Kanai continues, "Fokir, at the age of five, recounted from memory

⁵⁴ Fokir's knowledge is "indigenous" insofar as it, and he, are native to the local environment, but since Tide Country inhabitants openly acknowledge their migration to the region, and adhere to a spiritual

many of the cantos that comprise a tide country legend ... my uncle was amazed by this feat, because then, as now, Fokir could not read or write. But Nirmal recognized also that for this boy those words were much more than a part of a legend: it was the story that gave this land its life ... it lives in him, and in some way, perhaps, it still plays a part in making him the person he is” (Ghosh, *The Hungry Tide* 292). Throughout *The Hungry Tide*, the interfaith story of Bon Bibi appears as a spiritual justification for the complex, chaotic movements of water through the estuary (and the behavior of the tigers who call it home). As Jalais explains, “the reason why the Sundarbans forest fishers believe they are tied in a web of ‘relatedness’ with tigers is because they have the same symbolic mother in Bonbibi, because they divide the forest products between themselves and tigers, and because ultimately they share the same harsh environment, which turns them all into irritable beings ... irritable and angry but also healthy and strong” (Jalais 74). For inhabitants of the Sundarban islands, the spiritual, physical, and social components of existence are not considered separately. Living in the islands means acknowledging the effects of the estuarine environment on individuals and cultures while letting those effects shape future ethics and actions, considering other-than-human perspectives and needs, all while acknowledging imbalances of power both between species and with the environment more broadly. None of this means forest fishers “want” to be attacked by tigers any more than they want to be irritable or in danger. Rather, responsiveness to surrounding conditions is taken as a given; actions and beliefs cannot be treated as separate from the conditions inspiring them.

That spiritual framework is central to the individual identities of its adherents and to their extensive knowledge of local rivers and forests. For Fokir and Horen (the two characters in *The Hungry Tide* who believe in Bon Bibi), that knowledge is a blend of extensive first-hand

framework that openly synthesizes a range of non-local traditions, I would not describe Fokir and other Tide Country inhabitants as “Indigenous” as I use it elsewhere in this dissertation.

experience, stories passed down from generation to generation (as Horen “adopted” and taught Fokir, so Fokir teaches his own son Tutul), and the Bon Bibi stories themselves. Horen’s knowledge of the places and experiences in *Voyages de François Bernier* reflects this: he has visited many of those places himself, and his devotion to Bon Bibi shapes his understanding of how to safely travel through the islands. Similarly, Fokir’s personality is tied to his knowledge of the Tide Country and his ability to travel through it. After speaking with Fokir in his house, for instance, Piya notes that “he’s very different when he’s out on the water” (Ghosh, *The Hungry Tide* 181). This has always been true, it seems, as Nirmal remarks in his journals at his astonishment that such a young boy could be so comfortable in the water. Yet “no one else was surprised by the child’s adeptness. His mother turned to me and saw she was choking with pride: ‘See, Saar, the river is in his veins’” (Ghosh, *The Hungry Tide* 203). Knowledge about the water and experience with its flow is a bodily condition, something that permeates and sustains those who have it.

While the river being “in his veins” implies something inherent, discussions of environmental knowledge elsewhere in *The Hungry Tide* emphasize its learned, social qualities. Late in the novel, as Fokir guides his boat past Garjontola, “he stiffened, rising slightly in his seat. As if by instinct, his right hand gathered in the hem of his unfurled lungi” because he noticed “the goosebumps bristling on the moist surface” of the back of his neck. As Fokir explains it, he knows a tiger is nearby because he feels fear, not the other way around. Kanai, by contrast, reflects on his own lack of fear and realizes that “it was not that he was a man of unusual courage—far from it. But he knew also that fear was not—contrary to what was often said—an instinct. It was something learned, something that accumulated in the mind through knowledge, experience, and upbringing” (Ghosh, *The Hungry Tide* 266). Fokir’s ability to

navigate the tide country reveals distinctions between knowledge, experience, and upbringing while synthesizing them into something that paradoxically appears unlearned. Even Piya, who as a marine biologist has accumulated extensive experience of water and its flow, cannot account for Fokir: “it’s like he’s always watching the water—even without being aware of it. I’ve worked with many experienced fishermen before but I’ve never met anyone with such an incredible instinct. It’s as if he can see right into the river’s heart” (Ghosh, *The Hungry Tide* 221). In descriptions of both Fokir’s fear of tigers and his knowledge of water appear “as if” they are inherent, unconscious, or preternatural. “As if” draws attention to the way considering only a single moment obscures the way that moment is the newest iteration in a long series of interactions. What seems instinctual actually emerges from careful observation of both the environment and cultural traditions. In *The Hungry Tide*, the “deltaic” body and mind Duckert imagines emerge from a combination of deep, direct knowledge and a shared ethical stance toward water by those who live with it.

Most other characters (except Piya), however, establish a dichotomy between this integrated personal/cultural/spiritual knowledge and the rational knowledge associated with both cosmopolitanism and colonial education. More specifically, a belief in Bon Bibi and the integrated world-view provided by stories about her is contrasted with the ability to acquire knowledge through reading. Indeed, discussions of Fokir’s illiteracy are so frequent as to approach caricature. Nilima describes him to Kanai as “by all accounts a perfectly fine young fellow except that he could neither read nor write and made his living by catching crabs” (*The Hungry Tide* 107), while Fokir’s wife Moyna denigrates his intelligence: “I don’t want [Tutul] growing up catching crabs ... but what does [Fokir] understand? He’s illiterate—it’s impossible to explain these things to him” (*The Hungry Tide* 111–12). Over and over again, characters in

The Hungry Tide directly connect literacy to thinking and comprehension. This allows *The Hungry Tide* to foreground the limits of globalized scientific thinking and highlight the value of local knowledge to that science, even if, as Robbie Goh argues, “Ghosh’s fictions inscribe a separation between elite and low natives that is no less deterministic, even though it does not resort to specific biological determiners or discredited racialist categories” (Goh 65). The persistent structural and social struggles facing Sundarbans inhabitants remain largely intact at the novel’s end. While Piya and Kanai understand themselves and the limits of their own perspectives more clearly, Fokir’s death (to save Piya’s life) perpetuates the cycle of death in the mangrove forest that exists independent of Piya’s presence.

But where Goh (and others) read the relative stasis of impoverished local characters as either reifying colonial hierarchies of difference or romanticizing (and thus sequestering) local epistemologies, the role of Nirmal’s journal in the plot of the novel alongside these competing frameworks of knowledge presents written narrative—especially in English, with its deep ties to colonialism—as an avenue for disrupting or resisting external colonial structures of knowledge and power without eliminating or transforming them. Nirmal hopes that his journal will survive so the world will know about the injustices done to the settlers at Morichjhāpi. In this sense, it is a success, informing both characters and readers. It also conveys many stories about the Tide Country and those who live there that would otherwise go unnoticed. Moreover, it is the physical manifestation of Nirmal’s love for Kusum; she inspires him to write all of this down.

At the same time, when Kanai asks Horen to verify Nirmal’s account, Horen provides context lacking in the journal, preventing Nirmal’s written account from silencing other forms of cultural transmission, while creating a multi-vocality that is specifically cross-class. This occurs in part because, as Horen explains, Nirmal misunderstood much of what he described. For

instance, his love for Kusum was not reciprocated: “he was a man of many words, your uncle—and I had very few. I knew he was wooing [Kusum] with his stories and tales—I had nothing to give her but my presence, but in the end it was me she chose ... she took my feet between her hands and washed them clean. It was as if the barriers of our bodies had melted and we had flowed into each other as the river does with the sea” (*The Hungry Tide* 301). Horen has already explained to Kanai that, as an “unlettered man,” he does not speak of love, and that it does not inspire him to write. Instead, he understands love through the integrated bodily/experiential/spiritual framework by which he knows his watery environment. Water, and Horen’s relationship with it, helps him understand what love feels like and means.

Yet Horen only provides this “correction” to Nirmal’s account only when confronted with the physical evidence from the text itself; he had refused to discuss Nirmal otherwise. Moreover, the reader receives all of this through Ghosh’s written text. A doubly-written mediation highlighting the limits of written knowledge privileges neither the written nor the textual; indeed, the novel’s defense of non-literate knowledge alongside its metafictional explorations suggests that written accounts, oral stories, and the “reading” of the environment combine to help human beings to connect to each other and the dynamic environment they engage with, but that those connections are inherently imperfect and tenuous.

Perceptual Trouble

Even as characters learn from their surrounding waters, however, those waters remain inconstant, illusory, and hard to understand or explain. The efforts to describe and narrate water throughout *The Hungry Tide* reveal the difficulty of sensually perceiving (let alone writing about) its force, agency, and flow, especially in environments as dynamic as estuarine mangrove forests. As Piya explains, “The waters of river and sea did not intermingle evenly in this part of

the delta; rather, they interpenetrated each other, creating hundreds of different ecological niches, with streams of fresh water running along the floors of some channels, creating variations of salinity and turbidity” (Ghosh, *The Hungry Tide* 104). This type of mixture combines with intense tides to make both the flow and composition of the waters deceptive. Very often, what seems to be the case is not, and throughout the novel, human senses appear as flawed and misleading as literate, written knowledge does.

The Hungry Tide acknowledges inherent imperfection in perceptual processes, both sensual and literary, without overlooking the differences between perceptual frameworks, and by extension, the difficulties those differences create. Much of the misperception foregrounded throughout the novel, for instance, results from constant cyclical change. When Kanai looks out over the waters around Lusibari “The landscape, in its epic mutability, had undergone yet another transformation: the moonlight had turned it into a silvery negative of its daytime image. Now it was the darkened islands that looked like lakes of liquid, while the water lay spread across the earth like a vast slick of solid metal” (Ghosh, *The Hungry Tide* 128). Each day, changing tides and changing light conditions obviously make the water look different. More importantly, cyclical changes make the water appear static, especially at a distance. Kanai’s sense of his surroundings indicates the connection between sight and stability. That which is hard to see (the land) is presumed dynamic, while that which is visible seems solid and stable.

This is exacerbated by the interactions between tides and river currents. As Kanai watches the river’s surface late in the novel, it is “still as a sheet of polished metal. Having reached full flood, the tide was now at that point of perfect balance when the water appears motionless. From the deck the island of Garjontola looked like a jeweled inlay on the rim of a gigantic silver shield. The spectacle was at once elemental and intimate, immense in its scale and

yet, in this moment of tranquility, oddly gentle” (Ghosh, *The Hungry Tide* 260). This description emphasizes the solidity and weight of water by likening it to metal, figuring water and its constant presence as more solid and stable than the land it constantly erodes and transforms.

The “perfect balance” of this moment, also known as a “stand tide,” reveals the difficulty in directly perceiving complex, dynamic ecological systems. Chatterjee et al. describe a “stand tide” as a length of time when tidal levels change imperceptibly, likely due to tidal waves interfering with each other in shallower waters.⁵⁵ Of course, the water only “appears motionless” as the tide at full flood reflects back on itself; massive amounts of water are still flowing as fresh and saltwater mix, reflect back on, and interfere with each other, even as the illusion of solidity appears through the aggregation of these forces.⁵⁶ The gap between the perceptible and the imperceptible makes the moment simultaneously elemental and intimate—visually inspecting surface waters suggests calm and intimacy, while Kanai’s awareness of local tides, underwater turbulence, and global circulation never fully disappears in the face of what he sees. The dynamic interaction and motion in the Tide Country paradoxically creates a sense of stability, while calling the island a jeweled inlay de-emphasizes the importance of land, figuring water as the essential component of the region’s geography. The islands are additions, afterthoughts, and are not essential to the underlying existence and function of the region. Indeed, without the moving waters, there could be no sediment transport, and perhaps no islands at all. This inverts an anthropocentric focus on land as the site of human life and inhabitation, connecting that land to watery dynamics that undermine individuals’ abilities to process and synthesize what they see.

55 They also point out that this is not due to tidal currents or the slack water at the change of the tide direction. Instead, they attribute it primarily to a harmonic resonance in complex tidal cycles that cancels out what would otherwise be an amplifying tidal wave (Chatterjee et al. 917).

56 The mixing of fresh and saltwater under these conditions is known as a tidal front. Normally, fresh water flows over the top of denser salt water, but given the force of the tides and the apparent “stillness,” this suggests a more vertically mixed water column.

The orderly, mundane qualities of these dynamics, and the ease with which they overwhelm human perception, appear most obviously when characters are immersed in water. As the narrator explains, the surface of the water (and the world beyond) is only visible through a refracted cone of light called Snell's window. But "rivers like the Ganga and the Brahmaputra shroud this window with a curtain of silt: in their occluded waters light loses its directionality within a few inches of the surface. Beneath this lies a flowing stream of suspended matter in which visibility does not extend beyond an arm's length" (Ghosh, *The Hungry Tide* 46). The description of these characteristics is detached and matter-of-fact, and stands in stark contrast to Piya's experience of the silty water. Several hours later, the sensation of "those swift, eerily glowing depths where the sunlight had no orientation and it was impossible to know which way was up and which way was down" remains so immanent that, even sitting safely in the boat, "The memory caused a tremor to shake her body, and when she shut her eyes it was as if the water had closed around her again" (Ghosh, *The Hungry Tide* 93). Even for someone like Piya who is described as comfortable with water, knowledgeable about its flow, and even possessing some instinct for traversing and navigating it, these waters remain persistently disorienting and terrifying.

The submerged environment is not just uninhabitable, it defies human efforts to perceive it, creating a disorientation that magnifies the dangers of submersion. At various points later in the novel, memories of falling into the water rush back to Piya, each time with the repeated description of "those swift, eerily glowing depths where the sunlight had no orientation and there was neither up nor down" (Ghosh, *The Hungry Tide* 161–62). These descriptions explicitly distinguish loss of perception from lack of air or fear of drowning, as "in the open sea Piya would have had no difficulty dealing with a fall such as the one she had just sustained ... it was

the disorientation caused by the peculiar conditions of light in the silted water that made her panic” (*The Hungry Tide* 46–47). While Steve Mentz, Jeffrey Jerome Cohen, and others provide constant reminders that water—especially marine water—remains foreign and hostile to human life, Piya’s experience highlights the way watery hostility is not just physical, but perceptual.

Descriptions of silty water as a “flowing stream of suspended matter” ground these perceptual difficulties in physical referents. A stream of silt flowing through a river of water suggests that “stream” and “river” are not only geographic designations for locations of water’s paths but also for the water flowing through that location, its contents, and the qualities of that flow. At the same time, these descriptions continually re-connect physical conditions to epistemological structures, as silt both exists in water as an object in a medium, and as an independent presence, a stream with the ability to shape sight and movement, since “with no lighted portal to point the way, top and bottom and up and down become very quickly confused. As if to address this, the Gangetic dolphin habitually swims on its side, parallel to the surface, with one of its lateral fins trailing the bottom, as though to anchor itself in its darkened world by keeping a hold on the floor” (Ghosh, *The Hungry Tide* 46). The endemic dolphins cannot “see” any better than a human swimming in the river; they have simply adapted to their inability to see.

The cross-cultural, species-level quality of this perceptual difficulty becomes clearer as Piya considers the river dolphins she observes “circling drowsily, listening to echoes pinging through the water, painting pictures in three dimensions—images that only they could decode” (Ghosh, *The Hungry Tide* 132). Water is the medium for dolphin communication, but that communication is simultaneously art and sight as well, meaning that for a Gangetic Irrawaddy river dolphin, “simply to exist was to communicate.” Because Piya realizes that for a dolphin, seeing and communicating are the same thing, she finds human language limited in comparison,

“for if you compared it to the ways in which dolphins’ echoes mirrored the world, speech was only a bag of tricks that fooled you into believing that you could see through the eyes of another being” (Ghosh, *The Hungry Tide* 132). Speech stands in for language more broadly here, because the representational failures of language limit the capacity for speech to foster empathy. Piya’s experiences in (and on) the water simultaneously highlight the foundational role sensual data plays in communication while pointing out how the fundamental separation between the two undermines the idea that language can mimetically represent sensual experience.

All of this alters the theoretical lessons of water’s flow by complicating notions of both habitability and perception. For Cohen, water is a medium for non-anthropocentric ecological thinking as a binary foil, reminding humans that “we are earthbound creatures. Submergence is our demise, the ruin of those who think ecology’s oikos is anthropocentric, that its inhuman force may be domesticated into lasting or comfortable shelter. Water is a deep and alien world ... A river, like the ocean, swallows. It is no Eden” (xxvii). To be immersed in water is to realize that experiences of the environment as an idealized, interconnected system are made possible by the highly-specific set of physical conditions that facilitate and encourage human life; the phenomenological and philosophical insights of submersion must be found within 3-5 minutes.

Piya’s near-drowning certainly emphasizes this hostility, and the care it demands in response. But since Piya, as an “earthbound creature,” is disoriented by silt and choked by “inhaled mud” that “entered her mouth, her nose, her throat, her eyes ... a shroud closing in on her, folding her in its cloudy wrappings ... its edges seemed always to recede, like the slippery walls of a placental sac” (Ghosh, *The Hungry Tide* 46), her submersion in the river upsets anthropocentric ecological positions while reinforcing perception’s central role in shaping knowledge. Just as the land in the Tide Country seems permanently waterlogged, so too does the

water carry land with it, and in this moment of near-death, calls to mind the mixed solid/liquid origins of human life and, by extension, the persistently hydrated state all ostensibly earthbound creatures must maintain to survive. The river resembles Piya in its composition, but her experience of it is limited by the very things that make them similar.

Even as estuarine dynamics reveal the limits of both language and perception, language is portrayed as a way to negotiate those limits while making them more visible. Throughout *The Hungry Tide*, the local names and stories of the Tide Country draw attention to water's deceptive characteristics. As Kanai re-tells Nirmal's story of Canning—a nearby town on the Matla river—he points out failure of colonial institutions and leaders to account for the utility of local language, as “it's no secret that the word *matla* means ‘mad’ in Bangla—and everyone who knows the river knows that this name had not been lightly earned. But those Ingrej town planners were busy men who had little time for words and names” (Ghosh, *The Hungry Tide* 235). Even if the name of a river can never fully encapsulate its flow and other characteristics, it serves as a reminder that words remain connected to the world from which they emerge. Ignorance of that connection does not prevent the intersection of a river's location and the language associated with it from shaping the geopolitical development of colonialism in eastern India, nor can it manufacture a dichotomy separating cultural erasure and its physical impacts.

Undermining human instrumentalization of and separation from surrounding environments are two of the most common goals of ecocritical scholarship. But by showing how the perceptible differs from cyclical historical tendencies, *The Hungry Tide* suggests the problem is not just that people imagine dichotomies where none exist, but that the physical properties of dynamic environments like the Sundarban river delta masquerade as stable—especially when considered in the time scales of colonial decision-making. This facilitates the kind of

dichotomous and instrumental thinking ecocritics rightly critique. The Matla river, for instance, *appears* to be an ideal site for local inhabitation and for expanding a colonial network of culture and trade—wide, with a deep channel and a straight course. So the British founded Canning, and “here on the banks of the smiling river the work continued: an embankment arose, foundations were dug, a strand was laid out, a railway line was built. And all the while the Matla lay still and waited” (Ghosh, *The Hungry Tide* 235). The association between environmental awareness and linguistic communication becomes even more prominent when a local amateur scientist realizes the environmental danger, and speaks directly to the river: “maybe you could trick those surveyors ... but you can’t make a fool of me. I’ve seen through your little game and I’m going to make sure they know too,” and in response, “the Matla laughed its mental laugh and said ‘Go on, do it. Do it now, tell them. It’s you they’ll call Matla—a man who thinks he can look into the hearts of rivers and storms’” (Ghosh, *The Hungry Tide* 236). The river seems to have intention, emotion, and purpose, even as this description draws attention to the impossibility of those characteristics; as the river responds to the scientist with a “mental laugh,” it reminds readers that the mouths of rivers do not produce language, and thus cannot speak. Of course, rivers cannot think either, so this conversation between man and river simultaneously relies on and calls attention to anthropomorphism as a means for understanding imperceptible systemic forces even as it highlights the absurdity of treating metaphors as equivalents for reality.

