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Bellarmine University

“And No Birds Sing”: The Environmental Ethics of Carson, Keats, Sagan, and Oliver

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Undergraduate Honors Thesis

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April 19, 2024

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Introduction

In the 1950 publication of Rahway High School's newspaper, under the heading "Space, Time, and the Poet," young Carl Sagan writes: "It's an exhilarating experience to read poetry and observe its correlation with modern science. Profound scientific thought is hardly a rarity among poets. Often a scientist will pen a verse to clarify his meaning." He then quotes a variety of poets, journeying through the galactic hub of space with lines from Alfred Lord Tennyson, Helen Hunt Jackson, T.S. Elliot, and John Gould Fletcher. Long before he was a famous astronomer, Sagan connected matters of poetry to the realm of science. For him, there was a clear bridge and, in fact, these fields would become tightly interwoven in his own career. The prose of his science writing has earned him the title poet laureate of the cosmos.

Rachel Carson, too, had a deep love of poetry. When she first enrolled in Pennsylvania College for Women in Pittsburg, she was an English major. She wrote for the university's magazine, won prizes for her stories, and published the occasional poem. She often quoted Emily Dickinson in her journals and kept a bedside copy of Thoreau's work. Later, when she enrolled in a biology class as a sophomore, she discovered how to marry science and literature. Having always wanted to be a serious writer, biology gave her something to write about. Later, after becoming the beloved marine biologist we know her as today, she says this in her National Book Award speech: "The aim of science is to discover and illuminate the truth. And that, I take it, is the aim of literature; it seems to me, then, that there can be no separate literature of science." And it is the line "And no birds sing" from the famous John Keats poem, "La Belle Dame Sans Merci," that inspires the title of *Silent Spring*, the book that to many jump-started the environmentalist movement in North America.

In this manner, my thesis aims to create resonances and synchronicities between the works of science writers Rachel Carson and Carl Sagan and poets John Keats and Mary Oliver. In particular, my project puts their environmental ethics in conversation with one another with a focus on shared linguistic choices and Romantic and ecocentric sensibilities. I will be examining compatibility among the content of their work, the mode/tradition that aligns with their writing and thinking, and shared literary practices or linguistic choices. Is the work of poetry, particularly poetry participating in the Romantic tradition, compatible with science writing? The ultimate goal is to demonstrate the symbiosis between science and literature and the necessity of bridging scientific and poetic discourse in regards to addressing climate and the environment. In each chapter, I pair a science writer with a poet, identify similar threads or themes in their writings, and showcase how these connections come together to elucidate compatible environmental ethics across disciplines.

In chapter one, I pair Rachel Carson and Mary Oliver. Both have a shared preoccupation with water; for Carson as it is the subject of her life's work, and for Oliver as she lived most of her adult life in Provincetown, at the northern tip of Cape Cod. The chapter focuses on ideas of margins and borders, particularly those of land and sea and human and nonhuman. I chose the selections from *American Primitive* out of Oliver's work and *Under the Sea-Wind* and *The Sea Around Us* out of Carson's work. I argue that they conceive of a unified ecosystem that has to contend with human-made systems (such as arbitrary borders but also physical technologies) that cleave apart humanity and nature. Their environmental ethics are rooted in a recognition of mutual histories (human and geologic) and examine how human knowledge is constructed, particularly in how we separate human and nonhuman categories, with the overarching shared metaphor of a Parent or Mother sea.

In chapter two, I pair Carl Sagan and John Keats. Both of their environmental ethics are crucially informed by the dynamics of mortality/immortality and how awareness of transience defines the human condition and interactions with the Earth and beyond. For this reason, the chapter hones in on various encounters with the universe, the natural world, and absence, and elucidates the intellectual frameworks they use to navigate such encounters, namely Empathetic Terror and Negative Capability, which both center perceived emptiness or the act of emptying oneself in one's participation with higher levels of nonhuman phenomena.

A Note on Terms and Purpose

According to J. Baird Callicott in his article "Non-Anthropocentric Value Theory", environmental ethics is one among several sorts of applied philosophies. It may be understood to be an application of well-established conventional philosophical categories to practical environmental problems, or it may be understood to be an exploration of alternative moral and even metaphysical principles thrust upon philosophy due to the magnitude of environmental problems. If interpreted as essentially theoretical, as I will be doing, the most important task for environmental ethics is the development of a non-anthropocentric value theory.

Anthropocentric value theory (or axiology) places intrinsic value on human beings and regards all other things, including other forms of life, as being only instrumentally valuable, meaning they are merely instruments which may serve human beings. A non-anthropocentric value theory (or axiology), on the other hand, places intrinsic value on nonhuman beings. As Callicott states, environmental ethics is environmental because it concerns nonhuman natural entities, natural communities, or nature as a whole, and ethical because it attempts to provide theoretical grounds for the moral standing or moral considerability of non-human natural entities, natural communities, or nature as a whole (300). When pursued from a more theoretical

orientation, the focus of environmental ethics shifts from the application of normal ethical theory to the criticism of normal ethical theory, i.e. anthropocentric axiology. Under the umbrella of non-anthropocentric ethics, an ecocentric ethic best opposes anthropocentric axiology.

An ecocentric perspective disrupts the positioning of humans as the sole locus of value, requiring humans to transform their anthropocentric attitude toward ecosystems. For some ethicists and scientists, this attitude of respecting species and ecosystems for their own sakes is stipulated by embracing an ecological worldview, flowing out of an understanding of the structure and function of ecological and evolutionary systems and processes. In another Callicott article, "Multicultural Environmental Ethics," Callicott discusses how a state of affairs becomes characterized as ecological. "Ecological" suggests the components are in unity, balance, and harmony. A unified, balanced, and harmonious state emerges from the interaction of the components of an ecosystem themselves rather than by an external force. Moreover, each component of an ecologically unified whole retains its autonomous identity and integrity. Callicott writes, "In an ecosystem, a fox remains a fox and is free to do what foxes do; and so for an oak tree, a rabbit, and all the other components of organized ecological wholes" (79). Within an ecosystem, organisms (biotic communities) and abiotic communities influence each other's properties. For example, animals depend on plants that produce protein, carbohydrates, and fats through photosynthesis, and, in turn, animal populations control plant populations, which are both influenced by bacteria.

It may be productive to clarify that ecocentrism is not misanthropic. When writing on human-nature dualism in the article "Limits to Anthropocentrism: Toward an Ecocentric Organizational Paradigm," Ronald Purser emphasizes that an ecocentric perspective establishes a fundamental ethical shift with a concomitant recognition of constraints placed on individual

systems (human beings, organizations) by virtue of the fact that such systems are members of a land community. As members of the land community (rather than being above and apart from the environment), individual systems can no longer maintain an egocentric view of themselves (Purser et al. 1073). Furthermore, an ecocentric ethic asks less "What should I do?" and more “What type of person should I be?” as the axiology roots itself in an attitude of reverence for life and respect for nature.

Under this umbrella of non-anthropocentric, I propose that my figures have an ethic that is ecocentric and writing that is ecocritical. I adopt various understandings of ecocriticism, primarily Lawrence Buell’s and J. Scott Bryson’s. An ecocritical work’s overarching characteristics are the presence of the nonhuman as more than mere backdrop, the expansion of human interest beyond humanity, a sense of human accountability to the environment and of the environment as a process rather than a constant or a given. These characteristics function alongside humility, a skepticism toward hyperrationality, and an ecocentric perspective that recognizes the interdependent nature of the world and the world as a community. Within this broader category of ecocentrism, I offer a finer, author-specific environmental ethic for each of my figures. I chose pairings based on how well each ethic was aligned with another’s.

In addition to offering an ethical position, I attempt to elucidate how each writer expresses their environmental ethic through a kind of intellectual task, particularly in practices that are literary, imaginative, or both literary and imaginative. For the poets, these practices are characteristic of Romanticism (Keats) or rooted in the tradition of Romanticism (Oliver). On the other hand, the science writers are often aesthetically aligned with Romanticism but not as entrenched in the actual work of Romanticism. I adopt Michael Ferber’s definition of Bloom 8 Romanticism as the cultural movement, or set of kindred movements, which found in a symbolic

and internalized romance plot a vehicle for exploring one's self and its relationship to others and to nature, which privileged the imagination as a faculty higher and more inclusive than reason, which sought solace in or reconciliation with the natural world, which replaced theological doctrine with metaphor and feeling, which honored poetry and all the arts as the highest human creations, and which favored values more inward and emotional. For the purposes of my project, I emphasize the value placed on feeling, and especially empathy, as opposed to reason, and the privileging of the imagination.

A Note on Reviewing the Literature

There is ample criticism on Rachel Carson. I read a variety of critical essays from a collection edited by Lisa H. Sideris and Kathleen Dean Moore, *Rachel Carson: Legacy and Challenge*. I also read selections from William Souder's biography *On a Farther Shore*. While there is a lot of criticism on her environmental ethics, there is not as much on her dual identity as a creative writer. Pairing her with a poet maximizes these qualities and perhaps offers a less explored perspective. As far as I can find, there is no existing scholarly attention to Sagan that actively engages with and analyzes his use of language. Outside of reading his books, I read various informal blog pieces, such as The Marginalian's and Smithsonian Magazine's. I also combed through the digital files obtained by the Library of Congress of his letters, notebooks, and other pieces of writing. Criticism on Mary Oliver is not abundant but significant enough. Most focus on *American Primitive*. Future iterations of this thesis would explore more poems from collections like *Dream Work* or *Twelve Moons* to broaden the conversation. However, putting her poems in conversation with science writers, or at least with Carson, has not been done to my knowledge. Due to the overwhelming abundance of Keats criticism, my review on

Keats was more limited to criticism that aligned with my project. In this way, I looked more closely at criticism revolving around his concept of Negative Capability. I also read the widely known and referenced Keats and the Sublime by Stuart Ende. It is important to note that literary ecocriticism--not yet conceived in Keats's time--has led to "the re-reading, through modern ecological perspectives, of earlier literature, such as the pastoral, that engaged with our relationship with the natural environment" (Gifford 5). Many have reinterpreted John Keats in this context before me, such as in Jonathan Bate's innovative reading of Keats's ode "To Autumn" as an ecosystem. Though I engage with one of his most popular poems, "Ode to a Nightingale," I pair it with a less explored poem "Sleep and Poetry." I sift them through a kind of ecological lens that precedes me but that I hope contains moments of originality.

A Note on the Chosen Figures

I recognize that the leap from Carson to Oliver is much smoother than Keats to Sagan. Because three of these figures are much more modern compared to Keats, he is in some ways an outlier. However, due to his influence on both Carson and Oliver, and my personal love for his work, I chose to include him anyway. A better iteration of this project might provide a much more comprehensive inclusion or reference to other Romantic poets or ecopoets working in the Romantic tradition, as well as other science writers, poetic or otherwise. Due to temporal and page restrictions, the four chosen figures are merely a (imperfect) representative sample and were chosen to satiate my own personal academic curiosities and passions.

Chapter One: *"Now the Sea is in Me":* The Human and Nonhuman Boundary in Carson and Oliver

I.

Oliver's *American Primitive* and Carson's *The Sea Around Us* and *Under the Sea Wind* each develop an imagining of a unified ecosystem that must contend with human-made systems which cleave apart humanity and nature. This chapter looks primarily at arbitrary borders and margins in their works, particularly that of land and sea and human and nonhuman categories, as well as technologies, both physical and linguistic, that either reinforce or deconstruct such imaginings. Their environmental ethics are rooted not in artificial suggestions of sameness but rather in a sense of interbeing with the world, moving through points of identification and points of differentiation. In terms of identification, Carson and Oliver recognize a co-articulated natural and human history that can engender a sense of human place in or alongside the construct of nonhuman place. Particularly regarding difference, when no identification can be made, Carson and Oliver's ethics are defined by exercises of radical empathy--embodying presences that are radically different from human experience.