The amateur scientist’s accurate prediction that a relatively small storm will destroy Canning also relies on an anthropomorphized Matla, which “took pity on this matal ... rose as if to a challenge and hurled itself upon Canning. In a matter of hours the town was all but gone; only the bleached skeleton remained ... it was caused not by some great tufaan but by a relatively minor storm. Nor was it the storm’s winds that wrecked the city: it was a wave, a

surge” (*The Hungry Tide* 237). As before, water, even as part of a larger ecological assemblage with wind, vegetation, and topography, is foregrounded as the primary dynamic force. Kanai’s story about the hidden life of the river cannot be read, however, as a lesson about the importance of local knowledge in the face of homogenizing global epistemologies, since both he and the amateur scientist are exemplars of postcolonial cosmopolitanism and colonial expansion respectively. Instead, this moment makes a macrocosm out of daily life in the Tide Country, drawing attention to the ways small-scale practices and habits mirror larger cycles and systems, and to the need to (in both local and global scales) look beyond what is apparent for what unfolds more slowly or out of sight.

The importance of looking for water’s multitemporal properties appears in the novel’s portrayal of storms as variously underestimated and overpowering. Two related cycles of storms prove particularly prominent: storms described as much less impressive than their effects—the “minor storm” that destroyed Canning in 1867, or the “unusually high tide” that swamped Kolkata in 1852; and storms of apocalyptic proportions—a 1970 cyclone that Kanai compares to Hiroshima because it killed 300,000 people. (*The Hungry Tide* 189, 286). Horen, who survived the 1970 cyclone, describes how “the storm’s surge had drowned most of the shoreline; the flood was so deep that they didn’t know they had made landfall until they slammed into a tree trunk” (Ghosh, *The Hungry Tide* 287). Juxtaposed with the “very high tide” of other storms, however, the idea of “landfall” appears paradoxical, as a combination of tides and storms inundate the entire coastal region, erasing clear borders between land and water. Both of these recurring patterns reinforce the idea that storms are extreme versions of daily conditions in the tide country.

The persistent connection between daily disruption and cyclical change demands de-emphasizing location, mapping, and organization—this is a watery environment because of what water *does*, not where water is, and trying to determine where water is from moment to moment (or century to century) will prove largely fruitless. Ghosh connects those cyclical forces to longer, less visible cycles via water’s movement—water’s effects mirror each other, but manifest to varying degrees across varying lengths of time through different climatological, hydrological, and ecological assemblages as “The rising waters of the mohona would swallow up the jungle as well as the rivers and their openings” just as the large storm “hurled itself” at the town, leaving behind the skeleton of its prey (Ghosh, *The Hungry Tide* 31, 237). The common language of predatory feeding connects the individual experience of the tides to the cultural impact of a storm, even as the physical forces driving water in these cases differ drastically.⁵⁷

Living in the tide country thus demands “residence” and “inhabitation” be treated first and foremost as active verbs, emphasizing the ongoing act of responding to cycles of moving water over the specific geographic locations where humans live. Doing so acknowledges the extent to which practices of inhabitation in a given environment remain subject to redefinition by that environment’s constant changes, and the extent to which successful inhabitation must remain environmentally responsive. The shifting descriptions of Lusibari clarify this, as “when the embankment, or *bādh*, was riding high on the water, Lusibari looked like some gigantic earthen ark, floating serenely above its surroundings. Only at high tide was it evident that the interior of the island lay well below the level of the water. At such times the unsinkable ship of a few hours before took on the appearance of a flimsy saucer that could tip over at any moment and go

57 Tides are primarily driven by the moon’s gravitational pull, where storm surge is the result of excess water being pushed on shore by strong winds. In locations like the Sundarbans, with relatively gradual increases in depth, storm surge is often more pronounced. And of course, storm surge and high tides can coincide as a “storm tide.”

circling down into the depths” (Ghosh, *The Hungry Tide* 31–32). Even at its “safest,” human beings are adrift in the tide country, sailing an ark through a flooded world. The ark comparison seems especially fitting since in the story of Noah, navigating a flooded world was both a gift from God, a chance to be spared his wrath, and a piece of God’s plan, the means to re-create the world. The survival of Lusibari can, in the low tide at least, seem like indications of God’s goodness, but such destiny is only fleeting, as the juxtaposition of the ark to a saucer emphasizes the degree to which living in the Sundarbans is inherently fraught; God flooded the world to kill everyone, not to provide them a watery home.

Reading Water in Time

Ghosh explicitly ties this responsive attitude toward water—and the changing definitions of inhabitation it inspires—to the act of reading. The “language of water” runs throughout *The Hungry Tide*, even when the messages themselves are not readable. This suggests that continuing to “read” waters of the contemporary moment while learning their cultural and hydrological history offers a chance to navigate, however tenuously, waterlogged environments and the perceptual problems they present. This is not restricted to inhabitants, since a well-practiced outsider like Piya looks at “the currents playing on the water’s surface: it was as if a hand hidden in the water’s depths were writing a message to her in the cursive script of ripples, eddies, and turbulence” (Ghosh, *The Hungry Tide* 290). Whether or not she can “translate” it, Piya sees that the flow of water can be analyzed, and that her interactions with the world should be informed by the patterned flows of water surrounding her.

But where written text is a medium for conveying information about something else, the water is both the medium and the information being conveyed. Connecting water to language thus emphasizes the goals and results of reading over the medium being read. When Kanai

observes Piya, he sees her “watching the water with a closeness of attention that reminded Kanai of a textual scholar poring over a yet-undeciphered manuscript: it was as though she were puzzling over a codex that had been authored by the earth itself” (Ghosh, *The Hungry Tide* 222). Kanai then spatializes his own study of language to help him understand Piya’s observational skill, as “the vistas he had been looking at lay deep in the interior of other languages. Those horizons had filled him with the desire to learn of the ways in which other realities were conjugated” in “a way that seemed to call for a recasting of the usual order of things” (Ghosh, *The Hungry Tide* 223). For both Kanai and Piya, “reading” is explicitly environmental in that it means examining something outside themselves to alter their understanding of the world.

Narrative theorist Peter Rabinowitz points out how reading mirrors interpretation more broadly: “a reader can only make sense of a text in the same way he or she makes sense of anything else in the world: by applying a series of strategies to simplify it—by highlighting, by making symbolic, and by otherwise patterning it” (19). Rabinowitz focuses on reading in the traditional sense, but his insight challenges the assumption that textual descriptions are simply watered-down versions of an unmediated sensual reality. Rather, they facilitate a process of perceptual exploration and patterning that can necessitate (or shape) different relationships with the non-human world. This echoes Duckert’s belief that rain should be listened to, but emphasizes the extent to which rain’s stories lack clear or fixed messages—because they demand interpretation, the messages cannot be presumed to be universal or inherently transcultural. Similarly, reading demands an *active* participation on the part of a reader; as opposed to passively listening to rain’s stories, reading water highlights the reader’s ongoing role in understanding (and ultimately applying) those stories.

This definition of environmental reading allows for the deep connections between cultural frameworks and their physical manifestations that appear in numerous cross-cultural interactions throughout *The Hungry Tide*. When observing how Horen and Kusum genuflect when crossing “the line Bon Bibi had drawn to divide the tide country,” Nirmal realizes that “*this chimerical line was, to her and to Horen, as real as a barbed-wire fence might be to me*” (*The Hungry Tide* 186). Ultimately, considering whether Bon Bibi’s existence is scientifically verifiable, or whether either Bon Bibi or western science has an explanation for every wind, wave, and tiger in the Sundarbans misses the point. Nirmal realizes that examining the effects of environmental phenomena entangled with beliefs is better equipped to examine how humans fit themselves into an ecology than attempting to find explanations that are acultural; scientific verifiability and falsifiability offer only a partial explanation for the world, and as anthropogenic epistemologies, cannot exist independent of cultural frameworks.

Reading helps Nirmal understand the effect of these entangled epistemologies on environmental experience, as he reflects that “*in a way a landscape is not unlike a book—a compilation of pages that overlap without any two pages being the same. People open the book according to their taste and training, their memories and desires: for a geologist, the compilation opens at one page, for a boatman at another, and still another for a ship’s pilot, a painter and so on. On occasion these pages are ruled with lines that are invisible to some people, while being for others as real, as charged and as volatile as high-voltage cables*” Nirmal suggests here that academic disciplines, professions, and other modes of “immersion” in an environment provide “stories” of their own to shape and explain the perceptual frameworks central to the experience.

This sort of immersion is, like Rabinowitz's ideas of reading, already used within narrative theory, offering an account of readers' experiences and comprehension. As Erin James explains, "storyworld scholars argue that narrative comprehension relies upon readers interpreting textual cues to make mental models of a text's world and inhabiting those models emotionally. To understand a narrative, such scholars suggest, we *must* lose ourselves in the same environment and experiences as a narrative's characters" (xi). For James, this deeply comparative process allows readers to imperfectly imagine lives and experiences culturally distant from their own. While the numerous embedded narratives within *The Hungry Tide* function in this way for the novel's characters, helping them appreciate (or at least recognize) each others' diverse world-views, the legibility of the region's waters lend themselves to an extension of this comparative process. If, as James says, "readers must imagine and mentally live in another world with a different set of space-time coordinates and simulate the experiences of an alternative consciousness to understand a story," reading water in translation would mean imagining the time and space through which that water flows, which like other individuals' lives are both real and not truly transferrable. For characters within the novel, reading water depends on both text and reader, simultaneously emerging from the waters themselves while shaping and responding to characters' senses of it. For readers of the novel, it means imagining water as the narrative presents it; the formal and aesthetic qualities that describe water's flow help readers imagine that water dynamically in new ways that are both culturally specific (as the stories themselves are), and connected to a global hydrological system (as the characters within these stories themselves realize in part).

Of course, "stories" from the same environment will emerge through different processes depending on the cultural frameworks and individuals involved in their creation. Comparing Piya

and Fokir, for instance, reveals key differences in the way they “read” the world, as Fokir is “always watching the water—even without being aware of it . . . it’s as if he can see right into the river’s heart” (*The Hungry Tide* 221). Fokir sees in a way that gives the river that quality. The novel showcases the ways in which academic (and especially textual) knowledge is contrasted with an ability to “read” the world, and the way both Kanai and Piya come to appreciate the qualities of Fokir’s material reading over the course of the novel.

Kanai showcases his changing attitude toward this reading practice as he explains his Uncle’s sense of historical materialism, as “for him it meant that everything which existed was interconnected: the trees, the sky, the weather, people, poetry, science, nature. He hunted down facts in the way a magpie collects shiny things. Yet when he strung them all together, somehow they did become stories—of a kind” (Ghosh, *The Hungry Tide* 233). In contrast to the more economic focus of Marxist uses of the term, Nirmal’s blends ecological thinking and the eco-poetic recognition that both people and their aesthetic creations are seen as inhabiting and connected to the material world from which they emerge.⁵⁸ The caveat “of a kind” refuses to equate the two because of their entangled qualities and similar structures, yet provides a methodology of reading; if explaining the connections between disparate facts creates stories, then trying to understand the connections between both human and non-human parts of the world is akin to reading the textual description of such connections for the patterns and ideas they inspire or approximate.

Those connections and approximations manifest in overlapping time-scales, just like the perceptual and narrative limits that shape the novel. That multitemporality consequently appears both predictable and insurmountable, as Nirmal explains in the opening entry of his journal, “*the sun has shown itself in the east and, as if to meet it, the tide too is quickly rising*” (Ghosh, *The*

58 Knickerbocker 16

Hungry Tide 58). The “as if” signals his awareness that such a connection is both coincidental and symbolic. Nirmal is aware he is connecting the tides to the movements of the wrong celestial body. Yet doing so foregrounds the inevitability of the tide’s rise, connecting this particular tide and sunrise to the cycles they remain subject to. Similarly, rising waters connect what has happened, what is happening, and what is yet to come, as “*the nearby islands are sliding gradually beneath the water and soon, like icebergs on a polar sea, they will be mostly hidden; only the tops of their tallest trees will remain in sight. Already their mudbanks and the webbed roots that hold them together have become ghostly discolorations*” while “*herons can be seen heading across the water in preparation for the coming inundation: driven from a drowning island*” (*The Hungry Tide* 58). Juxtaposing the “drowning island” with the “ghostly” tree-roots accentuates the way rising tides cause a twice-daily death to the islands they inundate. Of course, connecting drowning to the rising sun serves as a reminder that this “drowning” is not fatal; indeed, it happens over and over, and is essential for the mangroves’ ability to capture sediment in their root systems and survive. Yet again, the waters flowing through the tide country break the structural connections between words and their referents in the world; their dynamism creates paradoxical disjunctures between what seems to be true for characters in a moment and what proves true over time. Nirmal’s comparison of these tropical waters to the polar sea similarly offers a reminder that these forces are also at play globally, even as they take different forms elsewhere, always experienced in a particular location at a particular moment.

The Hungry Tide and its nested narratives imperfectly document these forces, but still prove useful as a way to mitigate the physical and cultural erasure water’s flow facilitates. As Nirmal explains, “*I am afraid because I know that after the storm passes, the events that have preceded its coming will be forgotten. No one knows better than I how skillful the tide country is*

in silting over its past. There is nothing I can do to stop what lies ahead. But I was once a writer; perhaps I can make sure at least that what happened here leaves some trace, some hold upon the memory of the world" (Ghosh, *The Hungry Tide* 58–59). Writing stands in contrast to the tide country because it crystallizes something that slowly, repeatedly changes in both predictable/cyclical ways and sudden, unpredictable ones. Water, in a tidal zone or elsewhere, remains dynamic—it flows, it evaporates, it recharges aquifers. The experience of water in a given moment is therefore doubly erased; the water of a given moment never stays at the site of its engagement with people, and patterns of flow are neither stable nor predictable over long enough periods of time. Cycles paradoxically obscure themselves, so instead of revealing the past in the present to make a different response possible in the future, they increase the likelihood that the past will be foolishly repeated. Knowing this, Nirmal doesn't hope to account for everything that is to be erased, but to reveal enough about those events and their role in the larger cycles to prevent that erasure from being total.

Interestingly, the compression of time, which Nirmal elsewhere describes as necessary for understanding, plays a major role in this erasure. Nirmal notices that the flow of water alters understandings of temporality in the tide country as well, as he realizes it is not

an emptiness, a place where time stood still. I saw now that this was an illusion, that exactly the opposite was true. What was happening here, I realized, was that the wheel of time was spinning too fast to be seen. In other places, it took decades, even centuries, for a river to change course; it took an epoch for an island to appear. But here in the tide country, transformation is the rule of life: rivers stray from week to week, and islands are made and unmade in days (Ghosh, *The Hungry Tide* 186).

This temporal shift is a change in degree but not change in kind. The same processes occur, the same effects are visible, but emerge so quickly that the process of change becomes more noticeable than its effects. The consequence of this temporal compression is twofold: it brings the agency of the water surrounding people into clearer focus, but it also erases many of the

human historical markers that would otherwise help materialize the human interactions with the environment. Nirmal contrasts the shipwreck of the Royal James and Mary to shipwrecks in the Caribbean, covered in “*the thick crust of underwater life that would cling to the vessel and preserve it for centuries ... but here? The tide country digested the great galleon within a few years. It remains vanished without trace*” (Ghosh, *The Hungry Tide* 186). Nor is this an isolated incident, as “*the channels of the tide country were crowded with the graves of old ships ... today on these sites nothing is to be seen; nothing escapes the maw of the tides; everything is ground to fine silt, becomes something else*” (Ghosh, *The Hungry Tide* 186). That ships wreck so frequently speaks to the unpredictability of the waters, while the constant erasure of old wrecks denies future ships the markers they might use to avoid the fates befalling previous vessels.

Furthermore, Nirmal describes this process as consumptive; water digests ships, and the tides are the mouth into which those ships go to be digested. The metaphor extends well, since the “silt” that is the product of such digestion is, like food, both waste to be carried away and the basis for future growth of islands.

In the absence of material markers, the consequences of reading for water over time means living in response to the potential for upheaval by the surrounding waters. A typical tide country house, for instance, is “held up by a set of stumpy little stilts, stood a foot or so off the ground. As a result, the floors were uneven and their tilt tended to vary with the seasons, dipping during the rains when the ground turned soggy and firming up in the dry winter months” (Ghosh, *The Hungry Tide* 73–74). Just as in *Solar Storms*, there is a clear recognition here that water flows through land, instead of remaining separate from it. But where development engineers in *Solar Storms* failed to account for that flow, this moment highlights what paying close attention to it means: first, in raising the house, attempting to preemptively respond to excessive and/or

dangerous flows of water that are expected, if sudden—building with the knowledge that waters will rise, even if the rise itself may not be predictable. Second, even after building in response to water’s flow, acknowledging that stability remains elusive. Human constructions cannot be “tide-proofed” against daily rhythms, “summer-proofed” against the climatic likelihood of seasonal rain fluctuations, or “storm-proofed” against the unpredictable swells of water that arrive much less frequently. All three of these time-cycles matter in the construction of a tide country house, and their overlap limits the overall stability possible for these structures.

While *The Hungry Tide* reveals how this multitemporal thinking shapes life for Sundarban inhabitants, its metafictional qualities also draw attention to the ways narrative plays a role in preserving understandings of a dynamic environment that would otherwise disappear. The observation and transmission of environmental knowledge throughout *The Hungry Tide* blur the boundaries between narrative and physical reminders, as “*the bādh is not just the guarantor of human life on our island; it is also our abacus and archive, our library of stories ... see if you can pick out the spots where the embankment has been repaired. For each such repair I’ll give you a story*” (Ghosh, *The Hungry Tide* 168). Those stories have physical anchors in the bādh, the imprint of past watery force, but the meaning of those stories rests with Nirmal as a repository of cultural knowledge. Remembering the aggregation of effects of water is more important than presently paying attention since present perceptions so often prove misleading. Connecting stories of water’s effects to the physical residue of those effects offers a partial, if imperfect response to water’s constant, erosive flow.

With that in mind, Nirmal uses these stories to connect both past to present and one danger to another as he asks Fokir to place himself in the position of people experiencing a major storm:

*Imagine the lives of your ancestors ... after years of living on stilt-raised platforms, they had finally been able to descend to earth and make a few shacks and shanties on level ground. All this by virtue of the bādh. And imagine that fateful night when the storm struck, at exactly the time that a kotal gon was setting in; imagine how they cowered in their roofless huts and watched the waters rising, gnawing at the mud and the sand they had laid down to hold the river off. Imagine what went through their heads as they watched this devouring tide eating its way through the earthworks, stalking them wherever they were. There was not one among them, I guarantee you, my young friend, who would not rather have stood before a tiger than have looked into the maws of that tide (Ghosh, *The Hungry Tide* 169).*

As these are Nirmal's journals, he is also trying to do so for Kanai, and by including them, Ghosh asks for such imagination on the part of readers, who can think about how it feels to have water "eating" away at land. And the lesson of these repeated anomalous storms is clear: "*not only could it happen again—it will happen again. A storm will come, the waters will rise, and the bādh will succumb, in part or in whole. It is only a matter of time*" (Ghosh, *The Hungry Tide* 171). Nirmal's certainty emerges from his knowledge of water's ability to transcend its specific environmental presence, as he asks Fokir to "*look at the bādh. See how frail it is, how fragile. Look at the waters that flow past it and how limitless they are, how patient, how quietly they bide their time. Just to look at it is to know why the waters must prevail, later if not sooner*" (Ghosh, *The Hungry Tide* 171). The bādh, as a repository of stories and rock embankment, is more permanent than the individual storytellers it will outlive, and more stable than water insofar as the water in the Tide Country never stays in one place. But by describing both the waters he sees and the embedded history of water and weather in that location, the patterns of storm and tide that eat away at the bādh slowly over time and in sudden surges, Nirmal re-figures the waters' hydrological, cultural, and geomorphological properties into their "patience" and "limitless" flow. His storytelling and use of metaphor translates water's liquid, multitemporal effects, re-imagining the "stable" bādh as fragile, and the "fluid" water as possessing constant, stable power. So in the conclusion of his lesson to Fokir, Nirmal turns back to Rilke, as he always does,

because the Poet realizes that “*the animals ‘already know by instinct / we’re not comfortably at home / in our translated world’*” (Ghosh, *The Hungry Tide* 172). The tide country is ultimately a world shaped, defined, and re-defined by water. This means “reading” waters for both cultural history and hydrological properties remains necessary to navigate, however tenuously, the waterlogged environments with which, as Duckert points out, human lives remain thoroughly entangled. But since both the waters being read and the language used to share those readings remain dynamic, human efforts to shape lives for themselves in response to water appear only temporary and incomplete when considering the length of time across which these waters flow, and the historical precedent for their resurgence. The combined material and linguistic liquidity of the tide country means the practices necessary for comfortable human inhabitation, like the *bādh*, are at best a “translation” of an environmental condition—never a stable baseline of their own.

Rivers (and teapots) of Language

That entanglement is the heart of water’s influence on the ways tide country inhabitants pass on knowledge from person to person and generation to generation. Just as narratives about water approximate some of its other qualities, they also show up as a metaphorical tool to reveal less-watery concepts throughout *The Hungry Tide*. Water, in particular, plays this role because of its importance to both tide country environment and people. Nirmal offers a partial explanation for his repeated use of watery metaphors as he reflects on the inadequacy of his writing to account for the deep connection people experience with the tide country: “*what could I write of it that would equal the power of their longing and their dreams?*” But even as he questions his ability to “capture” the world and people in it in writing, he notes the way his own writing is a reflection of the environment from which it emerges, asking “*What indeed would be the form of*

the lines? Even this I could not resolve: would they flow, as the rivers did, or would they follow rhythms, as did the tides?" (Ghosh, *The Hungry Tide* 180). He cannot decide what part of the complex environment his literary form will model; that it will do so is already presumed. In order to write about the tide country or the people who live there, Nirmal knows his writing will emerge from the waters that shape both the place and the people. His repeated use of watery metaphors is the consequence of his watery home as opposed an effort to explain it.

Similarly, Nirmal sees the blended spirituality and culture of the tide country as explained by the environment itself: *"I have seen this confirmed many times, that the mudbanks of the tide country are shaped not only by rivers of silt, but also by rivers of language: Bengali, English, Arabic, Hindi, Arakanese and who knows what else? Flowing into one another they create a proliferation of small worlds that hang suspended in the flow"* (Ghosh, *The Hungry Tide* 247). Importantly, Nirmal attributes it to "rivers of silt" as opposed to those of water, granting the structure normally used to describe the water to that which it carries. Indeed, he makes the same move in describing "rivers of language," which does not deny the differences between water and words so much as it attends to the connections across that difference. Silt does not disappear or lose its qualities as it blends into the larger river, just as fresh and salt water mix only partially. So, too, do languages partially mix with each other, and "mix" with the environment in which they are situated. Reading and writing estuaries in *The Hungry Tide* emphasizes the extent to which individuals, cultures, and hydrological patterns further transform each other when they are transformed by outside political forces like colonial and post-colonial development, or by increasingly common (due to climate change) global hydrological shifts.

This environmental context of language is what makes communication across cultures so difficult, as in the first time Piya hears Fokir sing the legend of Dukhey and Dokkhin Rai and

realizes “a river of words would not be able to tell her exactly what made the song sound as it did right then, in that place” (Ghosh, *The Hungry Tide* 83). Even without Kanai to explain how deeply engrained this legend is in both people and environment, Piya sees the limits of language to generalize individual experiences. The same motif, however, seems to imply its opposite, as late in the novel Piya, having finally read Kanai’s translation of the legend of Dukhey and Dokkhin Rai, asks Fokir to sing it for her once more: “he began to chant, and suddenly the language and the music were all around her, flowing like a river, and all of it made sense; she understood it all. Although the sound of the voice was Fokir’s, the meaning was Kanai’s, and in the depths of her heart she knew she would always be torn between the one and the other” (*The Hungry Tide* 298). Being surrounded by water means telling and hearing watery stories like that of Dukhey’s, but this moment emphasizes the experience of being in and surrounded by a river more than a channeled flow of words, emphasizing immersion over communication. Piya “understood it all” both because she has now read different versions of the legend that provide her context for what she hears, but also because she sees how all the different pieces of the legend—its characters, its setting, and its performers—combine to make it what it is.

Elsewhere in the novel, Kanai has a similar insight in the form of a water management metaphor. Believing he has encountered a tiger, “it was as if his mind, in its panic, had emptied itself of language. The sounds and signs that had served, in combination, as the sluices between his mind and his senses had collapsed: his mind was swamped by a flood of pure sensation” (Ghosh, *The Hungry Tide* 272). The ordering properties of language are likened to efforts to constrain water’s flow, and the failure of language is likened to water running freely. But while metaphors signal incompleteness of perception, they also “translate” water’s flow into more explicitly human scales. As Piya and Fokir weather a cyclone in the novel’s closing pages, Piya

sees “something that looked like a wall, hurtling toward them from downriver. It was as if a city block had suddenly begun to move: the river was like pavement lying at its feet, while its crest reared high above, dwarfing the tallest trees” (Ghosh, *The Hungry Tide* 315). Once again, the “as if” here signals an effort to reveal how the embodied experience of water defies expectations. Describing a wave as a building presents its impact in terms sensible to Piya—who grew up in a city and has never seen a wave this size—and readers who are more familiar with city blocks than mangrove estuaries. Using structural concrete as a metaphor is a further reminder of how water’s liquidity, its tendency to flow around other objects, *feels* absent in this moment. Once the wave breaks over them, that force regains dynamic qualities as “it was as if a dam had broken over their heads. The weight of the rushing water bent the tree trunk almost double ... the water raged around them, circling furiously, pulling at their bodies as if it were trying to dismember them” (315). The water appears as an animal, acting in this moment like the crocodiles who appear earlier in the novel; trying to submerge humans and rip them apart. The proliferation of metaphors here also suggests how hard “capturing” water’s flow in writing proves. None of these metaphors encapsulate the experience of rushing, crushing water, even though a crashing wave generates a tremendous amount of pressure and force, and turbulent flows thrash someone about underneath the surface.

The novel’s closing pages capture the ways these connections serve as pieces of individual identity in a dynamic world permeated by water that dwarfs humans in its age, power, and influence by developing the recurring motif of drinking tea. Although never explicitly discussed in *The Hungry Tide*, the presence of tea in the Sundarbans indicates the lingering colonial influence that still shapes these islands’ culture and people. That colonial influence, however, is (as it is elsewhere) situated into a climatological context by the novel’s closing

cyclone, as “the island was filling with water, like a saucer tipped on its side, as the wave encircled it” (Ghosh, *The Hungry Tide* 319). Superficially, this is an example of “the power of the water” over and above that of human beings, but also indicates the ways structures governing large, systemic movements of water reappear in simpler forms all over—the lessons of water’s flow and power manifest in ways more obvious and immediate than global climate change or catastrophic cyclones.

The results of that simplicity appear further as Piya explains that “for me, home is where the Oracella are, so there’s no reason this couldn’t be it” while Nilima responds, “that’s the difference between us. For me, home is wherever I can brew a good pot of tea” (Ghosh, *The Hungry Tide* 329). The water of the tide country has, throughout the novel, sustained fishing, scientific exploration, and development, while erasing efforts for settlement and leading to death and destruction. And in these final lines, both Piya and Nilima ascribe their sense of home to a particular watery relationship; water as the home and communicative medium for animals, and water as a beverage and trans-corporeal pleasure. *The Hungry Tide* leaves this “difference” between the women unresolved, and indicates that resolution is neither valuable or necessary. More important is the awareness of how those definitions of home flow through personal experience, through cultural frameworks of knowledge and vision, while remaining rooted in ecologies that entangle cultures and entities in persistently unexpected and exciting ways.

Ultimately, the argument that “metaphors have some basis in reality” is neither new or interesting. But in this case, it’s important to highlight the way moments that seem like mediations or representational imperfections actually capture the way water is simultaneously experienced as an immediate physical force, an object of cultural understanding, and a collection of molecules that circle the globe. Eco-narrative theorist Erin James argues that mediated access

to other times, spaces, and experiences is an essential component of reading, as “reading—or any type of narrative comprehension—is a virtual form of environmental experience, in which interpreters of narratives access mental models of material contexts they otherwise would not know” (James xi). James is rightly wary of the assertion that water (or any other non-human) creates narratives, strictly defined. But *The Hungry Tide*, by revealing how even “direct environmental experience” remains embedded in cultural and hydrological epistemologies of water, applies attitudes and frameworks of reading where standards of “narrative” are not met. Furthermore, asking whether something is “more/less real,” “more/less mediated,” or “qualifies as a narrative” misses the point. Rather, considering how different interpretive frameworks enhance and inhibit understanding opens up connections between understandings of water and practical or ethical human relationships with it.

Chapter Four - Committed to Blood: Communal Disasters in Jesmyn Ward's *Salvage the Bones*

Popular and scholarly discussions of Hurricane Katrina focus primarily on New Orleans, often to argue that the destruction caused by the storm should be considered an anthropogenic disaster as opposed to a natural one. This argument rightly notes that the flooding and destruction in the city were largely the result of governmental failures to adequately build and maintain levees, while the high death toll in predominantly low-income areas resulted from residents' inability to evacuate, and from the slow and inefficient government response to the hurricane and subsequent flooding. Focusing on New Orleans as the site of an anthropogenic disaster emphasizes the role of human systems in creating the social conditions that leave individuals and communities unnecessarily exposed to storms, as opposed to focusing on how a confluence of factors in the climate system spawned a major hurricane that happened to track over a major city situated below sea level. Arguably the most prominent piece of fiction about the landfall of Hurricane Katrina, however, does not mention New Orleans (or the underpinnings of the disaster there) at all. Winner of the 2011 National Book Award, Jesmyn Ward's novel *Salvage the Bones* is set in the Mississippi Gulf coast, the area hit by Hurricane Katrina's most powerful northeast quadrant. Ward draws attention to this choice in interviews, pointing out that

people weren't really paying attention to what had happened along the Mississippi Gulf Coast, where a different kind of Katrina, a different kind of catastrophe related to Katrina, had occurred. Whereas what happened in New Orleans was much more the result of a man-made disaster, in Mississippi it really was the hurricane itself that had devastated so much. Yet even though the catastrophes differed, the conversations that were going on about both disasters really ignored people, I felt. There was no humanity in the coverage (qtd. in Hartnell 215).

This statement showcases the struggle to describe the overlap of individual and systemic conceptions of environmental disruption: even as Ward complicates discussions of Hurricane

Katrina as an anthropogenic disaster, she reasserts the importance of anthropogenic experiences and perceptions of “natural” climatic events. The implication here is that covering events with “humanity” would attend to complex individual lives and communities without instrumentalizing them to showcase systemic failures or anthropogenic climate change.

Given Ward’s hope that *Salvage the Bones* is both about “the hurricane itself” and about the “humanity” of those who experience it, I argue that reading for “the hurricane itself” means reading for the climatic history of gulf storms and the cultures exposed to them, revealing the ways other-than-human and anthropogenic agencies shape each other as they shape and define the “humanity” of individuals and communities. *Salvage the Bones* showcases the role of entangled local and systemic environmental relationships in the ongoing legacies of slavery and segregation experienced by African-Americans, exploring the communities and knowledges emerging from those legacies, especially when combined with the environmental potential for natural disasters and the way that potential shapes life along the Mississippi gulf coast. The novel also figures the persistent “wetness” of life in the bayou as both the impetus for, and essential to, an environmentally situated conception of individual and community identity that complicates efforts to craft narratives of political responsibility, blame, and community as they relate to Hurricane Katrina. While *Salvage the Bones* attends to the racial injustice and institutional abandonment facing its characters, it repeatedly connects both to characters’ experience of water and its multitemporal influence. The novel presents the storm as a single manifestation of climatic tendencies while tying the preparations, experience, and aftermath of the storm to the racialized histories of the gulf coast and to the ways previous storms have shaped individual, familial, and communal identities in the region. Doing so situates Katrina into an extended

climatic history without ignoring the role anthropogenic systems in the lives of gulf coast residents.

Salvage the Bones further entangles climatic and anthropogenic temporal frameworks by centering the lives and experiences of marginalized communities of the gulf coast and their ability to discover and pass on the embodied and cultural knowledge of water, its persistent mixture with land, air, and living matter, and its ability to transform all three both immediately and across generations. All of this knowledge is central to their personal and community identity, even as it is learned unwillingly, and at great cost. By refusing to separate the bodily, cultural, and climatic registers of water over time, *Salvage the Bones* illuminates an environmentally attentive and culturally-situated response to disasters like Hurricane Katrina that neither belittle human agency and experience in the face of planetary climate systems, nor presume that anthropogenic cultural structures and circumstances exist independent of the environments within which they are situated.

Fittingly, then, *Salvage the Bones* weaves both personal and familial narratives into the approach, landfall, and aftermath of the storm through the first-person narration of Esch Batiste. Esch is a fifteen-year-old African-American girl who lives with her father (known as Daddy) and brothers Randall, Skeetah, and Junior outside of Bois Sauvage, a fictional town on the coast of Mississippi. Each of the novel's chapters covers a single day, beginning ten days before Hurricane Katrina's landfall. As the storm approaches, Esch links this specific storm both to the history of hurricanes in the region, and to major events in her past and present, including: her mother's death while giving birth to Junior; her father's subsequent alcoholism and occasional abuse; her unrequited love for Manny, Randall's best friend; her discovery that Manny has gotten her pregnant; Skeetah's efforts to breed his prized pit-bull China and keep her puppies

alive; and Randall's efforts to secure a basketball camp scholarship with the hope for future athletic achievement and monetary security. These storylines combine to provide a sense of life for impoverished black Americans in southern rural bayous, reminiscent of what Christina Sharpe calls "annotation," whereby images and accounts of Black suffering are extended beyond the voyeuristic, instrumental, or (more cynically) pleasurable so as to "open this image out into a life, however precarious, that was always there" (Sharpe 120). For Sharpe, "annotation" is part of her larger effort to examine how Black life and culture perseveres "in the wake" of slavery, "to ask what, if anything, survives this insistent Black exclusion, this ontological negation, and how do literature, performance, and visual culture observe and mediate this un/survival" (Sharpe 14). *Salvage the Bones* annotates discussions of life on the gulf coast *both* because it centers the experience of the African-American community without instrumentalizing it, and because it focuses on the watery epistemology emerging from the environmentally precarious experience it centers.

But while abandonment by the state and legacies of racial slavery are foundational to *Salvage the Bones*, and foregrounded in the scholarly discussion, they are not explicitly discussed in the novel, which focuses on the internal dynamics of Esch's community, that community's ongoing relationship with its surrounding environment, and the hurricanes (and constant potential for hurricanes) that characterize it. Persistent wetness in *Salvage the Bones* suggests that surviving "in the wake" of both slavery and the environmental exposure it has caused demands attention to the human/water interfaces that define life here. Restricting readings of a hurricane to signify political abandonment overlook the degree to which the tropical cyclones are (and will continue to be) outside anthropogenic control, and a key feature of life on the gulf coast that shape the lives and epistemologies of those who live there.

This epistemology appears through Esch's descriptions of her life and the impending storm, which are full of connections between humans and their surrounding waters. Esch carefully examines the physical and cultural influence of the waters surrounding her, using descriptions of water and water metaphors as a means of understanding her world. This formally connects Esch and her community to their environment as a home, and to the environmental knowledge she and her family have survived to acquire. Trying to catalog all the connections Esch draws between different waters surrounding her, and the way they flow into each other, would prove both exhaustive and counter-productive. Water is everywhere in *Salvage the Bones*, so omnipresent that it is the reference point for all of Esch's emotionally and corporeally significant experiences. Examined together, these moments reveal the layered environments that characterize bayou life: climatic wetness is reflected in smaller scales all around, offering discrete experiences and moments for accessing, microcosmically, the otherwise diffuse or distant forces influencing that wetness and the communities exposed to it.

Ward herself draws attention to the importance of this multi-layered reading practice: "when I was writing Esch in *Salvage the Bones*, I would think about the ways that what she's seen, in the place where she's from, and how the culture in the place that she's from, would influence the way that she's seeing the world in those twelve days. On the level of language, I would think about what are the metaphors for what she would see, what are the similes that she'd see, what will stand out for her, what is informing what she's seeing, giving her context for what she's seeing" (Hartnell 212). This suggests that Esch as a narrator tries to explain and contextualize her experiences as a character, and that the largely overlooked patterns of water metaphors and references throughout *Salvage the Bones* indicate its importance. Esch's personal efforts to read water, and her community's developed knowledge of water and its destructive

potential, are essential to her personal and cultural survival. Formally, the overlap between personal, cultural, and climatic understandings of water that comprise this knowledge appear most clearly in the way historical metaphorical associations with water break down as Esch uses water, water creatures, and water myths as a metaphor for various (and sometimes contradictory) aspects of her life and psyche. The persistent presence of water in the gulf coast life appears both as an environmental exposure influenced by race and class, as well as a means of understanding human relationships with coastal environments. This focus on long histories and learned traditions of inhabitation is especially important because while humans have always lived near water, doing so increasingly means living near or on the ocean—40 percent of people live within 100 km of the coast, and 10 percent live within 10m of sea level along the coast (McGranahan et al. 22). These numbers have been rapidly increasing over the past century, and are expected to further increase over the next century; they become all the more striking in an era where the depth, chemical composition, and weather of the world's oceans is expected to change dramatically due to anthropogenic climate change.

Reading for the watery environment and climatic patterns in *Salvage the Bones* does not erase the anthropogenic qualities of Hurricane Katrina, but situates and contextualizes them. Even as discussions of state abandonment and the unnatural qualities of disasters remain essential to environmental justice, *Salvage the Bones* shows that if hurricanes reveal power imbalances across race and gender, they do so because deep connections exist between groups of humans and their surrounding environments. It also shows how the communities emerging from that unjust environmental exposure can use hard-won environmental knowledge to both defend themselves and provide a path for further efforts to resist the race and class structures that continue to shape environmental experience.

Biopolitics and Animality

Much of the scholarly conversation surrounding *Salvage the Bones* discusses whether the novel exemplifies or complicates the dominant cultural narrative of Hurricane Katrina as an unnatural disaster that exposed the biopolitical abandonment of African-Americans by the state. Molly Cade Brown argues that the novel situates the contemporary Agambenian “bare life” of Bois Sauvage residents into the long history of abandonment and trauma inherent in slavery and its aftermath. Similarly, Brian Railsbeck suggests that “Ward has created a contemporary warning cut from ever-widening income inequality, growing racial alienation, and disastrous climate change—all without the comfort of a system by which to analyze our problems or of a promise that somehow the people will keep moving forward” (Brown 3–4; Railsback 194). These types of arguments rely on contextual information about African-American communities in the area, treating the novel as a product—and thus an indication—of structural inequality, racism, and abandonment.⁵⁹ As Christopher Lloyd explains, “we can see Katrina as revealing the persistence of southern history, arguing the storm’s effects on black southerners recollect the historical legacy of denigrating African Americans to a form of ‘bare life.’ Those who were marginalized before the storm’s arrival—through entrenched poverty and structural racism—were further marginalized after it” (Lloyd 246).