Many ecocritics contend that the West's anthropocentrism has diminished our capacity to connect meaningfully with the natural world in a way that recognizes its sacredness or value beyond human utility. Developing an awareness of Earth's beauty constitutes one dimension of resisting the exploitation and commodification of nature. This kind of aestheticism of the natural world is seen largely in the works of Transcendentalist writers like Henry David Thoreau and Ralph Waldo Emerson, both of whom serve as important informants of Oliver's work. These writers emphasized the necessity of cultivating an attentive form of seeing the natural world. For

Oliver, whose ecological ethic has been dubbed “an attitude of noticing,” this often takes the form of radical amazement and acute awareness--a kind of heightened receptivity to nature and all of its smaller worlds and existences. As articulated by Laird Christensen, a typical Oliver speaker’s precision of attention walks along a well-worn transcendentalist path from direct observation toward revelation and enhanced recontextualization. Much of her work dismantles man-made hierarchies of species and places human being, as animal, back into the natural world.

Hatem Salama Saleh Salama describes Oliver’s voice in *American Primitive* (1983) as celebratory and elegiac. In her article “Dissolution into the Natural World: An Ecocritical Study of Mary Oliver's American Primitive,” she argues that the collection is primarily preoccupied with the primitive American landscape, the realm in which human needs and primordial cycles of nature meet and interact, as well as a conviction that nature is an articulate and conscious subject rather than a silent or objective Other, descending from fellow mammal to animate plants to apparently inanimate stones. The collection gives credence to sensory experience with poems moving from Ohio’s forests and fields to Cape Cod’s scrub pines to the childhood country of one’s imagination, and finally, to the sea.

This emphasis on primordial cycles is especially evident in Oliver’s poem “The Sea,” which originally appeared in *American Primitive*. “The Sea” enters the nonhuman world by returning humanity to its common ancestor, the primitive fish. All vertebrates, including humans, evolved from lobe-finned fishes of the early Devonian age of geologic time. These lobe-finned fishes eventually emerged from the epicontinental sea and onto land as tetrapods, having developed lungs and converted their fins into limbs. The lobe-finned fish carried the genetic codes for limb-like forms and air-breathing, and these genetic codes are still present in humans. Author Robert Langbaum asserts that by the latter part of the nineteenth century and the early

part of the twentieth, "overly" romantic nature poetry had lost credibility as a result of nineteenth-century science and the new way Westerners envisioned themselves in opposition to nature; Darwinian theory and modern geology had made it difficult for readers to accept unselfconscious anthropomorphized nonhuman nature (Bryson 2). However, for Oliver, it is possible to straddle the lines of science and Romanticism when it comes to re-contextualizing the human species in geologic time. "The Sea" does not anthropomorphize fish; rather, it capitalizes on our shared genealogy and our evolutionary origins. It is an exercise of humility, elaborating on a kinship rooted not wholly in Romantic sensibility but also in science.

"Stroke by / stroke," the poem begins. Immediately, Oliver situates the speaker in water, describing the motions of the speaker swimming. The poem continues: "my / body remembers that life and cries for / the lost parts of itself" (1-4). By entering water, a world wholly different from land, the speaker gains access to ancestral memory. The body remembers, through the act of swimming, its ancient morphology, which the next line explicitly identifies as fins and gills. Not only does the body remember, it mourns. The speaker's legs "want to lock / and become one muscle" (7-8). Fins and gills are desirable, advantageous traits rather than primitive appendages. They are worthy of retrieval. Later in the poem, the speaker longs to "become again a flaming body / of blind feeling" (26-27). Here, Oliver reveals her skepticism toward hyperrationality, where rationality is indiscriminately favored even in contexts that are unsuited to it. Her speaker's human individuality is subsumed by nature, reduced to base instincts. They "sleek along" the sea's body, unmoored and unintentioned. The speaker becomes a member of the natural world and its life cycle, welcoming an experience of an animal self concerned only with biological need. Choosing blind feeling in an over technologized world that elevates humankind

on the basis of possessing reason is a subversive act. This retreat from consciousness might also suggest a return to an embryonic state.

Oceanic longing in "The Sea" is coupled with maternal images and language:

"paradise! Sprawled
                    in that motherlap,
                    in that dreamhouse
          of salt and exercise" (14-17).

The sea, referred to as a "motherlap" and a "dreamhouse," is almost womb-like. After all, human embryos initially share characteristics in common with fish, having gill-like slits. Oliver plays with the concept of "mother nature" or "maternal nature" by characterizing the sea as our original mother, both as humans and as fish. The sea is an "insucking genesis" (32) whereby the speaker experiences reverse phylogeny. Returning to it is a maternal reunion, functioning doubly as the literal site of life's origination and metaphorically as a womb. Here, the sea is a clearly defined site that, to a lesser extent than land, allows us to recover an umbilical attachment to life's origination. However, Oliver too recognizes how this distinction between the two spheres (land and water) often blur, both in her life and in her writing.

Oliver spent much of her adult life living on the eastern side of Provincetown, Massachusetts, in a home on Commercial Street close to the harbor. In her essay "Dust," she describes how her building is usually "about 10 feet from the water," except for when there is a storm blowing from the southeast, and then it is "about a foot from the water." For Oliver, the water's edge was ever-changing; what was land one minute could be consumed by the tide the next. She describes the whole house rocking, storm waves beating on the underside of the deck boards.

Cape Cod is most commonly associated with beaches and ocean. While this is certainly true, quite a bit of it is forested, and there are many different types of freshwater ponds. Much of

Oliver's work draws from her walks in the so-called Province Lands, 3,500 acres of national parkland tucked away on the other side of Route 6 from Provincetown. Robert Cook, a wildlife ecologist for the Cape Cod National Seashore, describes the ponds and forests of the Province Lands as a small "undisturbed remnant" of Cape Cod's ancient past. Ben Howard calls these ecosystems Oliver's sites of "numinous intersections of the self and the natural world," which, he argues, engender a sense of reverence and awe and offer a primal experience of Cape Cod, away from, in Carson's words, the "artificial world" of bustling, tourist streets. Ponds possess an immediacy that is in some ways unlike seascapes. They are often more accessible to and nearby human presence and are located within a forested site, in which aquatic and terrestrial organisms more readily co-exist.

Clapp's Pond is one of these freshwater bodies, which Oliver writes of in her poem of the same name. In the first stanza, Oliver creates a sense of this tightly contained ecosystem. Clapp's Pond is three miles into the woods among oaks and pines. In the water, a pheasant lifts "his yellow legs" and "opens his bronze wings" (6-8). On land, a doe brushes the "dampness" of the ground then "flares out of the brush and gallops away" (10-11). Here, the speaker is absent. All attention falls on the wildlife and its habitual actions. Inserting the pheasant and the doe into the scene gives the speaker, who emerges in the next stanza, points of identification in nature in which the self can dissolve. The "dampness" experienced by the "doe" reaches the speaker in the second stanza: "By evening: rain / It pours down from the black clouds, / lashes over the roof…" (12-14). The distance between them, then, is ecologically negligible, as both are situated under the same rain event. The speaker, however, resides on her porch, feeding a fire, and notes the fallen acorns--a favorite food of deer. They occupy a space that is both in- and outdoors,

surrounded by both the natural and human world, as well as life-giving symbols (acorn, rain, fire).

This doubleness is explicitly identified in the third stanza:

> How sometimes everything
> closes up, a painted fan, landscapes and moments
> flowing together until the sense of distance--
> say, between Clapp's Pond and me--
> vanishes, edges slide together
> like the feathers of a wing, everything
> touches everything (18-24).

Any difference between the speaker and all things has vanished: the materiality of the world, and the ways in which humanity conceptualizes it, via time or geography, has "closed up" like a fan, a collapsible object that when spread imposes distance and when shut eliminates it. In its closing, the interdependence of the world, in which the speaker is contained, descends. The speaker experiences inward movement, spiritually merging into the totality of nature toward swiftly fading distances between the self and, representatively, Clapp's Pond. This is echoed even in Oliver's technique, with the combination of the metaphor in "edges slide together" and the simile in "like the feathers" (22-23). Oliver forgoes the myth of human independence with an ecological ethic of inclusion in an interrelated community. The border between human and doe, between land and water, touch. The edge of Clapp's Pond crosses into everything else.

Furthermore, stanzas, which up to this point were neatly contained, now bleed into one another:

> Later, lying half-asleep under
> the blankets, I watch
> while the doe, glittering with rain, steps
> under the wet slabs of the pines, stretches
> her long neck down to drink

*

from the pond

three miles away (25-31).

Although Oliver maintains distance structurally, the enjambment of the final line, which starts in the fourth stanza and completes in the fifth, stepping into each other's territories so-to-speak, mimics the way in which the speaker has conceptually collapsed distance between herself and the doe. Because "everything / touches everything," the speaker can see the doe despite the three miles geographically separating them. Oliver even plays with the boundaries of consciousness, transplanting the conscious experience of the doe into that of the speaker--or, at least, elucidating a shared consciousness that the speaker accesses through unconscious immersion/unification with the natural world. Boundaries--between the self and nature, subject and object, language and muteness, immortality and mortality, and so forth--populate modern romantic nature poetry, and often find a single human speaker considering their relation to a landscape or to another creature, a tradition in which Oliver clearly participates (McNew 60). While much of this poetry came to move toward imaginative reconstructions of an alienated consciousness which could regain only fleeting and ambiguous unions with the body, objects, and nature, Oliver's speakers tend to have much more fully realized encounters. Though the speaker does not quite reunite with their animal self as seen in "The Sea," Oliver successfully unifies the human speaker and the natural landscape, retrieving primordial wholeness through the speaker's transcendent imagination.

In *American Primitive*, Oliver removes the veil of otherness humanity has cast upon the natural world by discarding epistemological hubris and offering an ecological transmigration of souls. She challenges the way we construct knowledge about the world, and the human place in it, first through the ocean, and in Clapp's Pond, through freshwater. In both instances, the lines

between human and nonhuman converge through the reverence of water--it is no coincidence that the doe drinks from the pond, glittering with rain. Everything touches everything. All life shares its origin in water. Our genealogy, our worlds of land and water, are endlessly entangled. Oliver thus perhaps showcases that it is not necessarily the ocean, as Carson will posit, that deconstructs humanity's imagined self-importance but what the ocean itself represents. When scale widens, as it does in the ocean or in space, or when scale minimizes, as it does with Clapp's Pond, one blue comma on the map of the Earth, we are most susceptible to the cognitive shifts necessary to re-contextualizing the Anthropocene. Oliver returns us not just to the maternal sea but the maternal earth.

Rachel Carson's prose similarly constructs an image of the ocean as mother and identifies humankind's unconscious recognition of our lineage in the sea. *The Sea Around Us* (1950), originally titled "Return to the Sea," began as an attempt to construct an ocean that reflected knowledge of her personal exploration, oceanography and fishery biology, and bureaucratic marine conservation. Equal parts nature writing and science writing, its opening section "Mother Sea" describes how fish, amphibians, reptiles, and mammals all carry a salty stream of sodium, potassium, and calcium in our veins that mimic the same proportions of sea water. Millions of years ago, a remote ancestor, having progressed from the one-celled to many-celled stage, first developed a circulatory system in which the fluid was the water of the sea. She attributes our lime-hardened skeletons to heritage from the calcium-rich ocean of Cambrian time and notes that the protoplasm in our cells has the same chemical structure impressed upon all living matter when the first creatures emerged in the ancient sea (13). She then mirrors the image of the ocean as a mother's womb, asserting that each of us began our lives in a "miniature ocean," and that our embryonic development echoes the development of gill-breathing inhabitants of water into

land creatures. Carson, as a marine biologist, fleshes out the biological basis for Oliver's poem. There is credibility to what critics otherwise might reduce to imagination or fancy. Humankind, Carson continues, looks out upon the sea with wonder and curiosity. We cannot re-enter the ocean as seals and whales--and Oliver's speaker--had done. Yet, Carson argues, by inventing boats, finding ways to descend to the shallow parts of the ocean floor, casting nets, and probing its depths, we recreate for our senses a world long lost. Humans need mediating symbols, or technologies, to make the natural world comprehensible. It is a way of creating an access point to what lives in the deepest parts of our subconscious (15).

However, Carson is quick to establish humility. Anthropocentric paradigms often cast human beings as "conquerors" of the natural world on the basis of possessing technology, and furthermore, that new technology will ensure a perpetual and inexhaustible source of natural resources like the ocean (Purser et al. 1074). While possessing these technologies, Carson argues that humanity can only return to its mother sea on her terms: "[Man] cannot control or change the ocean as, in his brief tenancy of earth, he has subdued and plundered the continents" (15). While this is certainly true in the sense that most of our oceans remain unexplored and inaccessible to humans, Gary Kroll's article "Rachel Carson's The Sea Around Us, Ocean-Centrism, and a Nascent Ocean Ethic" provides important context for such a statement. Carson was writing in the years following the Second World War when the ocean played a crucial role in the United States' economic, political, and military strength. In the postwar cataclysm, especially as terra firma were increasingly strained and degraded, septuagenarian fishery biologist Robert Cook argued that a more widespread sea-consciousness must prevail in the future. Kroll replaces Cook's term with the more suitable "ocean-centrism," an understanding that oceans dominate the earth and can serve as a check to a terrestrially-rooted human-centered

consciousness. But while ocean-centrism led many Americans to revere the ocean as a place of beauty, power, and terror, others took this check as a challenge for conquest.

In this way, it is important to recognize, as Carson later did, that the ocean is not a geography of illimitable resources and that human activities did and continue to do great damage to marine ecosystems. Carson goes on to cast cities and towns as “artificial worlds" that allow people to forget the true nature of the planet and the long vistas of its history, in which humankind has occupied but a small moment of time.[1] The sense of these things, she continues, can only be retrieved on the ocean:

> “...when he watches day after day the receding rim of the horizon, ridged and furrowed by waves; when at night he becomes aware of the earth’s rotation as the stars pass overhead; or when, alone in this world of water and sky, he feels the loneliness of his earth in space. And then, as never on land, he knows the truth that his world is a water world…” (15).

Here, Carson shifts away from scientific inquiry and toward the prism of poetics. This passage is fortified by poetic linguistic choices, including the alliteration of “receding rim” and “water world,” as well as the use of semicolons and commas to prolong and give space to each clause. The horizon is “ridged and furrowed” by waves; distinctions between water and sky blur. Furthermore, she inhabits a Romantic imagination in which nature--the sea--pushes humankind into a feeling, interior world that recognizes the “loneliness” of life in the cosmos. It is “*his* earth” only because Carson has chosen to embody a uniquely human perspective. She highlights how the Earth will persist long after humankind’s earth; civilization, or the time of humankind, is far more finite than the planet and will eventually, like all species, face extinction. For Carson,

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[1] Later in the chapter, Carson argues that people, in their vanity, attribute a human origin to all light beyond that produced by sun, moon, and stars. Light on the shore or lights moving on the water are typically assumed to be the imposition of seafaring technologies, controlled by humans. The “artificial worlds” of cities have disrupted our ability to adequately envision a nonhuman world, in which light produced by photoluminescent algae, for example, existed eons before humankind.

the way to gain this awareness requires observation: to notice the stars passing overhead, to feel the Earth's rotation. Nature has its own integrity. It possesses wild independence. But this observation, and subsequent reflection, must be removed from the comfort of land and man-made structures. Seventy-one percent of Earth is water. This is the pulse of the world--including humanity's.

Carson's passage is notably reminiscent of Oliver's notion of attention. For Oliver, attention begins with, for example, seeing how a flicker's flight is different from the way a swallow plays in summer. Part of attention is observing the nonhuman world, recognizing its infinite variations and each life's distinguished characteristics. However, as she identifies in her book *Our World*, real attention requires empathy; attention without feeling is only a report. An openness or empathy is necessary for the attention to matter. This is translatable to Carson's passage: observation at sea inspires transformation. (It seems, also, that Oliver's poetry challenges Carson's perhaps hyperbolic assertion that "the sense of things" can only be recovered on the ocean.)

Additionally, all three of Carson's early works are populated by metaphors of nature as home and household. She creates a sense of familial feeling for physical and biophysical landscapes and, as we've seen, a sense of being organically related to the natural world. In her communities of creatures, the sea is described as creating a home for her children, with these communities living on homeplaces in a natural landscape. Often, these are constructed by other animals. For example, in the first chapter of *The Sea Around Us*, drifting sargassum weed takes small fishes and crabs from home to home (25), and the red jellyfish Cyanea shepherds a little group of young cod under its bell (32). She even describes the surface waters of spring as a "vast nursery," which implies a kind of guardianship or intentional caregiving--whether from the

ocean as a symbolic whole or by the mature creatures that inhabit it. However, she also troubles a purely Edenic perspective, complicating her own metaphors by identifying the sea's dual nature and muddling the hard line drawn between land and sea.

The first paragraph of *Under the Sea Wind* calls into question assumptions about categories, specifically in relation to distinctions we make between land and sea: "Both water and sand were the color of steel overlaid with the sheen of silver, so that it was hard to say where water ended and land began" (3). This line suggests that places where land and sea meet--here, on an island of the Outer Banks--are not always conducive to imaginings of a warm, life-giving mother. Rather, the ocean can be borderless and harsh to its inhabitants, as she later gives the example of thousands of young who die in the ocean due to a lack of fortuitous driftwood or buoy to make into a homeplace. As *The Sea Around Us* continues, Carson renders the seascape as increasingly problematic, moving toward more severe imagery. Sea surfaces glow with "sheets of cold fire" and fish pour through water "like molten metal" (33). This autumnal phosphorescence signifies that the sea is filled with Gonyaulax, a dinoflagellate genus that contains a strange and violent poison. Within four days of Gonyaulax's arrival, many of the fishes and shellfish within proximity become toxic. Furthermore, the onset of winter turns the cradle of the surface waters, once nursery, into the "plaything" of gales. Epifaunal larvae drift away, and fish schools migrate to warmer latitudes. "As the wind builds up the giant storm waves," Carson writes, "it seems that life must forever have deserted this place" (35).

Carson quickly rectifies these bleak images of the winter seascape by pivoting to the promise of renewal, arguing that such lifelessness is illusory, just as it is on land. As insects hibernate behind rough tree bark and leaf buds cling to branches, so too do invisible spores in the iciness need only spring's "touch of warming sun" to repopulate what has been deserted (36). By

discarding and then re-affirming various conceptions of the sea, Carson offers a more complete and nuanced metaphor of mother that affirms how language can intellectually navigate the plurality of such a complex geography. She rejects the habit of assigning a particular value (positive or negative) to the natural world and empowers nature to stand on its own, outside of strict human-made categories.

Furthermore, Carson allows land and sea to occupy the same space comparatively. In her discussion of phosphorescence, specifically regarding the light phenomenon produced by the shrimp Meganyctiphanes, she writes, "...the summer sea may glitter with a thousand moving pinpricks of light, like an immense swarm of fireflies moving through a dark wood" (32). While the machinations of sea and land are generally much different, Carson identifies a particular like-ness in her simile: the glittering of the summer sea is, in essence, much like the movement of fireflies. But this sentence goes beyond identifying that bioluminescent organisms are found on both land and in sea. As a science writer, it may have made more sense for Carson to compare the fireflies to the shrimp. Phylogenetically, the fireflies have inherited the bioluminescent gene from marine organisms like the shrimp. It is really the fireflies doing the mimicking rather than the other way around. The purpose of this line, therefore, seems to be far more rooted in matters of poetry than in science. Carson is drawing on a shared, authoritative understanding of beauty to flatten the distinction between land and water.

Carson consistently rejects a purely objective outlook; her writings borrow poetic linguistic choices and, of her own admission, seek to create an emotional response to nature. In *The Sea Around Us*, Carson portrays the diversity and strangeness of marine life and instills a sense of the forces that have created it over geologic time scales. She mixes science (ecological

knowledge) and emotion (reverence) to temper science with respect before the mystery of nature and the power of a Mother Sea.

II.

Oliver and Carson conceive of human consciousness as both a barrier and a bridge between themselves and the nonhuman worlds they observe. Because of the transcendent human imagination, they can inhabit nonhuman spaces in their writings and demonstrate how the biotic community has its own kind of knowledge, including, perhaps, language.

In *The Sea Around Us*, Carson highlights the soundscape of the ocean. As she suggests, experience with hydrophones and other listening devices dispelled any conception of the sea as a silent place. Shorelines across the world are filled with the uproar of fishes, shrimps, porpoises, and other forms not identified (51). Carson writes that when the crew of the *Atlantis* lowered a hydrophone into deep water off of Bermuda, they recorded "strange mewing sounds, shrieks, and ghostly moans" from untraced sources. In this contemporary moment, we know that the ambient sound field of the deep sea rings with the distant moans of baleen whales, and perhaps other creatures, as well as near and far earthquake sounds. What is noteworthy, however, is how humans have perceived and contributed to this soundscape. Carson narrates an instance during the Second World War when the U.S. hydrophone network, built to protect the Chesapeake Bay entrance, was temporarily compromised by extraneous noises (52). These noises, described as "a pneumatic drill tearing into the pavement," completely masked the sounds of passing ships. It was eventually determined that these sounds came from fish known as croakers, which move into the Chesapeake Bay from offshore wintering grounds in the spring. As soon as the noise was properly identified, it was screened out with an electric filter so that the only noises coming

through the speakers were those of passing ships. In this instance, human-made noises in the ocean and naturally occurring marine noises meet, intertwine, and, in the case of the croakers, dominate. Still, the fact that humanity can sift out marine noises in favor of its own speaks more broadly to patterns of division and a desire to master, or tame, the natural world and its nonhuman inhabitants. Even more so, it underscores assumptions about nonhuman worlds--in this case, the assumption that the ocean is naturally silent, filled only by human presence. Or, that marine noises are only that, *noises*, and not something closer to language.

As discussed by Margret Grebowicz in her chapter, “Close Call: Sagan’s Humpbacks and Nonhuman Politics,” while Western society domesticated the animals we consume--and came to view as inferior--many Arctic cultures saw marine life, specifically whales, as their equals; they were thought to be emotional and thoughtful creatures, guided by their nonhuman version of social expectations and thought to live in underwater societies that paralleled that of humans (144). Throughout history, similar beliefs have guided other human-nonhuman relationships, especially in hunter-gatherer cultures that share an environment with potentially dangerous, large animals. Currently, we can see quite certainly that cetaceans have language. For example, analysis of humpback whale recordings reveal that pods seem to be communicating in idiolects, unique sound patterns that are not repeated. Whales in one pod or area sing the same song, which can alter over time in terms of pitch and volume. Those in other locations sing different songs, with patterns that are not revisited over time, as one nineteen-year-long study demonstrates (146).