By contrast, Richard Crownshaw argues that “theories of biopolitics used to conceptualize the ways in which African American life has been removed from the protections of

59 While Railsbeck and Wai Chee Dimock (among many) discuss anthropogenic climate change, and the way Katrina’s power indicates the effect of anthropogenic climate change on hurricanes, the novel neither mentions climate change explicitly, nor presents the lived experience of increasingly frequent and intense storms in the way structural racism and economic abandonment appear implicitly throughout the novel. It’s also important to note that while scientists’ abilities to attribute some events (heat waves and forest fires, for instance) to anthropogenic warming have improved dramatically since 2005, it remains difficult to model the anthropogenic components of any single large, complex weather systems like Hurricane Katrina.

citizenship and state sovereignty do run the risk of universalization” through “a process of re-othering and a suspension of historical agency” that overlooks environmental and cultural specificity in favor of structural analysis (Crownshaw 225). For Crownshaw, *Salvage the Bones* is a testimony whose value comes from a commitment to *this* particular family in *this* particular place, emphasizing characters’ lived experiences over the political and social conditions those experiences indicate. These views are corroborated, I argue, by the way racism and its effects are implicitly and indirectly present throughout the novel without being discussed specifically. The social context of slavery and racial exclusion are treated as the foundation for a story explicitly centering “abandoned” lives as they unfold independent from (or in spite of) those structural forces. Molly Travis argues this focus facilitates “the transformation of the reader who looks at the other from a distance into a reader who sees with the other” especially through Ward’s willingness to engage with motifs often used to stereotype impoverished blacks in the south, notably teen pregnancy and dogfighting (Travis 219, 221). Travis sees *Salvage the Bones* as an effort to present the community of Bois Sauvage beyond the stereotypes otherizing them, and by extension, placing the specific experiences of those residents ahead of the meaning attributed to them by cultural theory about Katrina.

These competing perspectives on the novel’s treatment of biopolitics also appears in scholarly discussions of the ways *Salvage the Bones* blurs distinctions between humans and animals. In arguments focusing on Esch and her family as examples of biopolitical abandonment, human-animal connections are used as evidence of the ways African-Americans are animalized as part of their exclusion from the state, while disappearing distinctions between the two support an understanding of individual and community agency attuned to the connections between individuals, others, and the surrounding environment. Brown argues that “by projecting

animality onto socially subjugated groups, these individuals are framed as neither animal nor human life, but bare life” (3). Lloyd similarly emphasizes the extent to which

Ward’s southerners are companion species in the face of ecological and sociological collapse. Esch and China together make each other up, reflecting and mirroring one another’s throwaway existence ... It is not just that the species line is blurry but that Ward is interested in the ways that bodies are never quite entire, intact, or solid; the line that ostensibly separates human from animal is a fiction and obscures various modes of corporeal precarity. As black southerners, the characters of Ward’s novel perhaps see this fact clearer than many (255).

This scholarship rightly draws attention to the environmental exposure faced by the African-American community in Bois Sauvage, and to the way such exposure provides these communities with a body of environmental knowledge. But since *Salvage the Bones* also blurs lines between human and water, between animals and water, reading beyond multi-species communities proves necessary, and draws attention to the role of literary metaphor in conceptualizing deep interconnections among species, across species, and between organic and non-organic matter.

Moreover, some scholars see corporeal precarity as a site of recuperation and reclamation instead of rejection. For Erica Edwards, “*Bones*’s evisceration of the distinction between human and nonhuman life opens its ethic of subsistence and sustenance to a field of being—and, importantly, knowing—that doesn’t reject but exists in parallel relationship to the biopolitical operations of the state” (Edwards 157). This understanding refuses to ignore the structural abandonment facing Esch and her family, even as it figures that abandonment as the genesis for new possibilities. As Crownshaw explains it, “with the idea of transcorporeality in mind, Esch is indeed the child of the storm, of environments of oppression, both local and planetary. Not just an environmental conduit, wholly porous to the world, Esch, and Ward’s other subjects, find their agencies and therefore futures in what Nancy Tuana would describe as

their ‘viscous porosity.’ It is the viscosity of their (em- bodied, cultural and ideological) interactions with the world in which resistance can be found” (Crowshaw 230). While both Edwards and Crowshaw allude to new environmental onto-epistemologies, they (and most other scholars) limit their discussions of human/animal distinctions to comparisons of Esch, Skeetah, and the pit-bull China, who appears more like a protagonist than a family pet. Considering the novel’s myriad references to aquatic life, however, further emphasizes the environmental relationships Esch and her family forge in response to (and through) their struggles to survive at the margins of society.

Glimpses of these environmental relationships appear throughout scholarship on the novel, but very little focuses on them directly. This is in part because of the belief held by some scholars that “although *Salvage the Bones* is situated in the maelstrom of Hurricane Katrina, it is not really about the disaster of the storm – and thus it is a book very different from all of the other Katrina books that those of us in New Orleans and on the Gulf Coast used as part of a literary coping mechanism” (Travis 219–20). To say that the book is not about the storm ignores the way it spends its final forty pages outlining its landfall and its effects in detail, while the entire novel discusses both preparations for hurricanes and the ways in which hurricane conditions and damages emerge from existing local environmental characteristics.

Those environmental characteristics are typically mentioned in passing, as when Benjamin Eldon Stevens notes the watery qualities of Bois Sauvage in his analysis of the novel’s use of Medea myths: “the precision of the identification is also disquieting: not necessarily because Medea-Esch is to be feared, but because any such fixity is foreign to a world given to fluid, even watery, transitions” (Stevens 8). Sinéad Moynihan makes a similar observation as part of her argument about connections between Ward and William Faulkner: “throughout the

novel, pregnancy and maternity are linked to rain, floods, storms, and trees, a correlation that also vacillates between associations of passivity and victimhood, on one hand, and power and agency on the other” (Moynihan 563). Raymond Malewitz takes up the force of hurricanes to argue for a reconsideration of regionalism in an era of climate change, as “*Salvage the Bones* bases its sense of region on what persists in spite of the hurricane’s destructive power: the bonds that still hold the family and the larger community of Bois Sauvage together. At the same time, it is the hurricane itself that provokes this salvage effort and thus, in a sense, instantiates regional thought” (Malewitz 716).

All of these scholars identify the role water plays in *Salvage the Bones*, but only peripherally. This chapter shows how Stevens’s sense of environmental flux, Moynihan’s sense of vacillating environmental power, and Malewitz’s arguments about regional identity all rely on an ability to recognize times and places that are not immediately visible yet remain tied to, and a part of, the present moment. In other words, it is not simply the hurricane, but the potential for hurricanes (and the climate that enables their growth) which undergirds the cohesive identities Esch and her family rely on to survive. This reading complements the longer views of history often taken by biopolitical readings of the novel like Brown’s, suggesting that “the depiction of Hurricane Katrina challenges our sense of the hurricane as a discrete, punctual event” because “the hurricane is not an aberration, a break or betrayal of sovereign protection, but rather exists for Esch and her family as another episode in a longer history of abandonment, thereby gesturing towards the capillary form of biopolitical power” (14). The hurricane is not an aberration, but in a different way from what Brown suggests. Instead, its depiction challenges our sense of *the experience of the hurricane* as a discrete, punctual event, revealing extended environmental histories without denying the importance of social and political forces.

Ultimately, this chapter shows that *Salvage the Bones* connects questions about political abandonment and animality to the climatic and environmental conditions that catalyze the hurricane and shape its effects. This demands an understanding of water that is both temporally and spatially dynamic. Nigel Clark, in analyzing Hurricane Katrina more broadly, argues that “we are compelled to reconsider the question of a social ordering or communal formation that responds to the imperatives of the earth. This is not a call to re-embed the social in a stable substrate, but a stipulation that social and communal life always was and always will be responsive to the rumbling of the earth, to the periodic ungrounding of its ground” (Clark 146). Only when focusing on that dynamism does the experience of Gulf Coast life Esch describes become clear, as that dynamism highlights how tenuous the lives of “abandoned” Americans are, even in “normal” environmental circumstances. And only when reading practices focus on unstable, rapidly changing, or incomplete meanings can literary avenues for exploring environmental dynamism appear as helpful or approximate instead of short-sighted or inadequate.

Stormy Histories

These reading practices are, by necessity, historically attentive. While *Salvage the Bones* takes place in the days directly surrounding Hurricane Katrina’s landfall, Esch connects the individual storm both to a long-standing history of hurricanes in the region. As she puts it,

it’s summer, and when it’s summer, there’s always a hurricane coming or leaving here ... we ain’t had one come straight for us in years, time enough to forget how many jugs of water we need to fill, how many cans of sardines and potted meat we should stock, how many tubs of water we need. But on the radio that Daddy keeps playing in his parked truck ... the forecasters said the tenth tropical depression had just dissipated in the Gulf but another one seems to be forming around Puerto Rico (Ward 4).

Even if the details of storm preparation have become fuzzy, Esch still has extensive knowledge of how to plan for and survive major storms, and a nuanced sense of their relative strengths and paths. The discussions of hurricanes Esch's brothers and father have with Manny in the novel's opening pages further reveal a collective awareness of hurricanes emerging from a blend of personal experience, vernacular knowledge, and selective institutional trust. Manny interprets the gap between major storms as evidence that "they don't come this way no more. When I was little, they was always hitting us ... news don't know what they talking about ... every time somebody in Bois Sauvage get arrested, they always get the story wrong" (Ward 5–6). Randall blends personal and institutional knowledge, reminding Manny, "that's journalists. Weatherman's a *scientist*," while simultaneously questioning his father, since "there ain't even a tropical depression yet ... and you got Junior bowling shine bottles" to fill with emergency water (Ward 6). Both boys have enough first-hand experience with tropical cyclones to connect conversations about the weather to the deeper structural forces—news, science, criminal justice—shaping life in Bois Sauvage. In other words, interpreting storms and the risks associated with them is another way this community considers the extent to which it is marginalized by the broader society, and the extent to which that marginalization renders societal institutions untrustworthy.

Daddy's response to both boys offers yet another form of lived knowledge: "This year's different' ... for a moment he looked not-drunk. 'News is right: every week it's a new storm. Ain't never been this bad.' ... 'Makes my bones hurt,' Daddy said. 'I can feel them coming'" (Ward 6). Daddy's knowledge is, like the teenagers', personally acquired, but has become bodily, connected through his aching joints to the effects of lifelong manual labor on his body, deep enough to transcend even the alcoholism caused by his wife's death. Here again, the

precarity of life in Bois Sauvage appears through the deep understanding of storms Bois Sauvage's most environmentally-exposed residents have acquired. This is hurricane country, and it creates a hurricane culture.

That culture, as it appears in *Salvage the Bones*, is specifically African-American. By entangling knowledge of racial dynamics with environmental knowledge throughout the novel, *Salvage the Bones* underscores the way environments are differentially experienced due to race, while highlighting the role of that differential exposure in local community formation. These racial politics are often discussed peripherally, and do not manifest through direct inter-racial interactions. The racial divides are so deep that Esch and her family almost never encounter white people in their community at all, nor need to speak of them. Indeed, white people take on almost mythical status, as Randall uses them as fairy-tale villains to scare Junior and teach him a lesson: "You ever heard of Hansel and Gretel? Well, that's who own that house, and they want to fatten you up like a little pig and eat you. So shut up and stay in the woods with Big Henry. And if you sneak out like you did last night—shut up, Junior, I saw you—I'm going to catch you and whip you. That's if the white people don't eat you first" (Ward 75). On one level, Randall's revision of a fairy tale de-centers white experience by using dominant identity categories as tools for black identity formation. Junior doesn't know (and doesn't need to know) real white people to live his life in Bois Sauvage. At the same time, this moment calls to mind the very real threat of violence facing young African-Americans in this area, realized as the white home-owner sends his guard dog after Randall, Junior, Esch, Henry, and Skeetah after he catches them in his field.

These social differences manifest geographically and environmentally. Esch describes taking the bus "out of the black Bois that we knew and into the white Bois that we didn't that

spread out and upcountry, past churches and one-room stores selling cigarettes and hot fries, chips and cold drinks in glass bottles and penny candy, the kind of stores that have one gas tank out front with the writing scratched off (Ward 70–71). The designations “Black Bois” and “White Bois” make it impossible to consider Bois Sauvage without considering the racial categories that comprise and shape it, while the descriptions of life in “white Bois” suggest that blacks remain marginalized even though the whites also appear “abandoned” by the regional and national economies; class divides do not fully explain the segregation here.

The few explicit descriptions of that segregation in the novel highlight its dynamic qualities, and formally link it to characters’ experiences of the bayou environment. Esch describes the “White people who lived in that house at the edge of the black heart of Bois Sauvage” (Ward 65), and later extends the metaphor: “we live in the black heart of Bois Sauvage, and he lives way out in the pale arteries” (Ward 97). These descriptions play on the double meaning of heart, figuring the black community as sustaining its surroundings, while tying the identity of Bois Sauvage to its majority-minority status—whites live outside of the bayou, and whites with money live closer to the water. This metaphor also alludes to the broader connections between blood and its flow and the waters moving through the air and ground of the bayou that appear throughout the novel (discussed in more detail below). Figuring the socio-ecological environment of Bois Sauvage as a multi-racial body emphasizes the way segregated communities are neither separated—the dominant community cannot survive without the labor of its marginalized residents—nor fixed, as the marginalization of African-Americans creates an African-American community in response; the “black heart” of people who support each other because they cannot expect support from their neighbors.

Since race and environment intertwine to shape life in Bois Sauvage, considering the gulf coast's history of storms as it appears in *Salvage the Bones* shows how attention to environmental characteristics reveals connections between contemporary social structures and regional histories of slavery. This is especially important in light of assertions that material ecocriticism, by arguing that a focus on other-than-human matter (and the unknowable temporal scales often needed to consider it) risks erasing or obscuring differences and imbalances of power between groups of humans. As Esch describes the constant threat of hurricanes in the gulf coast, she explains that “each pushes its way through the flat Gulf to the twenty-six mile man-made Mississippi beach, where they knock against the old summer mansions with their slave galleys turned guesthouses before running over the bayou, through the pines, to lose wind, drip rain, and die in the north” (Ward 4). This is the only explicit reference to slavery in the novel, juxtaposing the cultural and climatic histories of the Mississippi gulf coast. As Philip D. Hearn points out in his journalistic account of Hurricane Camille, the Mississippi gulf coast became a coastal retreat for both New Orleans businessmen and southern plantation owners.⁶⁰ Hearn's history confirms what Esch's description reveals: the history of coastal development in the area is driven by money from slavery, and the legacies of slavery remain, repurposed in a new economy to which the descendants of slaves are largely excluded.

Here again, though, the galleys are only present as the objects affected by the hurricanes that are her focus. The permanent present-tense description of hurricanes decouples the region's ongoing climate—storms that are collectively expected, if individually unpredictable—from the historical “development” of the area, tourist beaches and guesthouses covering over violent historical legacies. Esch uses the temporal scale of the climate to bring those legacies back into

60 Hearn 37. Hurricane Camille was, at the time of its landfall, the strongest hurricane ever to hit the United States, and a key temporal marker for gulf coast inhabitants. This holds true for Esch and her family as well, as Esch describes her mother's experiences of Camille.

view, zooming out to connect the dangers of forgetting either climatic or cultural histories of the gulf coast.⁶¹ The racialized economic structures, environmental transformations, and climatic patterns of this region are, as *Salvage the Bones* reveals, profoundly connected, even as they unfold over drastically different scales of time, from single generations to centuries to millions of years. Esch's efforts as a narrator bring these seemingly disparate time scales into conversation, asserting the connection between racial, geographic, and climatic structures, and more importantly, foregrounding her own role in further developing and shaping the characteristics of those connections.

Those transformations have a precedent in the area, as the scale of destruction hurricanes unleash on the region can transform social relations even as it reveals them. Esch describes how the local school was integrated “in 1969, after the last big hurricane, when people were too tired finding their relatives' uprooted bodies, reburying them, sleeping on platforms that used to be the foundations of their houses, under tents, biking or walking miles for freshwater, for food, to still fight the law outlawing segregation” (Ward 140). The distinction between “too tired to fight” and “coming together” is an important one, as the former suggests change in the face of natural disaster without falling into the cliché that the power of nature helped humans of all races unite as a post-racial species. Throughout the novel, though, Esch connects the effects of storms to the physical and cultural structure of Bois Sauvage and its surrounding communities, while presenting those storms and their effects as extreme versions of day-to-day life in the gulf coast

61 Natasha Trethewey describes the environmental consequences of rapid shoreline development as part of her hybrid poetry/essay collection *Beyond Katrina*. As she explains, “evidence of the loss of wetlands in the United States has been documented since the turn of the twentieth century, and along the Mississippi Gulf Coast significant changes have taken place since the 1950s. Between 1950 and 1992, developed land usage tripled, and nearly 40 percent of marsh loss can be attributed to replacement by developed land . . . indeed, it was this man-made problem that rendered the Mississippi Gulf Coast more susceptible to hurricane devastation—the shoreline more vulnerable to the powerful storm waves that battered the landscape along Highway 90” (Trethewey 42). Both Hearn and Trethewey also discuss the historical and contemporary segregation of the leisure and tourism industries of the Mississippi Gulf Coast.

bayou. Understanding the racial and cultural histories of the gulf coast, then, and the way they foster divergent epistemological frameworks, means considering both the expected climatic and environmental conditions in the region, as well as the relative frequency with which those conditions are disrupted.

A Wet World

This stormy potential does not absolve specific infrastructural or political inequities. Instead, individual and collective experiences of that life in Bois Sauvage exemplify the multitemporal thinking necessary to survive environmental disasters, and to salvage families and communities in spite of them. Esch connects the history of hurricanes in the region to the “wetness” of her world, the way water permeates the land and air of Bois Sauvage more generally. That constant humidity is, Esch’s descriptions suggest, part of the stormy potential inherent in the regional environment.⁶² As Katrina approaches, for instance, “the wind [is] rustling past the trees, the air so wet and hot it could be rain” (Ward 209). Descriptions of air before a hurricane blur the line between that air and the hurricane itself. Moments like this indicate a system of atmospheric observation that relies on a spectrum of conditions instead of on descriptive states—the gulf coast is not “rainy,” “sunny,” or “stormy,” but is always facilitating or inhibiting the creation of hurricanes to some degree. All of this reveals her exposure to environmental precarity, and the way exposure serves as a medium for understanding the storm and its destructive power. Esch and her family cannot help but see the water surrounding them, allowing them to prepare for the extreme weather it facilitates while integrating that water into their community’s identity.

⁶² Warm air with high vapor content is increasingly focused on as a key ingredient in the formation and strengthening of tropical cyclones. Warm surface water and appropriate wind conditions are also necessary, but humid air facilitates the energy transfers that allow tropical cyclones to quickly intensify. See Alland et al. for a specific focus on the role of water vapor in hurricane intensity.

This appears most obviously through Esch's descriptions of the topography and ecology of the bayou, where land and water blend together in rivers, ponds, lakes, and marshland. As she describes the area, Esch establishes a clichéd contrast between orderly, civilized human environments and dangerous woods, but inverts the teleology typically associated with it, as

the few dirt-scratched yards and thin-siding houses and trailers of Bois Sauvage seem a sorry match to the woods, like pitting a puppy against a full grown dog. Here, there are swimming holes that are fat puddles and some the size of swimming pools fed by skinny clear creeks, but the earth makes the holes black, and the trees make them as filthy with leaves as a dog is with fleas (Ward 158).

Instead of celebrating the eventual triumph of human efforts to bring order to wilderness, Esch figures anthropogenic environments as the weaker offspring of their other-than-human counterparts, surviving only because the other-than-human world lacks the focused, conscious aggression toward human life mistakenly attributed to it. And when describing “the woods,” Esch introduces the water even before the trees, demonstrating its essential role in the experience of the bayou as a “full grown dog,” mixed into the land it flows through, drawing attention to the inadequacy of the human shelter and the relative paucity of life and vitality in the cultivated yards.

The people who live in this area are defined by their awareness of, and response to, the danger associated with that mixture. Upon encountering a car crash early in the novel, Esch blames the accident on the fact that the driver, as someone “not from here ... could not have known the road would curl like streaming blood in this, the trickiest part of the bayou to drive. He could not have known that the road clung to whatever dry land it could find” (Ward 31). For Esch and her family, the relative scarcity and instability of dry land and life are fundamental and obvious, further emphasized as Esch connects human constructions to the processes of the human body, while showing how even the dry and solid necessarily mimic and respond to liquid

flows in these marshy areas. Water makes the bayou feel “alive” in ways other environments are not, and surviving here means acknowledging that experience.

That acknowledgment is, by necessity, part of the environmental exposure emerging from the racial politics of the area. As they do elsewhere in the novel, Esch uses whites to help explain or clarify qualities of the black community as she introduces the nickname for their property, “The Pit,” bestowed by her grandfather after he “let [the white men he worked with] take all the dirt they wanted until their digging had created a cliff over a dry lake in the backyard, and the small stream that had run around and down the hill had diverted and pooled into the dry lake, making it into a pond, and then Papa Joseph thought the earth would give under the water, that the pond would spread and gobble up the property and make it a swamp, so he stopped selling earth for money” (Ward 14). On one hand, water’s permeating flow limits the exercise of black economic agency, as Papa Joseph cannot continue to profit off his land ownership for fear of destroying it. On the other, however, Papa Joseph demonstrates an awareness of water’s erosive properties and a need to be wary of them, both of which whites in the area largely ignore. He sees, in other words, the liquidity of his surroundings: the way water mixes into his environment whether or not it is visible; the way benign waters conceal more dangerous flows; the way water in a given moment participates in long, slow changes to the environment it flows through.

That erosive potential appears even in the seemingly dry when Esch describes how the porch of her grandparents’ house is “like an abandoned pier sinking below storm-rising water, the tide of the earth rolling in to cover them” (Ward 58). In a place where land and water mix so readily, when land takes over things, it is described as water. It’s not just that Esch and her family live in a wet (and often stormy) world, but that wetness and storminess are an ongoing

process, a structure to which their lives and behaviors respond. And since Esch explains all this through language filled with water references and metaphors, *Salvage the Bones* highlights the ways linguistic connections work to clarify and reveal that which, like water's liquidity, is often hidden or overlooked.

As a result, wetness is multiply atmospheric, literally suspended in the air and experienced as immersive and pervasive.⁶³ Esch describes a muggy afternoon as “a wet blue blanket” covering her (Ward 117). Practically speaking, wet air indicates excessive humidity, but Esch draws attention to the weight of that water on her body; this is not thick, humid air she moves through, but a blanket she must carry over her if she is to walk around. That excessive humidity also renders traditional human barriers against climate permeable as even “the inside of the gym is dark, the steel ceiling beams lost in a humid haze like cloud cover” (Ward 141). There is so much water in the air in Bois Sauvage that it's wet and cloudy inside as well. Even inside the Batiste family home, “The air is close, close as the water in the pit” (Ward 155). Since air is technically always “close” by, for air to be “close” in the way water is emphasizes the bodily experience of immersion as restriction. To live in Bois Sauvage is to be wet, and to have that wetness physically press upon the body.

Throughout the novel, the bodily experience of omnipresent water seems as normal as wearing clothes: Skeetah “wipes the water shawl away, and it smears to a tie running down the middle of his ribs. The air is so hot and close that even with the wind, the water will not evaporate” (Ward 183). Skeetah can choose how he wears water, but he cannot choose to take it off. This personal experience is extended to the larger environment, with “a sky that covers like a wet T-shirt” (Ward 199). The whole region wears water in the way its inhabitants do, so the connection of humid air to wet clothing illustrates how the former causes the latter while

63 This understanding of atmosphere emerges largely from Jesse Oak Taylor's use of the term.

connecting personal experiences of climatic conditions to their place in the larger system of the hot, humid air that fuels the region's hurricanes.

All of these moments reveal the layered environments that characterize bayou life; climatic wetness is reflected in smaller scales all around. When Manny discovers Esch's pregnancy and runs away, "the bathroom smells like the salt of marsh mud, like tadpoles dying in their shrinking shallows" and after he leaves, one of her late mother's precious hair clips "falls into the toilet, lost in the scummy bowl. I wipe myself, flush the toilet, watch the water spin in a spiral, a baby storm, as it sucks the clip down and down and away" (Ward 146). As in the gym, the marshy climate shows up indoors, and even more microcosmically, in the miniature hurricane of the toilet which destroys a small piece of history and memory much as a larger storm would.

A similar marshy moment appears even more narrowly as Esch examines the glass jugs of water filled in preparation for the storm that "look like tadpole sacs, huddled together, sticking to each other for company: cloudy at the heart ... this is what we will drink. This is what we will use to cook" (Ward 188). In this moment, Esch collapses her earlier references to marshes and tadpoles into a single jug. As I discuss later in the chapter, the life or death of these tadpoles reflects the way Esch experiences water connecting her to her community or her environment. Since whole ecosystems and lifecycles can be contained in a single jug, attending to discrete moments and experiences offers a way to encounter whole ecosystems and watery climates. This microcosmic layering helps both Esch and readers situate a single jug, a single storm, and a single tadpole into the continually unfolding cultural and climatic histories of the gulf. Moreover, the cloudiness (and the life it signifies) disrupts water's metaphorical purity; water is (in almost all circumstances) carrying things in it, and in this case, its ability to do so facilitates and protects

life. The water in these jugs reveal the ways water never retains the physical and symbolic significance it holds in a given moment; since it plays a role in so many bodily, cultural, and environmental processes, vestiges of its myriad uses also appear. By formally rendering the liquidity connecting drinking, cooking, marshes, and tadpoles, *Salvage the Bones* uses the multiple waters Esch encounters to connect seemingly disparate aspects of life and culture in the Mississippi bayou.

Fishing for Men

Given the extent to which both air and land in Bois Sauvage seem permeated with and defined by water, it is no surprise that its inhabitants are frequently likened to fish, and their movement to swimming. Esch uses fish metaphors to highlight the embodied experience of watery life in Bois Sauvage. The purpose and process of the over-arching metaphor, however, change repeatedly throughout the novel. Her experiences in and around water are the lens through which she makes sense of the world, and her efforts to explain those experiences through shifting metaphors reveal the connections between specific embodied encounters with water and the hydrological systems they remain part of. This is, as Raymond Gibbs notes, something to be expected, as “contemporary metaphor scholarship ... has properly shown how the analysis of specific metaphoric language in context, for instance, reveals the simultaneous presence of neural, linguistic, psychological, and cultural forces” (5). Esch’s uses of metaphorical fish swimming throughout *Salvage the Bones* emphasizes the role these different forces play in her understanding of her environment and community. Metaphors, in other words, offer Esch a way to understand herself and her surroundings because water’s shifting physical properties are mirrored by the shifting of metaphorical meanings used to convey instability and interconnection throughout the novel. The connections between humans and fish—and by extension, the waters

through which fish swim—make explicit the watery aspects of human life, while signaling the ways Esch’s watery embodiment permeates her language.⁶⁴

This holds true from the novel’s opening scene, when Daddy appears “through the window of the shed, his face shining like the flash of a fish under the water when the sun hit” (Ward 2). As Esch continues, it becomes clear that her father’s fishiness reveals more about where he moves than his bodily characteristics: “it’s quiet. Heavy. Feels like it should be raining, but it isn’t” (2). Esch equates looking out from the shed with looking underwater, figuring her father as an aspect of the larger environment, not the focus of Esch’s gaze. Doing so emphasizes the centrality of the environment in shaping its human inhabitants; Daddy is a fish because the world is watery, as opposed to the other way around.

Repeated shifts in the structure of fish and swimming metaphors, however, prevent environmental characteristics from appearing wholly constitutive of cultural identity in *Salvage the Bones*. Instead, they present water as both a foundational component of identity and as an explanatory framework for the ecosystem it permeates. Shortly after she describes her father as a fish, for instance, Esch remarks that “The Pit felt strange when [Randall’s friends] weren’t there, as empty as the fish tank, dry of water and fish, but filled with rocks and fake coral” (Ward 10). Whereas the opening scene uses fish to draw attention to the watery air, this explanation suggests that removing human fish from the water removes the water as well. In doing so, Esch emphasizes the experience of the air by those swimming through it; inhabitants and environment co-create life in Bois Sauvage.

64 This focus on watery embodiment calls to mind the work of feminist phenomenologist Astrida Niemanis, who argues that “the flow and flush of waters sustain our own bodies, but also connect them to other bodies, to other worlds beyond our human selves. Indeed, bodies of water undo the idea that bodies are necessarily or only human” (2).

This liquidity of metaphorical meaning occurs throughout the novel, as when Esch rubs Skeetah's head, and "his shaved skin reminds me of scales when I rub against it, and it is cool like a puddle of water that has been turning dark and dry at the edges in a tree's shade" (Ward 69). Skeetah is described through both fish and water in this moment; not river or ocean water a fish would live in, but the puddles one is likely to find in this swampy area. *This* water is Esch and Skeetah's habitat. By describing individuals using multiple (somewhat contradictory) metaphors, and by changing the meanings of those metaphors over time, Esch connects the breadth of her own relationship with water—and the ways it sustains her—to the similarly expansive view of community she presents throughout the novel. She also uses metaphorical liquidity to highlight water's material fluidity—water is simultaneously something heavy on the body, the medium for aquatic life, and the drying vestige of past storms.

These repeated shifts present anthropogenic power imbalances without ignoring or overlooking the way those imbalances remain situated in the bayou environment—multiple overlapping presentations of water and its inhabitants synthesize multiple aspects of life in Bois Sauvage. This appears most prominently through the extension of the novel's fish metaphors to fish that have been caught and attempt to escape. Doing so makes people the target of the metaphor, as opposed a part of the source used to explain the environment they "swim" through.⁶⁵ The cultural resonance of this metaphor often combines with its physical approximation, as when the boys dive into the Pit and "wrestle, giggling, looking like fish yanking against a line" (Ward 53), or when "Manny surfaces like a jumping fish next to" Esch (Ward 54) shortly thereafter. Esch still uses these metaphors to help readers imagine the quality of the boys' movement. But moments where fish metaphors describe literal swimming draw

⁶⁵ I refer to "target" and "source" of metaphor here in the way Fludernik does, where the source is that used to shed light on the qualities of the target (387).

attention to the myriad moments where humans appear as fish that are supposedly out of the water, yet continue to swim through the hook- and net-filled “waters” of Bois Sauvage. When Esch is finally in a situation of marginal sexual power, atop Manny and forcing him to look at her, “he shrugs, twists his head to the side. Flipping like a caught fish” (Ward 146). Similarly, at the end of the novel, “Every line of Daddy’s face, his shoulders, his neck, his collarbone, the ends of his arms, seemed to be caught in a net dragging the ground” as Big Henry guides him around “the power lines tangled like abandoned fishing line, to his home” (Ward 243). As Manny is fished by Esch, Daddy has been fished by the storm and preparation for it.

In both cases, “corporeal processes that distort the boundaries between interiority/exteriority, birth/death, and containment/exposure are presented here across species lines, suggesting the interconnections between humans and animals and the precariousness of ontology” (Lloyd 252). Lloyd also rightly notes how these comparisons do not eliminate differences between species, or “suggesting that all southern life is creaturely in the same way.” but by turning to caught fish specifically in these moments, Esch calls to mind both environmental constraint—hooked fish have been removed from the environment in which they can breathe—and interpersonal dynamics. Turning to metaphors of swimming fish helps Esch explain the water that permeates her surroundings, while the constant changes in that metaphor demand close attention to the shifting influences that water and its human neighbors exert on each other.

Metaphorical liquidity similarly offers a way to understand the ambivalent sexual agency and gendered power Esch demonstrates through the novel. While Esch does not label herself as a fish, she figures herself as a “water person,” tying both her identity and her sexuality to a preternatural ability to move through the water: “the only thing that's ever been easy for me to

do, like swimming through water, was sex when I started having it” (Ward 22). As Esch goes on to detail her first sexual experience, she transitions, without explanation, to the story of how “Daddy taught every one of us to swim by picking us up when we was little, around six or so, and flinging us in the water. I’d taken to it fast, hadn’t coughed up the muddy pit water, hadn’t cried or flailed; I’d bobbed back up and cut the surface of the water and splashed my way back to where Daddy was standing in the shallows. I’d pulled the water with my hands, kicked it with my feet, let it push me forward. That was sex” (Ward 23–24). On one level, this ties her sense of sexual identity to her environment—moving through water is as much a part of her as her own sexual desires. At the same time, however, this “sink or swim exercise ... scripts Esch’s sexual experience unsentimentally as one of her survival strategies” that does not “topple existing categories of power or situate the nonnormative subjects of the novel outside of or against those categories of power” (Edwards 159,161). The bodily sensations Esch associates with that first swim further enhance Edwards’s reading of Esch’s ambivalent sexual agency. Swimming a matter of short-term motivation to “splash” back to safety and the exertion of physical force on the surrounding water, both “pulled” and “kicked,” all within a broader lack of control—she allows the water to push back.

The combination of action and surrender as a means of survival applies to the watery climate as well, connecting both her gendered experience and the pattern of swimming metaphors throughout the novel to the larger pattern of permeating water that shapes both Esch and the novel. As Esch runs away from the white folks’ farm with Skeetah and Randall, “the air coming through my nose feels like water. I am swimming through the air. My body does what it was made to do: it moves” (Ward 66). Water is not just a medium Esch swims through. It is something she engages with, and more importantly, surrenders to (at least in part) in order to live

with and move through it. Doing so makes Esch (and her family) who they are, and suggests that continuing focus on dynamic interpenetrations of environments and inhabitants can offer community structures and ethical guides for surviving in the face of both natural and unnatural disasters.

Medeas of the Bayou

Even as water appears as the “environment” in which Bois Sauvage life take place, it remains (through the history of deadly storms) the most prominent danger facing the novel’s characters. This fits the pattern of the novel more broadly, as numerous scholars (and Ward herself) point out how *Salvage the Bones* presents multiple, often contradictory understandings of individual characters and communities that challenge stereotypical assumptions about sex, family, and political identity in African-American communities living on the Mississippi gulf coast.⁶⁶ Much of this appears through the novel’s engagement with classical Greek mythology, specifically Esch’s identification with, and re-telling of Medea stories. Esch’s attention to the waters at the heart of the Medea story further connect the novel’s presentations of love and motherhood to the watery environment in which they occur, while demanding a reconsideration of Medea as a watery story that helps Esch understand the more specifically dangerous (if empowering) aspects of her relationship with the bayou around her. Considering the novel’s Medea references through their watery qualities moves beyond challenging stereotypes, drawing attention to Esch’s role as a storyteller in that challenge, framing her experiences with local waters as communal knowledge that she must, as an impending mother, pass on.

⁶⁶ See Erica Edwards, Sinéad Moynihan, and Richard Crownshaw, respectively, for their analyses of the novel’s disruption of these stereotypes.

Classicist Benjamin Eldon Stevens is the only scholar to focus on Ward's use of Medea in *Salvage the Bones*, connecting it to a long tradition of African-American authors referencing classical mythology to claim it as part of their literary heritage, "enacting a mode of classical reception in which ancient stories speak directly to individuals' and cultures' experiences in the present" (Stevens 3). At the same time, he argues, a "critical, even political possibility brings us back to the image of reception as a kind of 'salvage'—an act of recuperation after the fact that is at once richly creative and a reflection of impoverished necessity" (Stevens 5). Esch relates to Medea's experiences as a lover, uses Medea as a stand-in for motherhood, all while the instability, death, and violence in the Medea story sheds light on their ongoing presence in the lives of Bois Sauvage inhabitants. For Stevens, since the novel departs from the most essential element of Euripides' Medea story—Esch does not kill her unborn child, while Katrina takes on the Medea role as a violent mother—the novel also presents a spectrum of motherhood through the ways Esch, Katrina, and China all take on Medean characteristics.

Within this reading, however, Esch's connecting Katrina to Medea justifies the seemingly contradictory relationships she (and her community) have with their watery world, and how she hopes to use experiences of the storm as part of the communal knowledge she will pass on in her role as a mother. Just as Medea is a protagonist worthy of sympathy, a loving mother, and a woman who murders her children to hurt her husband, Hurricane Katrina appears as an extreme version of the rain and wind Bois Sauvage needs to survive, a manifestation of destructive power and human insignificance, and a "mother" for the community whose identity emerges from the destruction Katrina (and storms like it) cause. This situates *Salvage the Bones* into a tradition of African-American ecological literature, where "myths serve the constructive function of positive group identity and create meaning and reality based in a connection to place, and they sustain

and propel African-Americans through difficult circumstances” (Ruffin 114–15). But by highlighting the liquidity in, and maintaining the liquidity of the Medea story, allows an African-American deployment of myth that continues to acknowledge the ambivalence and danger that fosters group identity and makes persistence (or salvage) possible.

The entangled social and environmental structures presented in the novel form the heart of this ambivalence. As Esch walks into the woods for a dog fight, she recalls how “Medea’s journey took her to the water, which was the highway of the ancient world, where death was as close as the waves, the sun, the wind. Where death was as many as the fish waiting in the water” (Ward 159). This moment combines Esch’s descriptions of the woods as an inhospitable, watery place with both “Katrina somewhere there in the gulf, coming like the quiet voice of someone talking before they walk through the doorway of a room” and the way boys fighting their dogs hope to “return home from the woods, their own dangerous Aegean Sea” (Ward 159–60). The woods simultaneously provide warnings of impending environmental danger while facilitating the social environment surrounding dog fights. The danger Esch sees in the woods and in the water permeating them contextualizes those fights—they provide social capital for individuals otherwise denied it, and they can lead to monetary capital as well, since the puppies of successful fighters can provide income for otherwise impoverished families.

By using Medea stories to connect her experience of the dog fight to both immediate surroundings and the larger climate they participate in, Esch reveals how social and environmental exclusion continue to shape efforts to build a life in Bois Sauvage. As the fight begins, the atmosphere is “like the air before a storm,” while Esch wonders if Medea did “stand on the deck of that ship like I stand in this clearing, womanly ripe, and weave spells for rain to cloak their departure, to cloak her betrayal” (Ward 163). These dog fights are a mythical quest,

signifying their cultural importance, while referencing both deadly Aegean storms and Medea's patricide and fratricide to foreground the socio-environmental instability from which these fights emerge and the violence inherent in them. This metaphorical Aegean sea calls the literal gulf (and the storms it fuels) to mind—Medea helps Esch see the connections between them while presenting them, by extension, to the reader.