We see this even more strongly in orcas, who, unlike humpbacks living in more transient groups, live in very stable pods, each possessing a discrete dialect. While pods frequently associate, dialects are maintained, perhaps underscoring how there is no single orca language,

just as there is no single human language (Grebowicz 146). Additionally, scientists have taken to referring to sperm whale social units as "vocal clans," because of the role of dialect in their social lives. It is with some foundation then that one can say humpbacks have communication adjacent to human language that can evolve.[2] "Everything, even the great whale," Oliver writes in her *American Primitive* poem "Humpbacks," "throbs with song" (60).[3]

For Oliver, almost nothing exists as an unconscious object. As Janet McNew puts it in her article, "Mary Oliver and the Tradition of Romantic Nature Poetry," she does not tremble over boundaries between herself and nature. Her imaginations of transformations into fish, fowl, and buffalo become dreams of other lives/identities that are inhuman but neither unconscious nor mute (66). Essential to Oliver's project as a poet is the gradual recognition that everything has consciousness and language of some sort. Even the most inert parts of nature, such as rocks, "flick their silver tongues." In this way, Oliver often adopts perspectives that are explicitly ecocentric--biota and the rest of the physical environment are equally articulate, conscious subjects. The poems in and beyond *American Primitive* are clear assertions that reaching nature's

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[2] Carl Sagan included whale sounds on the Voyager Golden Records. Humpback sounds are currently traveling through interstellar space, among the most important information that humans in 1977 wished to communicate to potential extraterrestral intelligences who might intercept the disk in the distant future. The whale vocalisations are included in the 'Human and Whale Greetings' section, in which 'Hello' appears in sixty human languages spoken by U.N. delegates, as well as one whale language, *humpback*. Sagan could have included whale sounds in the "Sounds of Earth" section, along with bird songs, or the music section. He chose instead to present whales as speakers, the only non-humans included in the 'Greetings' sections. In *Cosmos*, where he quantifies the tonal language of humpback whale songs to 10^6 bits, about the same as the information content in the *Iliad* or the *Odyssey*, he asks: "Do whales know each other's names? Can they recognize each other as individuals by sound alone?" (Cosmos 287). It is also important to consider that for most of their history, whales likely had an established global communications network that noise pollution from commercial and military vessels now disrupts.

[3] Sagan also leans into romantic sentiments, describing these vocalizations as "love songs cast hopefully into the vastness of the deep" (Cosmos 288).

"consciousness" requires a proper means of communication, one that is likely to decode the non-verbal "language" of natural environments.

Does this marine soundscape, which we now know is far more advanced than even Carson had imagined, ultimately highlight the ability of other animals to have "personhood"? Emotions, ritualized behavior patterns, and language are part of what defines humankind. But they are not necessarily *characteristically* human. Many, like Sagan, assert that it is thinking that "separates" human and nonhuman worlds. Yet, interestingly, Oliver's speakers are often quick to relinquish this human trait, as previously seen in how the speaker in "The Sea" envisions surrendering to blind feeling. Take also, an example explored by Salama. In the opening of Oliver's poem "August," the speaker eats from a blackberry tree:

> all day among the high
> branches, reaching
> my ripped arms, thinking
> of nothing, cramming
> the black honey of summer
> into my mouth . . . (4-9)

The speaker's connection to the natural world is scaffolded by sensory (rather than rational) means. This includes sight and taste, as well as the tactical act of holding the blackberries. Seeing provides a foundation for the speaker's emotional connection with nature, while touching and tasting the fruit establishes a physical relationship. "Thinking / of nothing" then functions as a way of rejecting human distinction and embracing an animalistic nature, like that of a bear's. Such an ecological attitude can be explained when considering how "thinking" justifies humanity's position on the evolutionary ladder, a barrier the speaker(s) in *American Primitive* is interested in crossing (Salama 503). Oliver seeks ways of closing distance, in this instance, by

suggesting how human cognition may obscure our integration into the natural world's wider web of biota and energy.

The blackberries, too, belong in this dynamic entanglement. *American Primitive* consistently centers eating as means of being in communion with nature, particularly food produced or provided by nature without human engineering. McNew rightly points out that there are three poems about eating honey (57, 71, 81)--which depend on imagining the food as a link to wood, bees, and flowers--two poems about eating blackberries (3, 68) and one about eating plums (84). Moreover, this kind of appetite for natural foods honors Aldo Leopolds's idea of a land ethic in which human beings are part of the same biotic community as plants and animals and that we must participate in a manner that preserves the community's integrity, stability, and beauty. Though human beings may uniquely possess reason and high-ordered thinking, embracing a "primitive" relationship to land, in which the body and its senses lead, can reposition humanity's place in nature and attune us to the language of the nonhuman world, which is no more invented or imagined than our own. Our estimation of nonhuman value might be extended in a world where all matter is composed of the same energy. As Oliver concludes in the final line of "Humpbacks" (60-61), there are several lives worth living.

For Carson, however, the human observer should never enter the story. *Under the Sea Wind*'s primary project is imaginative. Working back from what she knew of each animal's natural history, she creates character-like narratives of how a sandpiper, crab, mackerel, and eel might perceive its environment and its varied interactions with other creatures. She weds an imaginative, phenomenological exploration of other consciousnesses with the latest research in scientific natural history. To avoid human bias as much as possible, as she states in the

introduction, and to avoid objectification that may come from extensive knowledge, Carson chooses to inhabit its consciousness rather than convey information through direct observation.

A prime example is the narrative of Anguilla, the eel of Bittern Pond. In "Thinking Like a Mackerel: Rachel Carson's Under the Sea-Wind," Susan Power Bratton argues that in order to acquire wisdom concerning the sea community and establish a foundation for an ethical relationship, we must extend perception past terrestrial planes (81). In this manner, Carson first foregrounds Anguilla's environment. Every spring, young elvers, born in the deep sea, come up the grassy spillway and enter Bittern Pond, a two-hundred-mile journey. Some of the eels go higher into the hills, but a few remain in the pond, where they live on crayfish and water beetles, catch frogs and small fishes, and grow into adulthood (210-211). To indicate the passage of time, she describes how rains had fallen "from the moon's quarter to its half." Getting a sense of what is like to be a creature of the sea requires the temporary abandonment of many human concepts and human yardsticks.[4] The flood "jostled the rocks of the streambeds as it hurried to the sea," and the inrush of water "swept through its weed forests and swirled through its crayfish holes and crept up six inches on the trunks of its bordering willows (212). This is Anguilla's home--the pond she had lived in "through its summers and autumns and winters and springs." Carson chooses to add rhythm to the sentence by the repeated use of "and" instead of the more technical use of commas. The poetry of the scene is just as important as the details of the natural environment.

Carson then outlines the finer details of her character's world. Anguilla savors the "bitter tastes of forest moss and lichen and root-held humus." She knows her way among "the swaying,

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[4] In other places in the book, time is measured by the succession of light and darkness and the ebb and flow of the tides; these designate the difference between the time to eat and the time to fast, between the time an enemy can find you easily and the time you are relatively safe.

rubbery stems of spatterdock" and where to find the spring peepers who "bubble shrilly." She knows "the soft mud beds deep in the bottom of the pond, where in winter she could lie buried, secure against the cold--for like all eels she was a lover of warmth" (212-213). Using her own knowledge of this particular ecosystem and the behaviors common to this species of eel, Carson creates a "character" of the eel to demonstrate how nonhuman animals construct their own knowledge. An eel "loves warmth," not because Carson supposes an eel experiences love in the same way humans do, but because its behavior aligns with that of love. Though she tries to avoid human bias as much as possible, she does not depart too far from analogy with human conduct if only so that a fish, shrimp, comb jelly, or bird can seem real to us--as real a living creature as actually is. "For these reasons," she says in the forward, "I have deliberately used certain expressions which would be objected to in formal scientific writing" (5). Exploring an ecosystem in a narrative style allows readers to form attachment to a nonhuman place alien to them. Carson's ethic centers around radical nonhumanity--in which aquatic biotic communities are doubly alien in comparison to terrestrial biotic communities-- that thus necessitates radical empathy.

While Carson's use of personal names for the animals may seem juvenile, it is key to her environmental ethic. With a name, each skimmer, mackerel, and eel are given the literary equivalent of a face. As Philip Cafaro suggests, a face demands an ethical response and encourages intimacy. Carson's oceanic creatures are radically other--not merely other species but largely species that inhabit places utterly foreign to us as terrestrial inhabitants. In order to project ourselves vicariously into the "full flavor of the marine," it is useful to give these nonhuman animals the same individuality we afford fellow humans (5). In naming them, Carson recognizes the moral considerability of nonhuman beings. In his essay "Rachel Carson's

Environmental Ethics," Philip Cafaro asserts that nonanthropocentrism is both an ethical position and an intellectual task, and the latter demands as much from us as the former. In particular, it requires repeated attention to the nonhuman world: the setting aside of our works and purposes and a concentration on nature's stories and realities. By removing an observer from the scene, Carson gives *Under the Sea Wind*'s characters value independent of their relation to a human speaker. Additionally, Carson's imagination takes her beyond a focus on individual animals to the larger forces that shape their lives. In *Lost Woods*, Carson explains how the ocean itself is a character: "I very soon realized that the central character of the book was the ocean itself. The smell of the sea's edge, the feeling of vast moments of water, the sound of waves crept into every page, and all over was the ocean as the force dominating all its creatures." In this way, Carson makes a case for granting moral standing to the ocean at large. The ocean is not simply an inert object; it is a living organism, the source of life in a biotic community.

Both Carson and Oliver, through literary means, illustrate how we dwell in a world of presences. Careful attention to their subjects, alongside Carson's ecological knowledge, and Oliver's to a lesser extent, moves them from observation of an object to the recognition of intersection with another presence. For Oliver, this includes the intersection with self. Her speakers experience the inevitable subsumption of the self into a consuming and regenerative whole. For Carson, correcting cultural delusions of detachment from ecological communities first requires consideration of nonhuman nature on its own, non-relationally. Only then can we join this composite identity.

In their explorations of the nonhuman, and how they attempt to deconstruct the nonhuman category, Carson and Oliver admit to an unknowing: no one knows what an animal's

life means to it or to humanity. Their literary pursuits are a blend of informed discernment and, for Carson especially, projection. While this chapter is more concerned with the question of nonhuman animals and land/ocean meeting places, such a question can now stand for the larger issue of how to “see” nature, with “seeing” functioning as a means of finding value and meaning--not just perceiving the object but interpreting it as part of a world humanity shares with it.

Chapter Two: *Empathetic Terror and Great Nothings*: Encountering (Im)Mortality in Keats and Sagan

"*I feel more and more every day, as my imagination strengthens, that I do not live in this world alone but in a thousand worlds.*" --- John Keats in a letter to George and Georgina Keats, October 14-31, 1818

I.

In an undated, handwritten piece of text from the early 1950s, then an undergraduate at the University of Chicago, Sagan writes:

> There is a wide yawning black infinity. In every direction the extension is endless, the sensation of depth is overwhelming. And the darkness is immortal. Where light exists, it is pure, blazing, fierce; but light exists almost nowhere, and the blackness itself is also pure and blazing and fierce. But most of all, there is very nearly nothing in the dark; except for little bits here and there, often associated with the light, this infinite receptacle is empty…
>
> Even these stars, which seem so numerous, are, as sand, as dust, or less than dust, in the enormity of the space in which there is nothing. Nothing! We are not without empathetic terror when we open Pascal's Pensées and read, "I am the great silent spaces between worlds."

It is uncertain to which photograph Sagan refers to here, but upon first reading, one might recall Kantian and Burkean notions of sublimity. Sagan depicts phenomena whose principal characteristics are their formlessness and infinite expanse. Even the stars, which we might understand to be superhuman and a violation of the limits of being, are less than dust in darkness that is "immortal." Small rebellions of light are eaten up by the infinite receptacle. These are the limits of language. How does one adequately represent the awe-inspiring terror of seeing the enormity of space "in which there is nothing. Nothing!" Sagan must repeat himself, pushing comprehension as far as he can. In this way, one might also call upon associations with Lovecraft's articulation of cosmic horror, that is, the fear and awe that accompany confrontation

by phenomena beyond our comprehension, whose scope extends beyond the narrow field of human affairs and compels the expansion of the experiencing subject's imagination.

Both the sublime and cosmic horror are designed to re-contextualize humanity. In Sagan's chapter of *Pale Blue Dot*, "You are Here," he is interested in such re-framing, again through an image, Voyager 1's "Pale Blue Dot," in which the Earth appears as a pinprick of blue suspended in a sunbeam against a black expanse. He writes:

> "The Earth is a very small stage in a vast cosmic arena. Think of the rivers of blood spilled by those generals and emperors so that, in glory and triumph, they could become the momentary masters of a fraction of a dot [...] Our posturings, our imagined self-importance, the delusion that we have some privileged position in the Universe, are challenged by this point of pale light. Our planet is a lonely speck in the great enveloping cosmic dark. In our obscurity, in all this vastness, there is no hint that help will come from elsewhere to save us from ourselves" (9).

This opening is designed to question the human position, not just in the world, as the sublime does, but in the universe. How megalomaniac humanity seems, fighting to become "momentary masters of a fraction of a dot." How boring, how unimportant. Desire for cosmic significance is futile. We are made obscure by vastness.

Through an ecocentric perspective, the Earth is filled by presence and each presence has its own value. If landscapes like the Grand Canyon and Mount Rainier possess their own value, then presumably so do the Fra Mauro Highlands on the moon, and Valles Marineris and Olympus Mons--three times the size of Mount Everest--on Mars. We must also consider the probable trillions of canyons and mountains on innumerable unnamed exoplanets. If these landforms possess their own value, so too would planetary systems, supernovas, or even black holes. One might also throw in the vast intergalactic darkness itself. In this view, our universe, far from being empty of value, in fact contains value far more numerable than that of Earth's. And even if each instance of such value is negligible, it would still add up to an immensity when

put together. And this immensity would swamp whatever value belongs to terrestrial humanity and nonhuman nature. (And, if they exist, as Sagan so hopes, also the value of sentient beings elsewhere). Our significance, you might say, would be dwarfed by beauty--and such beauty would be dwarfed by the even larger and ever-growing, “immortal” darkness Sagan articulates as an undergraduate.

In this context, we begin to understand and define Sagan’s term “empathetic terror.” Ann Radcliff, an English Gothic novelist of the early Romantic period, understands terror as the suspenseful moment/feeling of dread that precedes the horrifying experience whereas horror is the feeling of revulsion that follows a frightening object or experience: “Terror and horror are so far opposite, that the first expands the soul, and awakens the faculties to a high degree of life; the other contracts, freezes, and nearly annihilates them… and where lies the great difference between terror and horror, but in the uncertainty and obscurity, that accompany the first, respecting the dread evil” (357). For Radcliffe, terror is characterized by obscurity or indeterminacy, something which leads to the sublime. When we know the full extent of any danger, a great deal of apprehension vanishes. Radcliffe continues by saying that when we do not know what may happen to us, it is in our nature to fear the worst and hence it is uncertainty that is so terrible. When Sagan peers into cosmic darkness, it is the ungraspable absence that imposes terror--our brains want to fill it in, make something of emptiness. We cannot accustom our eyes to it. We expect something to emerge, to frighten. The terror is knowing nothing will. The terror is perpetual indeterminacy. If we adopt a conventional understanding of empathy as an emotional skill set that allows one to understand what someone (or something) is experiencing and to reflect on that understanding, and then combine these understandings, Sagan’s term suggests an identification with or moral consideration of absence and negative space.

Differently from the titular moment of *Pale Blue Dot*, which (de)centers humanity's position in the universe, the passage with empathetic terror centers the objects we tend to render other and assign non-value: absence, darkness, black infinity. Only in the last sentence does Sagan give humanity space in his ponderings, writing that he feels "empathetic terror" when reading the quote "I am the silent spaces between worlds." In this context, in order not to be subsumed into the negative values of absence, Sagan--and as we will see later, Keats--articulates how we project ourselves onto/into the silent vacancies of the universe. Relative to the enormity of space objects, those are our closest equivalents. And because we are uniquely alone in our knowledge of mortality, we must confront our inevitable re-integration into cosmic darkness. Both Sagan and Keats mediate encounters with nonhuman phenomena, particularly the universe, the natural world, and darkness, through an identification with or moral consideration of absence that allows them to be filled by other presences and thereby still participate in such wider systems despite individual impermanence; for Sagan, Empathetic Terror, and for Keats, an idea he called Negative Capability.

Keats first articulates what he names Negative Capability[5] in a letter to George and Tom Keats on December 21, 1817. He writes: "Negative Capability, that is when man is capable of being in uncertainties, Mysteries, doubts, without any reachable after fact & reason" (43). Nathan Comfort Star, in article titled "Negative Capability in Keats's diction," further describes this intellectual task as a great expansion of experience and a determination to see the individual in its proper relation to a vast field, so that personal difficulties can be subordinated (59). For

[5] It is not known why Keats settled on the phrase 'negative capability', but some scholars have hypothesized that Keats was influenced by his studies of medicine and chemistry and that it refers to the negative pole of an electric current which is passive and receptive. In the same way that the negative pole receives the current from the positive pole, the poet receives impulses from a world that is full of mystery and doubt, which cannot be explained but which the poet can translate into art.

Star, Negative Capability inevitably meant some surrender on the part of the individual. This creed emphasized Keats's concern with particulars outside himself. His passion for the phenomena of experience, his elevated perception of sensuous delights, led him to a kind of universal kinship with all beauty, including that of the environment, and even with active elements in experience. Negative Capability is thus a kind of empathy—one of the utmost degree and intensity as it is predicated on and even extends to negative states of being and non-being.

Identification with negative values in these frameworks is characteristically non-anthropocentric in that such identification inevitably calls upon a hyper-awareness of human transience that centers humility in nonhuman encounters; recognizes the greater operations of an Earthly and cosmic "ecosystem" and a desire for their preservation; instills a sense of and embodiment of other presences, including both positive and negative; and develops an attitude of suspending judgment in interactions with such presences. As I have started to do, this chapter will breakdown encounters with various presences and non-presences to elucidate how Negative Capability and Empathetic Terror can manifest in an environmental ethic.

II.

In *Pale Blue Dot: A Vision of the Human Future in Space*, Sagan first examines claims about human exceptionalism and human-centered attitudes and then moves through the Solar System, following the latest voyages and discoveries of his time. He interrogates other worlds, and in his own words, what they tell us about ourselves (xvii). *Pale Blue Dot* evaluates the human place in the Universe and how a central element of human future lies far beyond the Earth. Rhetorically, Sagan relies heavily on tactics of familiarization and defamiliarization throughout *Pale Blue Dot*.

Challenging anthropocentric axiology often necessitates engaging with the work of defamiliarization. A familiar object becoming unfamiliar can disrupt dominant discourses regarding human exceptionalism--seeing the Earth, which is for us wide and richly abundant, rendered into a pale speck when seen from distant space, for example. We might prefer a different photograph, perhaps Apollo 8's "Earthrise," which shows the Earth from the perspective of being on the Moon. In *The Medusa and the Snail: More Notes of a Biology Watcher,* writer and physician Lewis Thomas writes: "Viewed from the distance of the moon, the astonishing thing about the Earth, catching the breath, is that it is alive. The photographs show the dry, pounded surface of the moon in the foreground, dead as an old bone. Aloft, floating free beneath the moist, gleaming membrane of bright, blue sky is the rising Earth..." Here, the Earth is not shrouded in overwhelming darkness. Compared to the moon, which is "dead as old bone," dry and desolate, Earth is "moist" and "gleaming." The photograph even has a familiar orientation: human beings evolved to feel that the Earth is down, and up is toward the sky. NASA rotated the photo 90 degrees so that the Earth would be shown going up--so that Earth is rising. "Earthrise" is meant to evoke feelings of pride and home rather than the homelessness of "Pale Blue Dot." The Earth stands in its long tenure as a planet in the solar system, bright and recognizable, the successful handler of the Moon, and uniquely ours. It is worth considering whether the photo might inspire different feelings if it was not changed to a familiar orientation. How space is represented--made familiar or unfamiliar--can affect how we center or decenter humanity and Earth as a planet. Because Sagan's project is rooted in humility and ideas of the

uncanny, it makes sense that he chose "The Pale Blue Dot," which perfectly embodies the tension between space's immortality and humanity's mortality, to frame his book.[6]

In his book *After Nature*, American legal scholar Jedediah Purdy conceives of uncanniness as an ethics of uncertainty, a pause before judgment. Meaning we find in nature is meaning we help to produce by preparing ourselves to encounter it and creating vocabularies in which to share it. More than a human invention, such meaning arises from a real encounter with other beings, especially nonhuman beings. The gap of mystery dividing human beings from the nonhuman does not divide us from continuity and interconnection. Conversely, commonality and mystery, as well as well-founded intuition and utter uncertainty, are both sides of these pairs that inform human relation to nonhumans. Uncanniness responds to the uncertainty that pulses between them, though it cannot perfectly bridge them (243). For Purdy, uncanniness expresses recognition that, in interpreting nonhuman species and other parts of nature, no judgment can be entirely confident and stable. While Purdy is speaking mostly of interactions with humanity and Earth-bound creatures, this idea of uncanniness resonates in Sagan's work and how he presents our relationship with the wider universe and our knowledge of it.

In the *Pale Blue Dot* chapter "Sacred Black," Sagan discusses the first color photograph taken from the surface of Mars in July 1976 by the Viking 1 lander--the first spacecraft to touch down successfully on its surface. In the original image released to the press, the Martian sky was a "comfortable, homey" blue. But such is impossible for a planet with so insubstantial an atmosphere. When the digital data was radioed back to Earth, the computer analysts assigned to

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[6] Voyager's imaging mission was officially complete after it sailed by Neptune. NASA commanded that the cameras be shut down to conserve energy. But Sagan had the idea to turn the camera around and take one final image of Earth itself. Objections were raised about scientific worth, especially at so great a distance and so low a resolution. But Sagan, convinced of its poetic worth, appealed to the administrator of NASA to get permission. The photo is, of course, "Pale Blue Dot." He wanted humanity to see its and Earth's fragility.

correct the color balance--by no means planetary astronomers--simply mixed the colors until they “looked right.” Sagan asserts that we are so conditioned by our experience on Earth that “right,” of course, meant a blue sky. The color of the picture was soon corrected, using color calibration standards for this purpose on board the spacecraft, and the resulting composite showed something between ochre and pink (163). Human beings project themselves and their knowledge systems onto the unfamiliar. Though harmless in this example, Sagan demonstrates why centering uncertainty and suspending judgment in our Earthly and non-Earthly interactions is important. Even educated guesswork has its limits: Based on its thinner atmosphere and the pressure at the surface of Mars, many at NASA expected the Martian sky to be black-purple. Sagan opens the section with this expectation and then dispels it. We must allow and even expect uncertainty, especially in an environment, like Mars’, that is much different than Earth’s.

There are skies even more foreign, and space objects even more barren, than that of Mars. As an astronomer, Sagan has a keen awareness of blackness in space. Earth, he knows, could have easily been like Mercury, the Earth’s Moon, or most satellites of the other planets: “Because of their feeble gravities, they are unable to retain their atmospheres--which instead trickle off into space. The near-vacuum of space then reaches the ground. Sunlight strikes their surface unimpeded, neither scattered nor absorbed along the way. The skies of these worlds are black, even at noon” (160). Here, Sagan gives us an unfamiliar encounter with a place so strange, desolate, and empty that he must scaffold the description of the sky in Earthly terms. Rather than merely saying the sky is black, Sagan brings in the familiar image of noon and the bright, blue sky it evokes to maximize the depth of Mercury’s darkness. The juxtaposition serves to render Earth uncommon and miraculous. Moreover, by comparison, the proceeding planets and their descriptions become much more palatable.

The color of the sky characterizes the world. As Sagan writes in "Sacred Black," the French have an expression, sacre-bleu, which roughly translates to "Good heavens!" Literally, however, it means sacred blue (156). He takes us through non-black skies as well, from the sulfur-stained skies of Venus and the rusty skies of Mars to the aquamarine of Uranus and the hypnotic and unearthly blue of Neptune. "Sacre-jaune, Sacre-rouge, sacre-vert," he writes (167). He imagines human frontiers sweeping from out from the Sun to the stars, ending with explorers surrounded by the endless black of space, referring to it to as "Sacre-noir." Expressions given to the skies of various worlds are finally given to space, turning a negative value—the absence of color and of sky--into a positive value. This occurs both literally in the sense of calling it sacred and figuratively by including absence in the same pattern of expression used for the positive values. Following Sagan's notion that a world is characterized by its sky, space itself is characterized by its blackness.