All of this foreshadows Esch's use of Medea to make sense of the trauma surrounding the hurricane's landfall, even as the event distills her identity and connects her to her late mother. This is only possible because Esch does not simply mimic the Medea myth, but reads it critically and provides multiple interpretations. As Stevens points out, "in parallel to Esch's own complex rereadings of Hamilton, *Salvage* offers a multiplicity of mother-figures and correspondingly multiple Medea. As a result, the violence potentially intrinsic to Medean motherhood is displaced from Esch on to other characters" (Stevens 2). Esch uses these multiple readings of Medea to understand the multiple overlapping experiences of Katrina and the waters it animates. As the storm approaches land, Esch explains how, "In ancient Greece, for all her heroes, for Medea and her mutilated brother and her devastated father, water meant death. In the bathroom on the toilet, I heard the clanking of metal against metal outside, some broken machine tilting like a sinking headstone against another, and I knew it was the wind pushing a heavy rain" (Ward 216). As Esch hears water and wind gradually remaking the Pit, she emphasizes the extent to which lessons about water from ancient Greece remain relevant. By turning broken machines into headstones, Esch transforms failed efforts of mechanical estrangement from water and its properties into symbols of that failure; the machines are markers of their own death, and they sink under the water that engulfs them. Since all of this occurs in a bathroom on a toilet, it also

calls to mind the ways water infrastructure acts, in part, to conceal the full extent of its material properties.⁶⁷

Once the storm passes, Esch returns to Medea as an explanatory framework once more, collecting artifacts of the hurricane's destructive power, to

hang the shards above my bed, so they will flash in the dark and tell the story of Katrina, the mother that swept into the Gulf and slaughtered ... she was the murderous mother who cut us to the bone but left us alive, left us naked and bewildered as wrinkled newborn babies, as blind puppies, as sun-starved newly hatched baby snakes. She left us a dark Gulf and salt-burned land. She left us to learn to crawl. She left us to salvage. Katrina is the mother we will remember until the next mother with large, merciless hands, committed to blood, comes (Ward 255).

In describing "us" as naked, bewildered and blind, Esch emphasizes the extent to which the hurricane overwhelmed the sensual frameworks she and her community would normally use to navigate their environment. It is precisely in those moments that she turns to myths to fill a sensual void, resolving to carry on a similar tradition, and knowing this storm will not be the last. As Mary Ruth Marotte explains, "in these moments we see the storm, and the storms of the past, functioning as collective memory, memory that serves to generate solidarity and shared experience for the family" (Marotte and Jellenik 183). Medea connects Esch to her own mother's ability to survive hurricanes and protect her children, while preparing her to do the same for her own future offspring. Juxtaposing teen mothers to lost mothers to jilted mothers, all connected by a history of stormy mothers, *Salvage the Bones* situates motherhood into environmental and cultural history, all while foregrounding the role familial storytelling and memory play in making sense of temporalities and traditions that outlive a single mother or storyteller.

⁶⁷ Ivan Illich's seminal work *H2O and the Waters of Forgetfulness* is an extended meditation on this subject.

Waters of Life, Both Brackish and Bloody

The multiple waters and multiple mothers surrounding Esch prove essential to her experience of pregnancy and impending motherhood. The temporal and emotional range Esch associates with water metaphors throughout the novel connect her pregnancy to the larger network of experiences and dangers in *Bois Sauvage*, resisting stereotyped narratives of African-American teen pregnancy without ignoring its massive transcorporeal effects on her body and its connections to the surrounding environment. Unsurprisingly, She describes pregnancy and her bodily experience of it through the same water-infused language that she uses throughout the book, as the wet climate all around her shapes her sense of her internal physical environment. Even as, in the moment Esch discovers her pregnancy, “the terrible truth of what I am flares like a dry fall fire in my stomach, eating all the fallen pine needles” because “there is something there” (Ward 36), that “something” appears fundamentally watery as “what would be the baby sits like a water balloon in my stomach, makes me feel set to bursting” (Ward 45). This early contrast clarifies a distinction between the social knowledge of pregnancy and the physical experience thereof. As Molly Travis explains, one way *Salvage the Bones* complicates prevailing stereotypes about young African-American mothers such as Esch dwells less on how outsiders (especially white outsiders) will perceive her, and more on her own embodiment and its place in her family history.

This focus on physical experience conflates the liveliness of pregnancy to the environmental and climatic dynamism Esch sees all around her. Her pregnant belly “will not sink to dense pearls like fat. It pushes back, water flush and warm”(Ward 88). Water is active and alive, pushing from the inside the way wet air weighs her down or pond water pushes her as she swims. It is also a key medium of trans-corporeal experience. Esch tries to “crawl through on my stomach, my belly feeling like a bowl of sloshing with water. I swallow most of it now, and my

face is wet with mostly sweat” (Ward 207). Esch is comprised of myriad waters which she identifies as both her and not-her, environmental and bodily. The association of these pregnant waters with other bodily waters like sweat signals how the liquidity of individual metaphors reflects Esch’s own bodily experience.

Nancy Tuana describes this as “a viscous porosity of flesh—my flesh and the flesh of the world. This porosity is a hinge through which we are of and in the world. I refer to it as viscous, for there are membranes that effect the interactions. These membranes are of various types—skin and flesh, prejudgments and symbolic imaginaries, habits and embodiments. They serve as the mediators of interaction” (Tuana 199–200). While many other feminist theorists also champion an “ontology that rematerializes the social and takes seriously the agency of the natural,” Tuana’s analysis (which she specifically ties to Hurricane Katrina) distinguishes itself through its focus on the internal resistance to—and unevenness of—permeability and experiences thereof.

Focusing on the resistance and unevenness of water metaphors in *Salvage the Bones* foregrounds their more paradoxical qualities. As Esch recalls her first hurricane, she juxtaposes her knowledge of the storm with her brother’s impending birth (complications from which cause her mother’s death); outside is “water running in clear streams, carving canyons” while Esch “kneeled next to her and put my ear to her stomach and heard the watery swish of Junior inside her, as outside the wind pulled, branch by root, until it uprooted a tree ten feet from the house ... she rocked from side to side like the baby in her would not let her sit still” (Ward 217). Water flows both outside the house and inside her mother, but more importantly, the destructive qualities of the “water of life” emerges through its association with the hurricane—the waters of pregnancy are an inversion, exacting violence on a literal mother as compared to the violent and cruel motherhood associated with hurricanes. Those paradoxes become the medium through

which Esch grapples with the mixing of her own internal waters: “I imagine the food turning to mush, sliding down my throat, through my body like water through a storm drain to pool in my stomach. To make what is inside me grow to be a baby in the winter” (Ward 41). Beyond acknowledging how the lines between food and water blur, this particular description figures Esch’s sustenance as the turbid water that is often considered “wasted” because it is not commodified or even reused, flowing back into rivers and seas. That her future child transforms from water in her belly into a baby by infusions of stormwater accentuates how peripheral and precarious life for Esch and her future child are, but more importantly, how flows of storm runoff define life in Bois Sauvage even before birth—the flow of water through the community makes its residents who they are.

The language Esch uses to describe her pregnancy reappear in two water motifs—the brackish and the bloody—that tie together the novel’s discussions of personal and cultural identity, motherhood, community formation, and the role of the watery environment in shaping all of the above. Esch attributes brackish and bloody qualities to waters both within and around her in ways that accentuate her family’s emergence from (and experience with) their marshy home. This helps Esch realize the extent to which she is a brackish being, both literally and culturally. She is physically permeated by brackish water, just as water is her only way of understanding the (persistent, often violent) processes going on inside and around her. As she does throughout the novel, Esch situates this brackishness historically, recalling her mother’s and grandmother’s experiences of Hurricane Camille, after which her grandmother “walked miles for water from an artesian well. [Mama] said she got sick, and most everybody did, because even then the water wasn’t clean, and she had dreamed she could never get away from water because she couldn’t stop shitting it or pissing it or throwing it up” (Ward 218). This moment combines

and historicizes the climatic wetness Esch sees all around her with her experience of bodily waters. In foregrounding public health issues, this moment (once again) alludes to the unequal environmental exposure underlying the narrative, but by returning to dreams of inescapable, sickening water just before Katrina hits, Esch creates another microcosm. Individual sickness demonstrates the trans-corporeal effects of public health issues that hurricanes cause across the entire region.

This is further accentuated by the repeated focus on bodily waters that render Esch permeable to the world around her in times of heightened emotion. Esch uses her experience and knowledge of flowing waters to understand sudden, unexpected, or new feelings, and appears sustained by emotional waters flowing through her even as she describes sadness, anger, or despair. When describing her feelings for Manny, they manifest as “a movement behind my breast that feels like someone has turned a hose on full blast, and the water that has been baking in the pump in the summer heat floods out, scalding. This is love, and it hurts” (Ward 94). Nor is this limited to sexual love, as Esch learns how to mourn for her grandmother: “Because everyone else was crying ... I cried, love running through me like a hard, blinding summer rain” (Ward 59). By contrast, when Esch sees Manny flirting with his girlfriend, the waters of love dry up, as “the sun is bearing down on me, burning, evaporating the sweat, water, and blood from me to leave my skin, my desiccated organs, my brittle bones: my raisin of a body. If I could, I would reach inside of me and pull out my heart and that tiny wet seed that will become the baby. Let them go first so the rest won’t hurt so much” (Ward 122). Her emotional connections rely, like her life and the baby’s, on liquidity, the “seed” which, like everything else here, must stay wet in order to survive. This moment refigures many of the supposedly “negative” emotions throughout

the novel as continually formative or sustaining, in contrast to this moment where her desire and rejection leave her “desiccated.”

Connecting water and emotion in this way reveals how the bodily permeability caused by environmental exposure plays a key role in helping individuals and communities survive, even as that exposure causes much of the danger. As Nigel Clark argues, “being together with others in ways that involve a constitutive exposure or vulnerability, I am arguing, also entails articulations with forces far beyond the human. And not merely in a manner that involves the using or tapping of these forces, but also in ways that apprehend such forcefulness in and through its resurgent exteriority as an excitation, an impetus, an imperative” (Clark 143). Clark describes community formation here, and while Esch’s experiences of “forces beyond the human” register personally, they are at their most watery when they forge the kinds of vulnerable connections to others that Clark describes. Just as Esch exhibits simultaneous agency and powerlessness, simultaneously pushes and is pushed by her surroundings, she is exposed in ways that both create excitation and can be channeled toward efforts as diverse as preparing for hurricanes, protecting younger siblings, caring for prize puppies, and raising children.

Presenting bodily manifestations of emotions in watery terms moves beyond projection or sublimation (focused on the individual having emotions) to the way the experiences of those emotions grow, change, and move over time. As Esch cries thinking about her mother, for instance, she remarks, “I miss her so badly I have to swallow salt, imagine it running like lemon juice into the fresh cut that is in my chest, feel it sting” (Ward 222). Esch uses the term “swallow salt” to describe her secret crying throughout the novel because, as she explains, “after Mama died, Daddy said, *‘What are you crying for? Stop crying. Crying ain’t going to change anything. We never stopped crying. We just did it quieter. We hid it. I learned how to cry so that almost no*

tears leaked out of my eyes, so that I swallowed the hot salty water of them and felt them running down my throat. This was the only thing that we could do. I swallow and squint through the tears, and I run” (Ward 206). To conceal the flow of water does not stop its flow. It simply redirects it. Esch knows this, and uses the erosive flows of water as a framework to understand her grief.

Esch also juxtaposes the brackish and the bloody throughout the novel, suggesting that blood flows through her brackish surroundings. This highlights the shared familial qualities of her emotions, the waters they emerge from, and the collective responses needed to navigate both. When the pit water got low, it “turned a thick, brownish red. The color of a scab” (Ward 15). If a scab is the healing or closing of an injury, then the full, flowing pond is an open pool of blood, a signal both of water’s integral role and the ways in which the bodily and the environmental blur together. Considered as real estate, The Pit is the most valuable asset Esch and her family possess. But describing real estate as an injured but healing body more accurately describes the relationship between the Pit and its inhabitants—treating it as a monetary asset has not and will not provide Esch and her family social mobility, while treating it as alive both helps Esch and her family respect the ways its dynamism remains dangerous to them, and the ways it can, in spite of that danger, play a key role in sustaining both family and community.

Brackish bayou water and blood are connected by more than their similarly salty liquidity. At multiple points in the novel, “blood smells like wet hot earth after summer rain” or as she elaborates later, “the smell of blood like the Gulf when the tide’s low. That and the smell of dog, like China was in the middle of the driver’s seat, licking her whiskers with her bloody tongue, nosing the absent Skeet” (Ward 47, 131). Just as the novel is full of moments blending the human and the animal, here the olfactory impressions of a mangled human hand, a dog with

dog blood on its breath, and the humid (perhaps stormy) air all blend together. It showcases, as Astrida Niemanis does, “that as bodies of water we are *both* different *and* in common; water calls on us to give an account of our own (very human) politics of location, even as this situatedness will always swim beyond our masterful grasp, finding confluence with other bodies and times” (Neimanis 4). Moments like these reveal the difficult social circumstances facing the Batistes—they cannot afford to evacuate the area, and Claude is injured while trying to prepare for the storm—as well as the connections between individuals, communities, and environments that emerge in response to those difficult circumstances.

When the Storm Speaks

While water’s explanatory utility and its importance to the lives of gulf coast inhabitants permeates the entire novel, Hurricane Katrina’s landfall signals a drastic shift in Esch’s descriptions of water. Beyond offering a lens to understand herself, her community, or her environment, water very clearly becomes a personified Other, with desires and agency well beyond her (or anyone else’s) efforts to control it. The arrival of Hurricane Katrina also establishes the central paradox of the novel: the novel’s wetness is climatic, omnipresent, and persistent, even as the novel is organized around a “discrete” storm event that is fundamentally disruptive to the climate the Batistes inhabit. It is another microcosm of the wet climate that constitutes the whole novel, but as Esch’s framework of understanding her world through water is disrupted by the emergence of new and unsettling “life” of water all around her, her shifting use of water metaphors further showcases metaphorical liquidity and its mirroring of the bayou environment.

When Esch uses the changing demeanor of a person to account for—and respond to—the rapidly changing storm conditions, she demonstrates the way metaphors help narrow temporal

and spatial focus. The day of the storm, “the wind, which yesterday only made itself known by sight, sighs and says, *Hello* ... and I do not answer. Mama had talked back to Elaine. Talked over the storm. Pulled us in in the midst of it, kept us safe ... if I could speak to this storm, spell it harmless like Medea, would this baby, the size of my fingernail, my pinkie fingernail, maybe, hear?” (Ward 218–19). This moment also serves as a reminder that Esch’s engagement with Medea moves beyond discussions of jilted love and motherhood, calling to mind Medea’s role as a protector and lover. More broadly, talking to storms appears as a bridge between individuals attending to dynamic environmental conditions and communities sustaining themselves through that attention.

This proves necessary because once Katrina arrives, it combines myriad descriptions of water from the rest of the novel, even as its presence as a living being overwhelms those descriptions. When “The rain is heavy, endless” and “hits the roof in quick crashing waves” it calls to mind Esch’s descriptions of family trips to the shore, and to her imagination of the far-off Gulf, once again equating the various waters flowing through and around Bois Sauvage (Ward 222). This confluence of metaphors continues as the pit floods, the series of Medea-figures associated with Katrina blend into animal descriptions reminiscent of, but distinct from, descriptions of fish and dogs from earlier in the novel. As Esch describes it,

There is a lake growing in the yard. It moves under the broken trees like a creeping animal, a wide-nosed snake. Its head disappears under the house where we stand, its tail wider and wider, like it has eaten something greater than itself, and that great tail stretches out behind it into the woods, toward the Pit. China barks. The wind ripples the water and it is coming for us. There is water over my toes ... I shift, and the water licks my ankles. It is cold, cold as a first summer swim ... the water is up to the middle of my calf ... there is something long and dark blue between the trees. It is a boat. Someone has come to save us. But then I squint and the wind lags clear for one second, and it is not a boat, and no one has come to save us. It is Daddy’s truck. The water has picked it up and pushed it from the Pit. The snake has come to eat and play (Ward 226–27).

Importantly, this rising water comes from what is already there. This is an outgrowth of the Pit, not some new creation. The capacity for this thing always existed, but was hidden away. It is the Pit under intense circumstances. It also offers a similar kind of human-animal blurring, as the storm, formerly described as a “mother,” now appears as a “creeping animal,” blurring boundaries between different forms of life just as descriptions of humans, dogs, and fish do. At the same time, since water’s latent capacity is described as simultaneously powerful—it “picked” and “pushed” a large work truck as easily as that truck would move debris—and playful, Esch’s description (and experience) of the hurricane never takes on a singular emotional or physical quality. Even as a living creature, the storm retains its liquidity.

As the storm intensifies, the plethora of watery connections Esch has drawn throughout the book collapse into each other. The storm overtakes the linguistic patterns Esch used to comprehend her surroundings:

The snake has swallowed the whole yard and is opening its jaw under the house. ‘Open the attic,’ Daddy says. The water is lapping the backs of my knees. ‘It’s stuck,’ Randall says. He is pulling at the string that hangs from the door of the attic, which is in the ceiling of the hallway. ‘Move,’ says Skeetah. The water is tonguing its way up my thighs. Skeetah hands me the puppies’ bucket. ‘Hurry,’ Randall says. The three puppies squeal little yips that sound like whispered barks. These are their first words. ‘Pull down,’ Daddy says. He frowns, holds his hand up like he is pulling the cord. The water slides past my crotch, and I jump (Ward 227–28).

Esch’s descriptions of the water combine the language she uses to describe sex and seduction with her descriptions of animals generally, and China as a mother more specifically.

Furthermore, since Esch is responsible for both the puppies and her unborn child, this moment also calls to mind Mama’s efforts to hug and protect Esch during Hurricane Elaine. All of these references appear as the water interrupts Esch’s descriptions of the family’s efforts to escape it, each time moving a bit more rapidly; its disruption is formal as well as literal.

Even as the floodwaters literally and figuratively uproot the family, their home, and their surroundings, descriptions of those waters further connect Esch to her surroundings, her family, the other-than-human life she shares the Pit with, and the storm itself. “I can hardly contain the panic I feel when the house tilts, slowly as an unmoored boat. ‘It’s the water,’ Skeetah says. ‘It’s the water.’ ... ‘Daddy,’ I say, and I’m surprised at how clear my voice is, how solid, how sure, like a hand that can be held in the dark. ‘Water’s in the attic.’ The water is faster this time; it wraps liquid fingers around my toes, my ankles, begins creeping up my calves. This is a fast seduction. The wind howls” (Ward 227–28). The juxtaposition of personified water with Esch’s personified voice allows the same image—the grip of an imaginary hand—to emphasize the way water feels “solid” and “sure” even at its most liquid, while foregrounding the imaginative work necessary to understand those properties; viewed together, it is clear that neither the voice nor the water can grip as human hands can. At the same time, the combination of human and animal behaviors associated with the water extends the novel’s associations of Medean characteristics to Esch, China, and Katrina, mirroring the blurred lines between human and animal within a single assemblage, the storm itself, which appears as animal, mother, lover, and killer.

This pattern of deepening the connection to other watery images from the novel while drawing close attention to the narrated quality of those images recurs throughout Esch’s description of the storm. Surviving the storm and swimming to safety is “just like the first time we swam in the pit, Junior! Hold on!” (Ward 232), while brackish qualities re-assert themselves unexpectedly as

the water swallows, and I scream. My head goes under and I am tasting it, fresh and cold and salt somehow, the way tears taste in the rain. *The babies*, I think. I kick extra hard, like I am running a race, and my head bobs above the water but the hand of the hurricane pushes it down, down again. *Who will deliver me?* And the hurricane says *ssssssshhhhhhh*. It shushes me through the water, with a voice muffled and deep, but

then I feel a real hand, a human hand, cold and hard as barbed wire on my leg (Ward 235).

As the storm appears most human, swallowing and shushing like a mother, it is contrasted with “a real hand, a human hand,” a reminder that the most human aspects of the storm are those that will kill and drown Esch, that comparing it to human beings reveals the profoundly inhuman forces it exerts.