Recall that Aldo Leopold made a case for granting moral standing to the land community at large, enlarging the boundaries of the community to include soils, waters, plants, animals, or collectively, the land. If we extrapolate on this idea, understanding space as its own kind of landscape, blackness or absence has a key role in that landscape in how it surrounds and gives shape to the various objects contained in it. Furthermore, Leopold's ecological understanding led to the development of a more systemic appreciation of the complexity and interconnectedness of ecosystem processes. The recognition of such complexity meant that one could never know with complete certainty what effects manipulation of individual components within an ecosystem would have on the ecosystem. Without a degree of blackness or vacancy in the cosmos, there would be no order. In this sense, blackness is then sacred or given moral considerability (in an environmental ethic that includes Earth in the context of the cosmos, as Sagan's does) since we

cannot say for certain its removal would not alter the "landscape" of the cosmos and its infinite universes.[7] In this way, blackness plays a crucial role in human understanding of space, but also, the greater machinations of space beyond us.

Additionally, Sagan himself uses language that justifies including space and space objects in an ecocentric axiology. In the opening chapter of *Cosmos*, "The Shores of the Cosmic Ocean," Sagan writes: "The Earth is a place. It is by no means the only place. It is not even a typical place. No planet or star or galaxy can be typical because the Cosmos is mostly empty. The only typical place is within the vast, cold, universal vacuum, the everlasting night of intergalactic space..." (3). Sagan presents absence and darkness as the default or primary state of a space environment. He refers to this negation (the vast, empty vacuum) as a place. In the universe, Earth is also place but it is atypical, a kind of other. The vacuum dominates the space "ecosystem," in which Earth and human exist alongside forces that dwarf them. Oddly, the whole last sentence evokes euphemisms of death, "everlasting night," and qualities reminiscent of death, namely the "cold." In this way, Sagan's description of the emptiness of space is still one humanity can identify with as mortal beings keenly aware of death. He continues by offering an even tighter, more humanistic conception of a space ecosystem: "From an intergalatic vantage point we would see, strewn like sea froth on the waves of space, innumerable faint, wispy tendrils of light. These are galaxies. Some are solitary wanderers; most inhabit communal clusters, huddling together, drifting endlessly in the great cosmic dark" (3). Similar to Carson's

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[7] Conceiving space as an environment is even more relevant now that humans spend time in space long-term. For astronauts living on the International Space Station, the hard vacuum of space *is* their environment. According to NASA's "A Researcher's Guide to Space Environmental Effects," the vacuum will cause outgassing, which is the release of volatiles from materials. The outgassed molecules deposit on line-of-sight surfaces and are more likely to be deposited on cold surfaces. This molecular contamination can affect optical properties of ISS and spacecraft performance.

depiction of the sea as a home and household, Sagan depicts pockets of galaxies close together as communities, just as scientists often refer to galaxies in close proximity to one another as "neighborhoods," or as wanderers. Sagan extends the language we use on Earth to the wider universe and even takes this practice a step further. By adopting the intergalactic perspective of a human, describing what a human sees or perceives rather than employing objective statements, Sagan can suggest that galaxies "huddle" together and appear like "sea froth." A human being, Earth-bound, can match unfamiliar space objects with a familiar Earth "equivalent." While a string of galaxies is unlike sea froth, the human eye interprets it as such. Sagan's use of language in this passage suggests that there are times in which affecting familiarization is productive. Here, assigning Earth- and human-like images to space highlights how space has its own reciprocal structure or arrangement.

In other parts of Cosmos, Sagan continues to develop an ecological consciousness on a cosmic scale: "We inhabit a universe where atoms are made in the center of stars; where each second a thousand suns are born; where life is sparked by sunlight and lightning in the airs and waters of youthful planets; where the raw material for biological evolution is sometimes made by the explosion of a star halfway across the Milky Way; where a thing as beautiful as a galaxy is formed a hundred billion times--a Cosmos of quasars and quarks, snowflakes and fireflies" (351). Stars birth the necessary components of life, atoms. Violence in space--collisions, explosions--provide human beings with sunlight, air, water. Though unseen, space networks create and sustain our abiotic and biotic communities. We cannot separate quasar and quarks from snowflakes and fireflies because they are all interrelated. In other places, Sagan recognizes human beings as "starstuff pondering the stars," and "organized assemblages of ten billion billion billion atoms considering the evolution of atoms." In these instances, he disassembles

human being into its component parts in an Earthly and cosmic ecosystem. Humanity's material elements break down into the elements of other nonhuman bodies, like that of a sun. A human-centered, anthropocentric ethic enforces separation. Conversely, those who "explore the weave and structure of the Cosmos," will penetrate its rich intersections with human life (352). We are one knot of energy in one long, weaving configuration.

With this recognition in mind, what troubles Sagan is not necessarily human smallness or the difference of scales. Rather, it is the prospect of fading into obscurity. Once we overcome our fear of being tiny, he writes in *Pale Blue Dot*'s chapter "A Universe Not Made For Us," we find ourselves on the threshold of a vast Universe that utterly dwarfs the "anthropocentric proscenium" of our pre-Copernican ancestors (53). Human beings can use telescopes to gaze across billions of light-years of space to see the Universe shortly after the Big Bang, plumb the fine structure of matter, peer into the core of our planet, and read the genetic language of the diverse propensities of every being on Earth. Yet Sagan's imagined alien in *Pale Blue Dot*'s "Is There Intelligent Life on Earth?" looks down at the Earth and notes "more scrub desert" than forest, topsoil being washed out to sea, rain forests covered by smoke, a destroyed ozone layer (79). This careless treatment of the environment and its resources causes Sagan's alien to reassess the conjecture that there is intelligent life on Earth. Part of Sagan's ethic is thus recognizing 1) Earth is uniquely compatible with life in an otherwise barren Solar System and surrounding galaxy and 2) human beings, despite their feats of ingenuity, continue to take for granted and abuse the Earth's resources and 3) this abuse accelerates an already brief human tenancy.

Sagan provides an even more humbling, ephemeral picture of human mortality in an early chapter of *Cosmos*: "The secrets of evolution are death and time--the deaths of enormous

numbers of lifeforms that were imperfectly adapted to the environment; and time for a long succession of small mutations that were by accident adaptive, time for the slow accumulation of patterns of favorable mutations. Part of the resistance to [evolution] derives from our difficulty in imagining the passage of the millennia, much less the eons. What does seventy million years mean to beings who live only one-millionth as long? We are like butterflies who flutter for a day and think it is forever" (27). Understanding evolution and time can push us toward non-anthropocentric axiologies. Cycles of life and death, as contingent forces, shape both human and nonhuman life. Contextualizing the human species in geologic time, then space time, forces us to consider that we, like the butterfly, live fragile and brief existences—far briefer than any human can begin to truly conceptualize. Here, Sagan must resort to comparison to get closer to the truth. Only through literary practices, like simile as Sagan employs here, can we settle on the cusp of understanding. Connecting Earth and humanity to the wider universe and its time continuum thus inevitably decenters humanity on the basis of human mortality.

However, human beings attempt to preserve and prolong human and Earth memory through technology. Sagan initiated the Golden Record Project, envisioning a "cosmic greeting card" from humanity to some faraway alien civilization. Ann Druyan was its creative director. The Golden Disk is a phonograph record carried by Voyager 1, a 12-inch gold-plated copper disk containing sounds and images selected to portray the diversity of life and culture on Earth. For Sagan, it was designed intentionally to express "a kind of cosmic loneliness." A diagram mapping the location of our Solar System in relation to fourteen pulsars is etched onto its protective cover shielding. NASA's stated mission of the Golden Record was to serve as a message from humanity to some other civilization--one that might surpass the staggering improbability of finding it adrift the cosmic infinitude and possessing the kind of consciousness

necessary to decode its contents. But beneath this likely fruitless endeavor lies the romantic underpinning, the unstated, poetic mission: to mirror what is best and truest of humanity back to us. Sagan considered the Golden Record proof of our being "a species endowed with hope and perseverance, at least a little intelligence, substantial generosity and a palpable zest to make contact with the cosmos."

As he writes in *Cosmos*, Cosmos is a Greek word for the order of the universe. It is, in a way, the opposite of Chaos. It implies the deep interconnectedness of all things and conveys awe for the intricate and subtle way in which the universe is put together (13). In a cosmic perspective on Earth, space expansion is not about one species in its current form. Instead, space endeavors should center the continuation of the story of life on and from Earth in which the Earth is but one participant of a wider, interconnected universe. A non-anthropocentric perspective considers what humans think and feel about nature as well as the perspectives, interests, and values of nonhumans. In this manner, Sagan was not only concerned with humanity's continuance. In the "Sounds of Earth" section, Sagan included volcanoes, earthquakes, thunder, wind, rain, crickets, frogs, mud pots, birds, elephants. And, as in last chapter, whale language was included in the "Greetings" section. In an ethic of survival, Sagan insists that loyalties must include the whole human community and the entire planet Earth (362).

In a letter to Alan Lomax from 1977, Sagan writes that the disk will have a probable lifetime of a billion years and reflects on humanity: "It is unlikely that many other artifacts of humanity will survive for so prodigious a period of time; it is clear, for example, that most of the present continents will be ground down and dissipated by then. Inclusion of the musical selections on the Voyager record ensures for them a kind of immortality which could not be achieved in any other way." A piece of human consciousness--our voices, language, art, and

creations--alongside the story of Earth itself parades through an otherwise desolate blackness. And this object, with the temporal impossibility of a billion years, will represent humanity and planet Earth long after it and we are dust. Sagan literally projects humanity into absence and makes it no longer void. Though not as immortal as darkness, the Golden Disk offers human beings the closest thing to it.

In the final paragraph of *Pale Blue Dot*, Sagan offers a speculative image of remote human descendants arranged on many worlds in and beyond the Solar System. He imagines them looking out, straining to find the distant blue dot of Earth. He writes: "They will love it no less for its obscurity and fragility" (405). We have been placed on the otherside of *Pale Blue Dot*, among the darkness.

III.

Keats's speakers often, through the practice of Negative Capability, seek out other bodies and identities. His speakers' encounters often evoke incompatible desires: to be sublimed in the ecstasy of poetic fire, and to retain one's sentient being. Yet, as Richard Harter Fogle has said, Keats's empathy is not complete self-abandonment, nor does it have *overt* moral intention. The poet keeps his equilibrium and can be both spectator and participant. Ideally, therefore, the poet will subordinate self and make his mind a conductor of "all thoughts." In this way, I propose that Negative Capability presupposes that presences in nature must therefore have something akin to "thought"—not cognition in the traditional sense but a kind of energy in which he can place himself into in a symbiotic exchange or intermingling of all values--including negative values.

In *Cosmos*, Sagan writes: "Human beings grew up in forests; we have a natural affinity for them. How lovely a tree is, straining toward the sky… If you look closely you can often see two trees pushing and shoving with languid grace. [Describes photosynthesis] What a marvelous

cooperative arrangement--plants and animals each inhaling the other's exhalations, a kind of planet-wide mutual mouth-to-stoma resuscitation, the entire elegant cycle powered by a star 150 million kilometers away" (31). Not only is Sagan's voice suffused with wonder, marveling at the human-like motions of trees and how they too reach toward the sky, he articulates a scientific process that connects human beings and nonhuman nature at a biochemical level. Each inhale and exhale life on Earth is a mindless, foundational exchange. Breathing is a communal experience, made possible by the distant mother Sun. Sagan goes on to add that the proteins that control cell chemistry and the nucleic acids that carry hereditary instructions are essentially in all the plants and animals. An oak tree and human beings are "made of the same stuff." If you go back far enough, we share a common ancestor.