Recalling the images, metaphors, and patterns that defined the waters of Bois Sauvage before the hurricane demands recognizing that stormy potential was latent in the air, ground, and streams, formally integrating Katrina into Bois Sauvage while the storm destroys and disrupts the place and its inhabitants. Even as the storm appears as a character, Esch situates it into the atmospheric system it participates in: “the hurricane laughed. A tree, plucked from its branches, hopped across the yard and landed against Daddy’s truck with a crunch, stopped short like it had won a game of hopscotch without stepping out of the lines. The sky was so close I felt like I could reach up and bury my arm in it” (Ward 238). The storm is alive, and animates the rest of the environment in a way that emphasizes its outsize power, and the apparent mercilessness and capriciousness with which that power manifests.

Then, as the storm weakens, “We sat in the open attic until the water, which had milled like a boiling soup beneath us, receded inch by inch, back into the woods. We sat in the open attic until the rain eased to drips . . . we were a pile of wet, cold branches, human debris in the middle of all the rest of it” (Ward 237). Since the water returns to the woods (as opposed to the gulf), the presence of inundated earth and watery potential reappear even before the storm has fully receded. That potential, combined with the comparison of the family to the non-living debris all around them, combines the sense that this disaster is the latest in a series of abandonments by the government of Mississippi with the sense that storms like Katrina cement

the connections between Esch, her family, and the watery land they have made their home. They, like the Pit, are damaged, broken, and destroyed, but since this survival occurs in the context of past and future storms, their current state already appears as the foundation for the impending salvage of the novel's title.

Après le Déluge

Remaining attentive to stormy potential as part of the salvage process is essential because only hours later, the storm is, in terms of its enmeshment in local waters, invisible. When the family goes to see St. Catherine, “The bayou formed by the meeting of the river and the bay is as calm as it would be on any summer day, and it is hard to tell the hurricane has been here except for where the wind dragged the water across the road and left it there” (Ward 248). Yet “the same train tracks that carried the trains we heard blowing raucously when we were younger, swimming in the same oyster-lined bay that came in and swallowed Bois, swallowed the back of St. Catherine, and vomited it out in pieces” (Ward 252). The disruptive mixing of waters shows off the underlying structures holding this community and its history together, even as the juxtaposition of now-benign waters with the evidence of water's destructive capacity reveals the need to consider that destructive capacity even when it is not obviously present. For instance, as Esch and her brothers walk toward town to survey the damage, “We were barefoot, and the asphalt was warm. We hadn't had time to find our shoes before the hand of the flood pushed into the living room. The storm had plucked the trees like grass and scattered them” while “the sound of water running in the ditches like rapids escorted us down the road, into the heart of Bois Sauvage” (Ward 241–42). The personified “hand” of water possesses a power that shrinks trees into blades of grass. That power reappears as small roadside ditches sonically connect to more raging waters, even as they provide support as escorts toward rebuilding and recovery.

This moment also calls to mind the trope appearing across works throughout this project, that of water being drowned by water. In this case, it is a “drowned bayou” across which Esch, her brothers, and Big Henry travel to see St. Catherine (249). By distinguishing between the water flowing through the community and the ways human beings make sense of that water—naming it, imagining clear boundaries for it, and learning the particular patterns and flows that appear in particular locations—the idea of the “drowned bayou” suggests that disasters like Katrina are, even situated in long histories of dynamic environmental change, profoundly transformative; the bayou will never flow the same way again. It also suggests that Katrina has the potential to disrupt the racial-cultural dynamics established earlier in the novel, as the fanciest beach-side property “that made us feel small and dirty and poorer than ever when we came here with Daddy, piled in his truck, for gas or chips or bait on our swimming days, are gone. Not ravaged, not rubble, but completely gone” (Ward 253). As discussed earlier, this is not because a traumatic storm will cause people of different races to forget their differences and come together, but because one of the only remaining social and cultural structures is the experience and knowledge of cyclones, and their ability to destroy both physical and cultural legacies.

Esch sees this first-hand, as “we pass what used to be the elementary school, the gym where Randall, a few days ago, played for and lost his chance at going to basketball camp ... where Manny learned who I was and disowned me ... and there is nothing but mangled wood and steel in a great pile, and suddenly there is a great split between now and then, and I wonder where the world where that day happened has gone, because we are not in it” (Ward 251). The depth of this change is what makes salvage and the re-creation of community in the face of this disaster possible. As Nigel Clark points out, “this is not the same thing as saying that there is

only the fullness of production or generativity in the universe. But it is to say that the disaster demands change, precisely because of its profound rupture with the past, because of the impossibility of recasting it into positivity, of redeeming it, or even of making sense of it” (73). Seeing the communities that persist through disaster does not mean ignoring the effects of that disaster. Nor does failing to fully describe that experience, as Esch admits to here, signify a representative failure.

These distinctions are key to understanding the moments late in *Salvage the Bones* that return to storytelling as a means of both making sense of this trauma, and as a way to build community in the face of the next trauma. As Esch collects bits of glass and stone for keepsakes, she remarks that she will pass this story on to her unborn child just as her mother passed on memories of Camille in story, and through her behavior during Hurricane Elaine:

I will tie the glass and stone with string, hang the shards above my bed, so that they will flash in the dark and tell the story of Katrina, the mother that swept into the Gulf and slaughtered. Her chariot was a storm so great and black the Greeks would say it was harnessed to dragons. She was the murderous mother who cut us to the bone but left us alive, left us naked and bewildered as wrinkled newborn babies, as blind puppies, as sun-starved newly hatched baby snakes. She left us a dark Gulf and a salt-burned land. She left us to learn to crawl. She left us to salvage. Katrina is the mother we will remember until the next mother with large, merciless hands, committed to blood, comes (Ward 255).

This moment further intertwines many of Esch’s efforts to use water to make sense of her world. First, her keepsakes serve as a reminder of the liquidity connecting matter and story; her stories have helped her make sense of the surrounding physical world, and that world (and especially the water animating and flowing through it) has shaped her stories. Describing Hurricane Katrina as a “mother that,” as opposed to a “mother who,” however, maintains distinctions between stories and matter, and between different forms of matter. Even if anthropomorphizing water helps bring its flow into anthropogenic scales, it does so in ways that highlight its inhumanity. All of this

appears as Esch's effort to carry on her family's storytelling about these dangerous storms for both comfort and protection. Esch also returns to the idea of Katrina as a mother that simultaneously destroys and defines the lives of Bois Sauvage residents. This figures environmental justice as equitable distributions of, and responses to, environmental exposure, as opposed to preventing environmental exposure entirely. And finally, Esch's story about Katrina situates it as part of a history that includes both past and future storms. In *Salvage the Bones*, the goal isn't to shelter people from storms like Katrina, it's about how to best cultivate life and culture in places where another Katrina will surely come.

Coda: Looking Across Theoretical Gaps

In the introduction, I discussed the ways this project acknowledges a persistent gap between words and the world they describe. I don't see scholarship or literature as bridging the gap between word and world so much as offering ways to look across it, imagining what incomplete and imperfect connections might exist. This metaphor also helps describe the potential for connection and collaboration between the various bodies of theory and scholarship from which this project emerges. While interdisciplinarity as an idea receives almost universal praise, the practice of interdisciplinary scholarship proves incredibly challenging, as different fields and sub-fields emerge from disparate histories and political structures, or rely on contradictory core assumptions. This holds especially true when bringing science and the humanities into conversation, as contemporary popular and political discussions of STEM fields and their value often figure science as objective and practical (not to mention more lucrative) in contrast to the humanities, which are supposedly driven by questions of identity, ideology, and abstraction.

Obviously, these differences are oversimplified, and do not foreclose the possibility of useful interactions between the scholarship emerging from disparate disciplines. Rather, those differences call for a renewed attention to the way the histories and internal debates over disciplinary function can usefully inflect interdisciplinary scholarship. Two recent works of interdisciplinary scholarship offer a sense of how this might manifest.

In the final chapter of his book *Slow Violence and the Environmentalism of the Poor*, Rob Nixon discusses the historical and theoretical differences that have kept postcolonial studies and ecocriticism from extensively drawing on each other. While the details are illuminating—and a

reminder that the internal goals and structures of a particular discipline remain contested and dynamic—the conclusions Nixon reaches (or refuses to reach) warrant particular attention. First, Nixon qualifies his arguments in favor of increasing conversation between the two disciplines by explaining that “there is a risk of retrofitting flexible contemporary meanings of environmentalism anachronistically to earlier eras when anticolonial struggles over land rights and political independence clashed, again and again, with colonial legacies of conservation that were invariably racist and became emblematic of environmentalism in a decolonizing age” (Nixon 261). Nixon’s attention to the political histories shaping disciplinary antipathies reflects the broader concern within postcolonial studies to these histories, and suggests that an ecocritical reading practice that fruitfully connects with postcolonial studies cannot simply engage with similar thematic or formal material, but must use the core practices and structures of postcolonial studies as part of its analytical method.

As a result, Nixon also describes a “belated engagement between environmental and postcolonial literary studies” as one that “does not result from a straightforward two-way conversation but is part of a broader series of dynamic exchanges” (Nixon 261). This is not about creating a true synthesis of the fields. In fact, Nixon presumes that the fields will engage more than they will create a new sub-field. This holds because the two fields he describes are themselves too complex to clearly delineate, and because the terms of cross-field engagement will necessarily change the fields themselves. It is unlikely, in the short term, that increasing engagement will result in either one disappearing. Rather, attention and response to core questions and concerns from other interlocutors creates fields better able to see their own assumptions and limits in future scholarship.

Given the limits of comparing sub-fields of a particular academic discipline, crossing disciplinary boundaries can prove even more harrowing. As Tobias Menely and Jesse Oak Taylor explain in their introduction to *Anthropocene Reading*, “the Anthropocene Earth system ... includes not just the hydrosphere, atmosphere, biosphere, and lithiosphere, but also diverse economies and energy systems, societies and symbolic orders” (4). Studying the Anthropocene and its effects, then, would seem to demand drawing on the epistemological frameworks and bodies of knowledge that each of these spheres has created. Yet Menely and Taylor take “an avowedly disciplinary approach to this multidisciplinary problem” with the logic that “the Anthropocene provides an opportunity for literary studies to test and transform its methods by examining how the symbolic domain might, or might not, index a historicity that exceeds the human social relation and encompasses planetary flows of energy and matter” (5). Menely and Taylor take a similar approach to Nixon insofar as they assume that the historical and bureaucratic forces shaping disciplinary boundaries will remain in place, but they also offer a model for an applied disciplinary introspection. If literary studies in the Anthropocene demands testing the core assumptions of literary studies, interdisciplinary work more broadly means using different disciplines to test and call into questions the assumptions of others, without presuming that these assumptions can be fully or finally reconciled or unified.

This is exemplified best, I think, by the recent upswing in efforts to statistically quantify the extent of human influence in extreme weather events. Such efforts are not, strictly speaking, scientific experiments. More accurately, they are advanced statistical models, relying on existing understandings of climatic principles to determine how different observed conditions are from expected conditions, then using data about human impacts on the environment to connect human actions to particular events. They are, in other words, manifestations of a larger narrative about

species-wide human influence on the climate; attributing responsibility in this way is only necessary because a level of human responsibility is a precursor for a wide range of policy, liability, and action. At the same time, this branch of science exists because of the recognition that scientific work will be taken up in other disciplines, and is one of the fastest-growing and publicly-recognizable aspects of climate science because it acknowledges its interdisciplinary application, even as it maintains relatively rigid disciplinary structures. As a series of environmental lawyers explain in a recent *Nature* article, “Scientists should of course continue to express their findings probabilistically, maintaining all appropriate scientific standards necessary to achieve consensus and meet the professional standard of care. However, they should be aware that neither the law nor, arguably, the general public, adopts such rigorous standards when drawing conclusions about cause and effect” (Marjanac et al. 617). The idea that lawyers are publishing reviews of scientific fields in *Nature* is itself an indication of how reflexively interdisciplinary the climate science community has become. This is both expected and heartening: knowledge of the physical world, carefully collected over time and with incredibly high standards for accuracy, *should* be used to drive decision-making about that physical world. The lawyers’ urge for disciplinary rigor, however, also indicates how the interaction of sometimes disparate values across disciplines can create unexpected effects. As they explain, “scientists reject the notion that deterministic attribution of weather events is ever possible — because it is impossible to say that the event would ‘never’ have occurred in the ‘counterfactual’ world. We wish to emphasize, however, that this does not diminish the utility of attribution science for the law and liability” (Marjanac et al. 616). This is, on some level, a tacit admission that while scientific standards matter a great deal to producing strong science, other disciplines cannot and will not attend to those standards. This knowledge will not transform the core

principles undergirding scientific research, but it does mean that scientists (as all scholars do) have an increasing responsibility both to maintain the disciplinary standards by which their best work can be done, while imagining the ways it can generate unintended impacts as a result.

Applying these theoretical discussions of interdisciplinarity to the multiple disciplines undergirding the literary analysis in *Waterlogged* suggests that it's important to recognize the ways divergent cultural and scholarly histories of Indigenous Studies, postcolonial studies, African-American cultural studies, narrative theory, hydrology, and ecocriticism demand that these fields never fully synthesize or "bridge," even in the service of interdisciplinary work. But given this case for remaining conscious of the core disciplinary questions and concerns shaping individual disciplines, one could rightly ask: why bother reading for water, and for relationships with it, when so many urgent water crises around the country and world demand more direct attention and action? The answer lies, I think, in the knowledge that while these disciplines cannot merge, neither can they be kept separate. Consider, for instance, Jane Bennett's efforts to provide a philosophy (and by extension, a political model) for the agency of non-human and non-living entities and assemblages. Bennett, in her first chapter of *Vibrant Matter*, refers to non-human objects as "characters in a speculative onto-story" and in so doing, calls attention to the way narrative helps her (and her readers) understand "an account of materiality, even though it is both too alien and too close to see clearly and even though linguistic means prove inadequate for the task" (Bennett 3–4). Narrative's ability to reveal aspects of materiality does not eliminate the gap between word and world, nor should it. Instead, recognizing material agency can "enhance receptivity to the impersonal life that surrounds and infuses us" and thus "generate a more subtle awareness of the complicated web of dissonant connections between bodies, and will enable wiser interventions into that ecology" (Bennett 4). Bennett uses narrative as a tool to help do this,

seemingly without realizing it. With its ability to compress space and time, turning toward literature may be one of the best ways to understand those forms of matter that otherwise might flow past unnoticed.

Turning to literary studies, then, can provide interdisciplinary environmental study and activism with a set of questions, tools, and frameworks with which the unexpected overlaps and effects of water's cultural and physical can be discussed. Carefully reading for narrations of water will not likely transform human relationships with it. They can reveal by contrast, however, the disciplinary blind spots of other studies of water and relationships with it, all while offering a model for trying to communicate effectively about the ways those relationships develop and change, and offering insight to how the stories we tell (and the way we tell them) shape our ability to see the changing world all around us.

Works Cited

- Adame, María Fernanda, et al. "Sedimentation within and among Mangrove Forests along a Gradient of Geomorphological Settings." *Estuarine, Coastal and Shelf Science*, vol. 86, 2010, pp. 21–30.
- Alaimo, Stacy. *Bodily Natures: Science, Environment, and the Material Self*. Indiana University Press, 2010. *Open WorldCat*, <http://public.ebib.com/choice/publicfullrecord.aspx?p=613606>.
- . *Exposed: Environmental Politics and Pleasures in Posthuman Times*. University of Minnesota Press, 2016. *Project MUSE*, <https://muse.jhu.edu/book/48112>.
- . "‘Skin Dreaming’: The Bodily Transgressions of Fielding Burke, Octavia Butler, and Linda Hogan." *Ecofeminist Literary Criticism: Theory, Interpretation, Pedagogy*, edited by Greta Claire Gaard and Patrick D Murphy, University of Illinois Press, 1998, pp. 123–38.
- Alejo, Rafael. "Where Does the Money Go? An Analysis of the Container Metaphor in Economics: The Market and the Economy." *Journal of Pragmatics*, vol. 42, no. 4, Apr. 2010, pp. 1137–50. *ScienceDirect*, doi:10.1016/j.pragma.2009.08.013.
- Alland, Josh Alland Josh, et al. "The Role of Water Vapor in Tropical Cyclone Development." *Physics Today*, Dec. 2014. *world*, physicstoday.scitation.org, doi:10.1063/PT.5.4008.
- Alpert, Peter. "Sharing the Secrets of Life Without Water." *Integrative and Comparative Biology*, vol. 45, no. 5, Nov. 2005, pp. 683–84. *academic.oup.com*, doi:10.1093/icb/45.5.683.
- Ball, Philip. "Water — an Enduring Mystery." *Nature*, vol. 452, no. 7185, Mar. 2008, pp. 291–92. *www.nature.com*, doi:10.1038/452291a.
- Barad, Karen Michelle. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. 2007.
- Bate, Jonathan. *The Song of the Earth*. Picador, 2000.
- Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Duke University Press, 2010.
- Berlatsky, Eric. *The Real, the True, and the Told: Postmodern Historical Narrative and the Ethics of Representation*.
- Black, John, et al. "Liquidity." *A Dictionary of Economics*, 5th ed., Oxford University Press, 2017, <http://www.oxfordreference.com/10.1093/acref/9780198759430.001.0001/acref-9780198759430-e-1821>.