With this in mind, one can apply an ecological lens to Keats' presentation of the forest, a prominent motif in his poetry. In *Keats and the Sublime*, Stuart Ende dubs it "the forest of romance." The "forest" in which the poet wanders in, as is usually the case with Keats, is the place where one can exist "thoughtlessly" because its existence predates or is of another dimension from that of the thinking principle (Ende 120). It is a place that satisfies not intellectually but sensually, corporeally. I would extend this further: the body recognizes the forest as home, as possessing a molecular sameness. For this reason, there is a larger basis for the poet's identification, for the poet to abdicate human thinking. A similar principle exists in Keats' articulation of "diligent indolence." In Keats' letter to John Hamilton Reynolds on February 19, 1818, he describes a thoughtless passivity: "Let us not therefore go hurrying about and collecting honey, bee-like buzzing here and there impatiently from a knowledge of what is to be aimed at; but let us open our leaves like a flower and be passive and receptive-budding patiently under the eye of Apollo" (66). Keats articulates the phenomenological method of getting back to

phenomena, a return to the presences themselves, and of suspending what we presuppose about them. Keats disconnects the theoretical knowledge of a presence to penetrate into its being. He accomplishes this through adopting shared experience by "gearing" himself to its world. For Keats, "Nothing ever becomes real till it is experienced."

In a similar way, Keats was receptive to darkness and the unknown. In a letter to Benjamin Bailey on March 13, 1818, Keats divides ethereal things under three categories: things real, things semireal, and no things. Things real include existences such as the sun, moon, and stars, while things semireal include love, clouds, and all which requires a greeting of the spirit to make them wholly real. Finally no things are “Nothings which are made Great and dignified by an ardent pursuit—Which by the by stamps the burgundy mark on the bottles of our Minds, insomuch as they are able to ‘consecrate whate’er they look upon” (73). In other words, the presence he perceives is inseparable from the perceiver, and this coexistence, this participation in the being of the presence, impels him to the center of its being. The existence of absence or void space can be made great or sacred because simultaneous presence and absence are necessary for acts of perception—that is, perception of things real, to borrow Keats’s category, are made more visible by surrounding darkness. Nothings are made great throughout Keats’s poetry, as demonstrated in his rejective attitudes and negative diction.

In his article “Negative Capability in Keats’s Diction,” Star divides Keats’ negations into ones of sensation and one of ideas, as in those involving objects or those involving choice and the problem of the individual (64). The sensational statements are often assertions of silence. Star gives various examples, from "A little noiseless noise among the leaves, / Born of the very sigh that silence heaves" in “I Stood Tiptoe” to the Cave of Quietude, "Where silence dreariest / Is most articulate." In another instance Keats complains that upon his ear "a noisy nothing rings,"

and he wishes once more to hear the linnet's note. Shortly thereafter he hears the music from Cupid's lyre: "... then the sounds again / Went noiseless as a passing noontide rain / Over a bower." In all of these, Keats assigns the suggestions of positive sound to places or presences that are in fact soundless, invoking the act of hearing. These kinds of negations of sensation feature heavily in his poem "Sleep and Poetry."

Long and climatic, Keats's "Sleep and Poetry" closes his first volume of verse with a speaker who gradually elevates poetry to the level of a numinous experience dependent upon experiencing beauty in nature and going beyond thought. Keats moves from aspects of nature with aesthetic appeal to images of art and human affection, later associating sleep with the charms of lovers. The poem opens with serene images of nature, asking what is more gentle than a wind in summer or more soothing than the "pretty hummer" that "buzzes cherrily from bower to bower" (Lines 1-4). The speaker's praise of sleep serves to magnify the glory of poetry as Keats' more important preoccupations trickle in.

For Keats, poetry grants access to "glory," an unimpeded experience of reality that contains hints of a realm of sensuous escape:

> It has a glory, and naught else can share it:
> The thought thereof is awful, sweet, and holy,
> Chasing away all worldliness and folly;
> Coming sometimes like fearful claps of thunder,
> Or the low rumblings earth's regions under;
> And sometimes like gentle whispering
> Of all secrets of some wondrous thing
> That breathes about us in the vacant air; (Lines 24-31).

Keats writes the poem, including these lines, in a relaxed and loose form of heroic couplets. He does not employ the pattern of end-stops typically associated with them, instead using semi-colons, colons, and periods primarily to distinguish between one image from the next. Often,

such images go beyond the neat containment of a couplet, such as in lines 29-31. The heroic couplets rhythmically ground the poem as it moves through various images, but the lack of a strict end-stop pattern opens the poem to the image's meandering qualities. It is notable that these images reminiscent of poetry, or what poetry can evoke, are tinged by the uncanniness of Earth's more distant, unquantifiable machinations. Inspiration for poetry comes from obvious Earth phenomena, like thunder, and more subtle phenomena, like rumbling beneath the Earth's surface. "Fearful claps" highlights that such sensuous phenomena does not merely evoke pleasure but also fear. The speaker, as a poet, must attune themself and even welcome such fear, removing themself from the comfort of "worldliness," which paired with "folly," seems to indicate the poet seeks a place away from a human domain. Scholars often interpret "Sleep and Poetry" as, in part, a critique of neoclassical poetry and its "foppery and barbarism" (Line 182). Poets who are not attuned to this kind of sensuous thinking, who cannot feel the "winds of heaven" and "the ocean gathering its waves" (Lines 188-189) are not good poets. For Keats, being a poet is thus a kind of ecological practice as it necessitates consistent, sensual (and, in other poems, intellectual) engagement with nonhuman presence.

Additionally, poetry is the "gentle whispering / of all the secrets of some wondrous thing / that breathes about us in the vacant air" (28-31). The line is paradoxical. The air is vacant yet full of whispers. To cope with life's unknowability, the speaker projects an unnamable, wondrous thing into vacancy. As Keats informs Woodhouse in his letter from October 27th, 1818, the poet has no identity; he is continually losing himself in the souls of other people or bodies. He can translate himself or "fill some other body" if need be, naming The Sun, the Moon, the Sea and men and women who "have about them an unchangeable attribute" (157). When Keats is in a room with people, the identity of everyone "presses" upon him to the loss of

his own identity (158). Here, then, the paradoxical presence of absence also "presses" upon him, and the speaker/poet fills the vacancy.

As the poem continues, the speaker details sensual delights of the imagination, occupying "an eternal book" where everything is "lovely" and nymphs play in the woods. In this imagined landscape, the speaker, freed of mortality and the limits of human physicality, can entertain various imaginings, wandering "vistas of solemn beauty" before settling in an "awfuller shade." Only back in human obscurity, symbolized in the poet's move from sunlight to shade, can the poet write on tablets of "all that was for our human senses fitted" (80). There, the poet can seize "the events of the wide world / like a strong giant" and gain "wings to find out an immortality" (Lines 81-84). Fables of the mind are the speaker's only means of understanding the world. Attempts at immortality, however, are fruitless, as the speaker laments in the opening lines of the proceeding stanza "Stop and consider! life is but a day; / A fragile dew-drop on its perilous way / From a tree's summit" (85-87). A true poet of the Earth must then, in an act of will, pursue "a nobler life" that seizes not beauty alone but "the wide world," including the "agonies" and "strife of human hearts" (123-124).

This resolution is followed immediately by the appearance of an Apollo-like charioteer:

> The charioteer with wondrous gesture talks
> To the trees and mountains; and there soon appear
> Shapes of delight, of mystery, and fear,
> Passing along before a dusky space
> Made by some mighty oaks... (Lines 136-140).

The charioteer represents an ideal poet. The charioteer goes beyond mere observation and actively engages with the environment, speaking to the mountains and trees in a way that asserts them as equals. Talking to biota causes shapes of "delight, mystery, and fear" to materialize. The speaker proposes a direct connection, emphasized by the semi-colon, between engaging with

nonhuman presences--that evoke fear and delight--with the work of poetry. Ann Radcliffe defines delight as, “not pleasure, but a sort of tranquility tinged with terror” (358). Shade from the giant oaks obscures these shapes, and obscurity, to Radcliffe, inspires terror. Poetry asks that the poet step into this dusky space, to engage with what is indistinct, as obscurity and terror open the senses and allow imagination to flood the gaps.

Soon, the vision vanishes with the chariot fleeing into the light of heaven, leaving behind darkness:

> ...let the hot sun
> Melt my Dadalian wings, and drive me down
> Convulsed and headlong! Stay! an inward frown
> Of consciousness bids me to be more calm awhile.
> An ocean dim, sprinkled with many an isle,
> Spreads awfully before me. How much toil!
> How many days! what desperate turmoril!
> Ere I can have explored its widenesses.
> Ah, what a task! upon my bended knees,
> I could unsay those – no, impossible!
> Impossible! (Lines 302-312)

Here, the speaker chooses to encounter quintessential images of human ignorance and suffering. The speaker lets the hot sun drive them into a willful confusion, their consciousness ordering them to “stay!” as emphasized by the exclamation point. This half of the stanza features excessive exclamation points, more than any other point of the poem. The punctuation shift underscores the speaker’s inner turmoil, where thoughts, less free flowing as a comma would indicate, become sharp and jarring. In this realm, the speaker looks out at a dim ocean, spread “awfully’ before them, the scale overwhelming all senses. The speaker confronts a landscape sufficiently unsettling to drive them back to the familiarity of sensual beauty and pleasures of the

mind but recognizes the limits of their own knowledge and makes an active decision to engage with terrible phenomena in order to enrich their mind.

Images of mortal suffering and the vast unknown curtail--or at least, must exist equally alongside--the joy in the poem's earlier images. For Keats, the practice of poetry and imagination--attempts to inhabit other bodies and souls--is the most effective way of tending to an unknowable world. Through Negative Capability, the poet can accept uncertainty in the cosmos and human understanding and build insight from that lack. This concept of Negative Capability is precisely a rejection of set philosophies and preconceived systems of nature. Though irreducible, Keats's vision of life on Earth, abundant and filled with beauty yet ultimately tragic, is best mediated through such poetic practices.

Furthermore, as postulated by Kate Rigby in her work *Reclaiming Romanticism*, Keats was exposed to new thinking regarding the interrelationship between mind and body during his studies at Guy's Hospital in London. In a letter to Benjamin Bailey from 22 November 1817, Keats exclaimed, 'O for a Life of Sensations rather than of Thoughts.' According to Rigby, modernist critics of Romanticism commonly misread this quotation as a call to irrationality and as evidence of the primitivism and puerility of Romantic literature. More recent research into eighteenth-century theories of the entangled psyche and *soma* now recognize Keats's exclamation as an appeal for a more embodied way of knowing – a claim that thinking rooted in physical sensation could engender a higher form of knowledge (Rigby 67). Such a concept is demonstrated in "Ode to a Nightingale."

Immortality, ideas of otherness, and sensuality are central to Keats's famous 1819 poem "Ode to a Nightingale." In his article "The Immortality of the Natural: Keats's 'Ode to a Nightingale'," Andrew Kappel argues that naturalness of the bird is a key part of the poem. The

speaker opens the poem in anguish, afflicted by a “drowsy numbness” (Line 1). The speaker’s pain is juxtaposed by the “light-winged Dryad of the trees” who inhabits a plot of “beechen green” and sings with “full-throated ease” (Lines 7-10). Earl Wasserman stresses how Keats calls the bird a “Dryad,” a creature whose being “is that of a tree it inhabits.” Keats establishes the bird as belonging to a peaceful physical landscape. Its “naturalness” is the key difference between it and the speaker. Ignorance of death or awareness of it functions as the sole determinant of the quality-- happy or forlorn--of an existence. Keats refers to the nightingale as “immortal” and “not born for death” (Line 61). Like the tree in the first stanza of the poem and the brook in the second, the nightingale has no awareness that its various joys are fleeting and is therefore “happy.” In Kappel’s reading, the ontological difference between the nightingale and the poet is thus the difference between a purely natural being--oblivious to death--and a human being--painfully aware of it. Human beings are not purely natural, therefore, because of their acute awareness of mortality. However, the speaker, disillusioned and sick with the world in the first stanza, yearns for reconciliation with the natural world, to be re-naturalized by merging with the Earth.