- Blaeser, Kimberly. "Centering Words: Writing a Sense of Place." *Wicazo Sa Review*, vol. 14, no. 2, 1999, pp. 92–108. *JSTOR*, doi:10.2307/1409554.
- Blend, Benay. "Linda Hogan's 'Geography of the Spirit': Division and Transcendence in Selected Texts." *From the Center of Tradition: Critical Perspectives on Linda Hogan*, edited by Barbara J. Cook, University of Colorado Press, 2003, pp. 67–80.
- Brown, Holly Cade. "Figuring Giorgio Agamben's 'Bare Life' in the Post-Katrina Works of Jesmyn Ward and Kara Walker." *Journal of American Studies*, vol. 51, no. 1, Feb. 2017, pp. 1–19. *Cambridge Core*, doi:10.1017/S0021875816000566.
- Catană, Elisabeta Simona. "Stories as Silt in Graham Swift's Waterland." *Romanian Journal of English Studies*, vol. 13, no. 1, 2016, pp. 7–12. *DeGruyter*, doi:10.1515/rjes-2016-0002.
- Chakrabarty, Dipesh. "The Climate of History: Four Theses." *Critical Inquiry*, vol. 35, no. 2, 2009, pp. 197–222.
- Chatterjee, Meenakshi, et al. "Tidal Variations in the Sundarbans Estuarine System, India." *Journal of Earth System Science*, vol. 122, no. 4, Aug. 2013, pp. 899–933. *link-springer-com.offcampus.lib.washington.edu*, doi:10.1007/s12040-013-0314-y.
- Clark, Nigel. *Inhuman Nature: Sociable Life on a Dynamic Planet*. SAGE, 2011.
- Cohen, Jeffrey Jerome. *Prismatic Ecology: Ecotheory beyond Green*. University of Minnesota Press, 2013.
- Cohen, Margaret. *The Novel and the Sea*. Princeton University Press, 2010.
- Cook, Barbara J. "Hogan's Historical Narratives: Bringing to Visibility the Interrelationship of Humanity and the Natural World." *From the Center of Tradition: Critical Perspectives on Linda Hogan*, edited by Barbara J. Cook, Boulder, CO, USA University Press of Colorado, 2003, pp. 35–52.
- Coole, Diana H., and Samantha Frost. *New Materialisms: Ontology, Agency, and Politics*. Duke University Press, 2010. *Open WorldCat*, <http://site.ebrary.com/id/10410341>.
- Cooper, Pamela. "Imperial Topographies: The Spaces of History in Waterland." *Modern Fiction Studies*, vol. 42, no. 2, 1996.
- Cottier, Annie. "Settlers in the Sundarbans: The Poetry and Politics of Humans and Nature in Amitav Ghosh's The Hungry Tide." *On the Move: The Journey of Refugees in New Literatures in English*, edited by Geetha

- Ganapathy-Doré and Helga Ramsey-Kurz, Newcastle upon Tyne, England: Cambridge Scholars, 2012, pp. 125–37.
- Cresswell, Julia. “Water.” *The Oxford Dictionary of Word Origins*, Oxford University Press, 2010, <http://www.oxfordreference.com/view/10.1093/acref/9780199547920.001.0001/acref-9780199547920-e-5418>.
- Crownshaw, Richard. “Agency and Environment in the Work of Jesmyn Ward Response to Anna Hartnell, ‘When Cars Become Churches.’” *Journal of American Studies*, vol. 50, no. 1, Feb. 2016, pp. 225–30. *Cambridge Core*, doi:10.1017/S0021875815001887.
- Crutzen, Paul J. “Geology of Mankind.” *Nature*, vol. 415, Jan. 2002, p. 23, doi:10.1038/415023a.
- DeLoughrey, Elizabeth. “Heavy Waters: Waste and Atlantic Modernity.” *PMLA PMLA*, vol. 125, no. 3, 2010, pp. 703–12.
- DeLoughrey, Elizabeth M., et al., editors. *Global Ecologies and the Environmental Humanities: Postcolonial Approaches*. Routledge, Taylor & Francis Group, 2015.
- Dimock, Wai-chee. *Through Other Continents: American Literature across Deep Time*. Princeton University Press, 2006.
- Doerfler, Jill, et al. *Centering Anishinaabeg Studies: Understanding the World through Stories*. Michigan State University Press ; University of Manitoba Press, 2013.
- Duckert, Lowell. *For All Waters: Finding Ourselves in Early Modern Wetscapes*. Minneapolis : University of Minnesota Press, 2017.
- . “When It Rains.” *Material Ecocriticism*, edited by Serenella Iovino and Serpil Oppermann, Indiana University Press, 2014, pp. 114–29. *alliance-primo.com*, <http://public.ebib.com/choice/publicfullrecord.aspx?p=2120324>.
- Edwards, Erica R. “Sex after the Black Normal.” *Differences*, vol. 26, no. 1, May 2015, pp. 141–67. *differences.dukejournals.org*, doi:10.1215/10407391-2880636.
- Ekbladh, David. *The Great American Mission : Modernization and the Construction of an American World Order*. Princeton University Press, 2010.
- Fagan, Brian M. *Elixir: A History of Water and Humankind*. Bloomsbury Press, 2011.

- Feit, Harvey. "Hunting and the Quest for Power: The James Bay Cree and Whitemen in the 20th Century." *Native Peoples : The Canadian Experience*, edited by R. Bruce Morrison and C. Roderick Wilson, 3rd ed., Oxford University Press, 2004, pp. 101–28.
- Fishman, Charles. *The Big Thirst: The Secret Life and Turbulent Future of Water*. Free Press, 2011.
- Fludernik, Monika, et al. "Metaphor and Beyond: An Introduction." *Poetics Today*, vol. 20, no. 3, 1999, pp. 383–396.
- Friess, Daniel A. "Mangrove Forests." *Current Biology*, vol. 26, no. 16, Aug. 2016, pp. R746–48. *ScienceDirect*, doi:10.1016/j.cub.2016.04.004.
- Furukawa, Keita, and Eric Wolanski. "Sedimentation in Mangrove Forests." *Mangroves and Salt Marshes*, vol. 1, no. 1, Mar. 1996, pp. 3–10. *link.springer.com*, doi:10.1023/A:1025973426404.
- Ghosh, Amitav. *The Great Derangement: Climate Change and the Unthinkable*. The University of Chicago Press, 2016.
- . *The Hungry Tide*. Houghton Mifflin, 2006.
- Gibbs, Raymond W. *The Cambridge Handbook of Metaphor and Thought*. Cambridge University Press, 2008.
- Giles, Jana Maria. "Can the Sublime Be Postcolonial? Aesthetics, Politics, and Environment in Amitav Ghosh's *The Hungry Tide*." *Cambridge Journal of Postcolonial Literary Inquiry*, vol. 1, no. 2, 2014, pp. 223–242. *alliance-primo.com*, doi:10.1017/pli.2014.18.
- Goetsch, Paul. "Orality." *Routledge Encyclopedia of Narrative Theory*, edited by David Herman 1962- et al., Routledge, 2010.
- Goh, Robbie B. H. "The Return of the Scientist: Essential Knowledge and Global Tribalism in Amitav Ghosh's *The Hungry Tide* and *The Calcutta Chromosome*." *Narrating Race: Asia, (Trans)Nationalism, Social Change*, Rodopi, 2011, pp. 49–67.
- Gratton, Peter. *Speculative Realism: Problems and Prospects*. A&C Black, 2014.
- Grewe-Volpp, Krista. "The Ecological Indian vs. the Spiritually Corrupt White Man: The Function of Ethnocentric Notions in Linda Hogan's *Solar Storms*." *Amerikastudien/American Studies*, no. 2, 2002. *ProQuest*, <http://search.proquest.com/mlaib/docview/54214004/4A1149BA08B0474BPQ/2>.
- Grosz, E. A. *The Nick of Time: Politics, Evolution, and the Untimely*. Duke University Press, 2004.

- Gurr, Jens Martin. "Emplotting an Ecosystem: Amitav Ghosh's *The Hungry Tide* and the Question of Form in Ecocriticism." *Local Natures, Global Responsibilities: Ecocritical Perspectives on the New English Literatures*, edited by Laurenz Volkmann et al., Rodopi, 2010, pp. 69–80.
- Handley, George B. "Down Under: New World Literatures and Ecocriticism." *Ecoambiguity, Community, and Development: Toward a Politicized Ecocriticism*, edited by Scott Slovic et al., Lexington Books, 2014.
- Hartnell, Anna. "When Cars Become Churches: Jesmyn Ward's *Disenchanted America*. An Interview." *Journal of American Studies*, vol. 50, no. 1, Feb. 2016, pp. 205–18. *Cambridge Core*, doi:10.1017/S0021875815001966.
- Hearn, Philip D. *Hurricane Camille: Monster Storm of the Gulf Coast*. University Press of Mississippi, 2004. *alliance-primo.com*, <http://public.eblib.com/choice/publicfullrecord.aspx?p=1051421>.
- Herman, David. *Basic Elements of Narrative*. Wiley-Blackwell, 2009.
- Hogan, Linda. *Solar Storms: A Novel*. Scribner, 1995.
- Hutcheon, Linda. *The Politics of Postmodernism*. Routledge, 1989.
- Huttenen, Tuomas. "Language and Ethics in *The Hungry Tide* by Amitav Ghosh." *History, Narrative, and Testimony in Amitav Ghosh's Fiction*, edited by Chitra Sankaran, State University of New York Press, 2012, pp. 121–32.
- Iovino, Serenella, and Serpil Oppermann. *Material Ecocriticism*. Indiana University Press, 2014. *alliance-primo.com*, <http://public.eblib.com/choice/publicfullrecord.aspx?p=2120324>.
- Jaising, Shakti. "Fixity Amid Flux: Aesthetics and Environmentalism in Amitav Ghosh's *The Hungry Tide*." *ARIEL: A Review of International English Literature*, vol. 46, no. 4, 2015, pp. 63–88. *alliance-primo.com*, doi:10.1353/ari.2015.0028.
- Jalais, Annu. *Forest of Tigers: People, Politics and Environment in the Sundarbans*. Routledge, 2010.
- James, Erin. *The Storyworld Accord: Econarratology and Postcolonial Narratives*. University of Nebraska Press, 2015.
- Jin, Yizheng, et al. "Water as an Investment: Liquid yet Illiquid!" *Applied Economics*, Sept. 2015, pp. 1–15.

- Kaur, Rajender. "‘Home Is Where the Oracella Are’: Toward a New Paradigm of Transcultural Ecocritical Engagement in Amitav Ghosh’s *The Hungry Tide*." *Interdisciplinary Studies in Literature and Environment*, vol. 14, no. 1, Jan. 2007, pp. 125–41. *CrossRef*, doi:10.1093/isle/14.1.125.
- Knickerbocker, Scott. *Ecopoetics: The Language of Nature, the Nature of Language*. University of Massachusetts Press, 2012.
- Kohn, Eduardo. *How Forests Think: Toward an Anthropology beyond the Human*. University of California Press, 2013. *alliance-primo.com*, <http://public.eblib.com/choice/publicfullrecord.aspx?p=1318190>.
- Lakoff, George, and Mark Johnson. *Metaphors We Live By*. University of Chicago Press, 1980.
- Lea, Daniel. *Graham Swift*. Manchester University Press, 2005.
- Leopold, Luna B. *Water, Rivers, and Creeks*. University Science Books, 1997.
- Lewis, Simon L., and Mark A. Maslin. "Defining the Anthropocene." *Nature*, vol. 519, no. 7542, Mar. 2015, pp. 171–80. *www.nature.com*, doi:10.1038/nature14258.
- Lloyd, Christopher. "Creaturely, Throwaway Life after Katrina: Salvage the Bones and Beasts of the Southern Wild." *South: A Scholarly Journal*, vol. 48, no. 2, Nov. 2016, pp. 246–64. *Project MUSE*, doi:10.1353/slj.2016.0022.
- Luciano, Dana. "The Inhuman Anthropocene." *Avidly*, 22 Mar. 2015, <http://avidly.lareviewofbooks.org/2015/03/22/the-inhuman-anthropocene/>.
- Malcolm, David. *Understanding Graham Swift*. University of South Carolina Press, 2003.
- Malewitz, Raymond. "Climate-Change Infrastructure and the Volatilizing of American Regionalism." *MFS Modern Fiction Studies*, vol. 61, no. 4, 2015, pp. 715–730. *alliance-primo.com*, doi:10.1353/mfs.2015.0050.
- Marjanac, Sophie, et al. "Acts of God, Human Influence and Litigation." *Nature Geoscience*, Aug. 2017, pp. 616–19, doi:10.1038/ngeo3019.
- Marotte, Mary Ruth, and Glenn Jellenik. *Ten Years after Katrina: Critical Perspectives of the Storm’s Effect on American Culture and Identity*. Lexington, 2015.
- Marshall, Alan. *The Unity of Nature Wholeness and Disintegration in Ecology and Science*. London: Imperial College Press, 2002.

- McGranahan, Gordon, et al. "The Rising Tide: Assessing the Risks of Climate Change and Human Settlements in Low Elevation Coastal Zones." *Environment and Urbanization*, vol. 19, no. 1, Apr. 2007, pp. 17–37. *SAGE Journals*, doi:10.1177/0956247807076960.
- McKinney, Ronald H. "The Greening of Postmodernism: Graham Swift's Waterland." *New Literary History*, vol. 28, no. 4, Sept. 1997, p. 821. a9h.
- Menely, Tobias, and Jesse O. Taylor. *Anthropocene Reading: Literary History in Geologic Times*. The Pennsylvania State University Press, 2017.
- Mentz, Steven. "Toward a Blue Cultural Studies: The Sea, Maritime Culture, and Early Modern English Literature." *Literature Compass*, vol. 6, no. 5, Sept. 2009, pp. 997–1013. *Wiley Online Library*, doi:10.1111/j.1741-4113.2009.00655.x.
- Meyer, Sandra. "'The Story That Gave This Land Its Life': The Translocation of Rilke's Duino Elegies in Amitav Ghosh's The Hungry Tide." *Postcolonial Translocations: Cultural Representation and Critical Spatial Thinking*, edited by Marga Munkelt et al., Amsterdam, Netherlands: Rodopi, 2013, pp. 147–61.
- Moynihan, Sinéad. "From Disposability to Recycling: William Faulkner and the New Politics of Rewriting in Jesmyn Ward's Salvage the Bones." *Studies in the Novel*, vol. 47, no. 4, Dec. 2015, pp. 550–67. *Project MUSE*, doi:10.1353/sdn.2015.0048.
- Mukherjee, Pablo. "Surfing the Second Wave: Amitav Ghosh's The Hungry Tide." *Literature and Globalization: A Reader*, edited by Liam Connell and Nicky Marsh, London, England: Routledge, 2011, pp. 177–89.
- Nakayama, Y. *Introduction to Fluid Mechanics*. Edited by R.F. Boucher, Butterworth-Heinemann, 1998, <https://vscht.cz/uchi/ped/hydotrepla/materialy/introduction.fluid.mech.pdf>.
- Neimanis, Astrida. *Bodies of Water: Posthuman Feminist Phenomenology*. 1st ed., Bloomsbury Academic, 2016, doi:10.5040/9781474275415. Bloomsbury Collections.
- Neimanis, Astrida G., et al. *Thinking with Water*. 2013. *Open WorldCat*, <http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=594622>.
- Nelson, Melissa K. "The Hydromythology of the Anishinaabeg: Will Misipizhu Survive Climate Change, or Is He Creating It?" *Centering Anishinaabeg Studies: Understanding the World through Stories*, edited by Jill Doerfler et al., Michigan State University Press ; University of Manitoba Press, 2013, pp. 213–33.

- Nixon, Rob. *Slow Violence and the Environmentalism of the Poor*. Harvard University Press, 2011.
- “Ooze, n.1.” *OED Online*, Oxford University Press. *Oxford English Dictionary*,
<http://www.oed.com.offcampus.lib.washington.edu/view/Entry/131644>. Accessed 18 Jan. 2015.
- Ortiz, Simon J. *Speaking for the Generations: Native Writers on Writing*. University of Arizona Press, 1998.
- Pasanek, Brad, and Simone Polillo. *Beyond Liquidity: The Metaphor of Money in Financial Crisis*. Abingdon, Oxon ; New York : Routledge, 2013.
- Phillips, Dana, and Heather I. Sullivan. “Material Ecocriticism: Dirt, Waste, Bodies, Food, and Other Matter.” *Interdisciplinary Studies in Literature and Environment*, vol. 19, no. 3, Dec. 2012, pp. 445–47.
isle.oxfordjournals.org, doi:10.1093/isle/iss064.
- Powell, Katrina M. “Mary Metcalf’s Attempt at Reclamation: Maternal Representation in Graham Swift’s Waterland.” *Women’s Studies*, vol. 32, no. 1, Feb. 2003, p. 59.
- Rabinowitz, Peter J. *Before Reading: Narrative Conventions and the Politics of Interpretation*. Cornell University Press, 1987.
- Railsback, Brian. “A Twenty-First-Century Grapes of Wrath: Jesmyn Ward’s Salvage the Bones.” *The Steinbeck Review*, vol. 13, no. 2, 2016, pp. 179–195. *alliance-primo.com*, doi:10.5325/steinbeckreview.13.2.0179.
- Rainwater, Catherine. “Intertextual Twins and Their Relations: Linda Hogan’s Mean Spirit and Solar Storms.” *MFS Modern Fiction Studies*, vol. 45, no. 1, 1999, pp. 93–113. *Project MUSE*, doi:10.1353/mfs.1999.0010.
- Richa. “Ecotheology and the Notion of Multiculturalism in The Hungry Tide and Sea of Poppies.” *The Indian English Novel of the New Millenium*, Newcastle upon Tyne, England: Cambridge Scholars, 2013, pp. 153–59.
- Ruffin, Kimberly N. *Black on Earth: African American Ecoliterary Traditions*. University of Georgia Press, 2010.
alliance-primo.com, <http://public.ebib.com/choice/publicfullrecord.aspx?p=3038918>.
- Ryan, Marie-Laure. “Narrative.” *Routledge Encyclopedia of Narrative Theory*, edited by David Herman 1962- et al., Routledge, 2010.
- Schultermandl, Silvia. “Fighting for the Mother/Land: An Ecofeminist Reading of Linda Hogan’s Solar Storms.” *Studies in American Indian Literatures*, vol. 17, no. 3, 2005, pp. 67–84. *Project MUSE*,
doi:10.1353/ail.2005.0064.

- Sharpe, Christina Elizabeth. *In the Wake: On Blackness and Being*. Duke University Press, 2016. *alliance-primo.com*, <http://dx.doi.org/10.1215/9780822373452>.
- Slovic, Scott, et al., editors. *Ecoambiguity, Community, and Development: Toward a Politicized Ecocriticism*. Lexington Books, 2014.
- Smith, Bruce D., and Melinda A. Zeder. "The Onset of the Anthropocene." *Anthropocene*, vol. 4, Dec. 2013, pp. 8–13. *ScienceDirect*, doi:10.1016/j.ancene.2013.05.001.
- Smith, Theresa S., and Jill M. Fiore. "Narrative as Landscape: A Home Beyond Boundaries in Linda Hogan's Solar Storms." *Studies in American Indian Literatures*, vol. 22, no. 4, 2010, pp. 71–79.
- Stevens, Benjamin Eldon. "Medea in Jesmyn Ward's *Salvage the Bones*." *International Journal of the Classical Tradition*, 2016. *alliance-primo.com*, doi:10.1007/s12138-016-0394-6.
- Stromberg, Ernest. "Circles Within Circles: Linda Hogan's Rhetoric of Indigenism." *From the Center of Tradition: Critical Perspectives on Linda Hogan*, edited by Barbara J. Cook, Boulder, CO, USA University Press of Colorado, 2003, pp. 97–108.
- Swift, Graham. *Waterland*. Vintage Books, 1992.
- Sze, Julie. "Boundaries of Violence: Water, Gender and Globalization at the US Borders." *International Feminist Journal of Politics*, vol. 9, no. 4, Dec. 2007, pp. 475–84. *EBSCOhost*, doi:10.1080/14616740701607978.
- Talairach-Vielmas, Laurence. *Fairy Tales, Natural History and Victorian Culture*. Palgrave Macmillan, 2014.
- TallBear, Kim. *An Indigenous Approach to Critical Animal Studies, Interspecies Thinking, and the New Materialisms*. Latin American & Caribbean Studies program, the Jackson School of International Studies, the Simpson Center for the Humanities, and the Institute for the Study of Ethnicity, Race, & Sexuality, 2013.
- Travis, Molly. "We Are Here: Jesmyn Ward's Survival Narratives Response to Anna Hartnell, 'When Cars Become Churches.'" *Journal of American Studies*, vol. 50, no. 1, Feb. 2016, pp. 219–24. *Cambridge Core*, doi:10.1017/S0021875815001875.
- Trethewey, Natasha. *Beyond Katrina - A Meditation on the Mississippi Gulf Coast*. University of Georgia Press, 2010.

Tuana, Nancy. "Viscous Porosity: Witnessing Katrina." *Material Feminisms*, edited by Stacy Alaimo and Susan J Hekman, Indiana University Press, 2008, pp. 188–213. *Open WorldCat*, <http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=642393>.

Ward, Jesmyn. *Salvage the Bones: A Novel*. Bloomsbury, 2011.

Williams, Raymond. *Keywords: A Vocabulary of Culture and Society*. Rev. ed., Oxford University Press, 1985.

Wolfe, Patrick. "The Settler Complex: An Introduction." *American Indian Culture and Research Journal*, vol. 37, no. 2, Jan. 2013, pp. 1–22. uclajournals.org.offcampus.lib.washington.edu (Atypon), doi:10.17953/aicr.37.2.c250832434701728.

Wood, Paul J., et al. *Hydroecology and Ecohydrology: Past, Present and Future*. Chichester, England ; Hoboken, NJ : Wiley, 2007.

Zalasiewicz, Jan, et al. "The Working Group on the Anthropocene: Summary of Evidence and Interim Recommendations." *Anthropocene*, vol. 19, no. Supplement C, Sept. 2017, pp. 55–60. *ScienceDirect*, doi:10.1016/j.ancene.2017.09.001.