The wine in the second stanza, “Cool'd for a long age in the deep-delved earth / Tasting of Flora and the country green” (Lines 12-13), is derivative of and embodies the natural world. In this image, the longed-for intimate bonding with the earth is mediated through a natural life-maintaining substance, deep inside the Earth. The speaker wants to “leave the world unseen / and with thee fade away into the forest dim” (Lines 19-20). The image of “the forest dim” recalls Ende’s description of Keats’s forest of romance. In this context, the forest--a place Keats recognizes as purely natural--is the place where the human speaker, the Other who has separated oneself from the environment, can re-merge with nature and find belonging. Its dimness suggests

such oblivion, where awareness of death is discarded for an existence absolved of the thinking principle. The woes of stanza three dissipate as the sensual pleasures of stanza five accumulate.

The speaker urges the bird "away, away," for he will "fly to thee" on the "viewless wings of Poesy" (Lines 31-33). To approximate the nightingale's ontology, the poet intensifies his senses, beginning what Kappel calls a "concomitant sensual invigoration." The speaker's project is to engage the senses directly, intimately, and exclusively with their "object." In turn, the speaker creates a closed loop of attentiveness and intensity. Poetry, and specifically the practice of negative capability, floats the poet upward:

> But here there is no light,
> Save what from heaven is with the breezes blown
> Through verdous glooms and winding mossy ways (Lines 38-40).

Flying toward the bird, into the domain of higher sky and higher world, brings the speaker to a darkness only pierced by moonlight peering through the gaps in the blowing dark greenery. This image suggests that retreating to a higher world—literally up toward the sky and figuratively in the speaker's imagination—offers a sense of a more enlightened existence. The night is divorced from a human temporal dimension, allowing the speaker and the nightingale to co-exist, with equal belonging. The speaker de-materializes, diffusing into the thin atmosphere.

The speaker relinquishes sight and activates a practice of sensual imagination:

> I cannot see what flowers are at my feet,
> Nor what soft incense hangs upon the boughs,
> But, in embalmed darkness, guess each sweet
> Wherewith the seasonable month endows
> The grass, the thicket, and the fruit-tree wild;
> White hawthorn, and the pastoral eglantine;
> Fast-fading violets cover'd up in leaves;
> And mid-May's eldest child,
> The coming musk-rose, fully of dewy wine,

The murmurous haunt of flies on summer eves (Lines 41-50).

Here, again, darkness plays a crucial role. Perception of Keats's category of things real (flowers, the grass, trees, etc.) heighten in the "embalmed darkness" of the imagined landscape. This affords the consciousness, now stimulated predominantly through physical sense, a collapsed temporal focus and consequently, an obliviousness to transience. This night world is the perfect apparatus for the speaker's desired communion with Earth. Moreover, the speaker's images present an understanding of ecological cycles that now enclose the speaker. The season has made the grass, thicket, and fruit-tree grow "wild." Though the speaker's own temporal dimension has dissolved, nature keeps its own kind of time-keeping--the specific tilt of the Earth's axis toward the Sun in late spring revitalizes vegetation and determines which flowers will start to die (the "fast-fading violets") and which will start to bloom ("the coming musk-rose"). Though the speaker cannot see, darkness enhances the scent, feel, and sound of the realm the nightingale has led the speaker to. Absence—in this case, of light—has allowed the speaker to hollow or empty themselves, making room for ecological presences. The speaker reduces to a configuration of energy, welcomed into the cycles of the landscape.

Stuart Ende writes: "Keats casts out envy in favor of a form of negative capability in which he allows the high strains to play upon his sensibility… An extraordinary generosity may be glimpsed in the poem, as the poet sacrifices self to otherness in what increasingly looks like an attempt to humanize that otherness, by providing it with an emotional context it in itself lacks" (133). But whereas Ende reads the nightingale as the other, and the speaker as working to humanize that otherness, it seems perhaps the opposite is true. The final stanza indicates that it is the speaker who feels othered and resigned to a lonely, disconnected existence: "Forlorn! the very word is like a bell / To toll me back from thee to my sole self!" (Lines 71-72)

Reminded of loneliness, the speaker, who has projected himself into an imagined, richly sensual natural world in darkness, ultimately returns to his body. The ontological change favored by Kappel is undone. The bird withdraws, moving from one natural setting to another, retreating ever more deeply into the natural world. For Keats, the "naturalization" of the human is achieved partly through poetry and partly through heightened sense activation. As the mind fades, human consciousness can direct a narrow perspective that brings it closer to an existence like that of nonhumans or the environment. Though it occurs only in the speaker's mind, and only fleetingly, the speaker rejects the self's autonomy and independence in the world by seeking to fill the body, and briefly doing so, of nonhuman existence and thus re-claim a spot in nature anthropocentric thinking denies. In this way, I would revise Kappel's idea of ontological change and present, instead, an ontological *ex*change, as the speaker seeks an equality with nature, enmeshed in the flesh of the world.

Keats attempts to embody the unfamiliar or unknowable, what is uncertain or invokes terror, through a kind of negative empathy--not as an active agent but as an empty receptacle to be filled by another, unknowable presence for which he seeks identification. His speakers become emptied and hollowed, filling and thinking themselves into other bodies and other worlds, turning nothingness into greatness.

Sagan's and Keats' environmental ethics are largely informed by the dynamics of mortality and immortality and how awareness of transience defines the human condition and interactions with the Earth and beyond. This chapter hones in on various encounters with the universe, the natural world, and absence, and elucidates the intellectual frameworks they use to navigate such encounters, namely Empathetic Terror and Negative Capability. Keats' poems offer an embodied sense of participation in the nonhuman and even absence itself. Similarly,

Sagan's articulations of the wider universe and each of its unrecognizable environments--with their varying degrees of absence and sterility--offer participation in an even higher level of more-than-human. Obscurity, vacancy, the great nothings Keats names are all negatives which activate imagination and bring us closer to truth. Sagan and Keats's figurations of fear and empathy (inspired by perceived emptiness or the act of emptying oneself) as inextricable entities invite us to engage humbly with nonhuman nature and to seek all possible avenues of reconciliation and belonging.

Conclusion and Reflections

In this project, I have attempted to demonstrate continuities among unlikely figures: Keats and Sagan who share a preoccupation with mortality and who draw their gazes upward, toward the unknowable or unknown, and Carson and Oliver who are much more rooted and keep their gazes steadily on Earth.

I originally intended to focus much more on climate with an addition two chapters. One would have been on Keats and Oliver and one on Sagan and Carson. In addition to pairing off a poet with a science writer, I wanted to juxtapose the two poets with the two science writers. Keats and Oliver, though living in vastly different times and even on different continents, both cling to an idea of Earthly paradise. For Oliver, this is the paradise of inclusion, yes, but also of delighting in nature itself. Though aware of climate change and ever-evolving environmental issues, Oliver's work rarely, if ever, addresses these directly. In this exclusion, her idea of Earth guarantees the promise of renewal, much like some of Keats's work. The landscapes she engages with are real and from her own life--in other words, not imagined. Yet they are but a small, incomplete portrait of the state of the environment currently. Similarly, in "On the Grasshopper and Cricket," Keats writes that the poetry of earth is never dead. He viewed nature as limitless, abundant, and transcendent.

A chapter on their concept of paradise would have served to juxtapose a chapter on Sagan and Carson. Sagan has a brilliant chapter in *Pale Blue Dot* called "Exploring Other Worlds and Protecting this One." In it, he uncovers the potential for environmental catastrophe, namely ozone layer depletion and greenhouse warming. Such awareness and urgency significantly inform Sagan's environmental ethic. The same is true for Carson. *Silent Spring* warns about DDT, the most powerful pesticide yet created and whose effectiveness at killing insects was

unprecedented. She describes how DDT entered the food chain and accumulated in the fatty tissues of animals, including human beings, and its potential for cancer and genetic damage. The book's most famous chapter, "A Fable for Tomorrow," depicts a nameless American town where all life—from fish to birds to apple blossoms to human children—have been silenced by the effects of DDT. This chapter features a section titled “And No Birds Sing,” clearly drawing from Keats. There I would have liked to bring in Deborah Bird Rose’s idea of “double death,” in which with the erosion of Earth’s vital life support systems, Keats’ and Oliver’s notions of renewal are no longer possible.

For now, I hope to have demonstrated how these writers engage with similar conceptions of the environment and nature and how they provide compatible models for more intentional interactions with nonhuman systems. My project is unique in that this combination of writers, to my knowledge, has not yet been the subject of prolonged scholarly attention. Ecocritic Ursula K. Heise raises the following questions: In what ways do highly evolved and self-aware beings relate to nature? What roles do language and literature play in this relation? Is it possible to return to more ecologically attuned ways of inhabiting nature, and what would be the cultural prerequisites for such a change? (504) My thesis explores these questions with figurings of writers designed to bridge scientific and poetic discourse in a time of environmental degradation and uncertainty. I hope that it can illuminate the crucial relation between science and the arts in attending to the environment.

Works Cited

Bartton, Susan Power. "Thinking Like a Mackerel: Rachel Carson's Under the Sea Wind as a Source for a Trans-Ecotonal Sea Ethic." *Rachel Carson: Legacy and Challenge*, edited by Lisa H. Sideris and Kathleen Dean Moore, State University of New York Press, 2008, 79-93.

Buell, Laurence. *The Future of Environmental Critcism: Environmental Crisis and Literary Imagination*. Blackwell Publishing, 2005.

Cafaro, Philip. "Rachel Carson's Environmental Ethics." *Worldviews*, vol. 6, no. 1, 2002, pp. 58–80. *JSTOR*, http://www.jstor.org/stable/43809205.

Callicott, J. Baird. "Multicultural Environmental Ethics." *Daedalus*, vol. 130, no. 4, 2001, pp. 77–97. *JSTOR*, http://www.jstor.org/stable/20027719.

Callicott, J. Baird. "Non-Anthropocentric Value Theory and Environmental Ethics." *American Philosophical Quarterly*, vol. 21, no. 4, 1984, pp. 299–309. *JSTOR*, http://www.jstor.org/stable/20014060.

Carson, Rachel. *The Sea Around Us*. Oxford University Press, 1989.

Carson, Rachel. *Under the Sea-Wind*. Penguin Books, 1996.

Christensen, Laird. "The Pragmatic Mysticism of Mary Oliver." Ecopoetry: A Critical Introduction, edited by J. Scott Bryson, University of Utah Press, 2002, 135-152.

Ende, Stuart A. *Keats and the Sublime*. Yale University Press, 1976.

Gittings, Robert. *Letters of John Keats*. Oxford University Press, 1970.

Grebowicz, Margret. "Close Call: Sagan's Humpbacks and Nonhuman Politics." *HEAR*, edited by Danilo Mandic et al., vol. 14, University of Westminster Press, 2023, pp. 143–50. *JSTOR*, http://www.jstor.org/stable/jj.608325.6.

Heise, Ursula K. "The Emergence of Ecocriticism." *The Hitchhiker's Guide to Ecocriticism*, 2006, pp. 503-516

Johnson, Mark. "'Keep Looking': Mary Oliver's Emersonian Project." *The Massachusetts Review*, vol. 46, no. 1, 2005, pp. 78–98. *JSTOR*, http://www.jstor.org/stable/25090965.

Kappel, Andrew J. "The Immortality of the Natural: Keats' 'Ode to a Nightingale.'" *ELH*, vol. 45, no. 2, 1978, pp. 270–84. *JSTOR*, https://doi.org/10.2307/2872516.

Keats, John. *The Complete Poems*. Penguin Classics, 1988.

Kroll, Gary. "Rachel Carson's The Sea Around Us, Ocean-Centrism, and Nascent Ocean Ethic." *Rachel Carson: Legacy and Challenge*, edited by Lisa H. Sideris and Kathleen Dean Moore, State University of New York Press, 2008, 118-133.

Leopold, Aldo. *A Sand County Almanac with Essays on Conservation from Round River*. Ballantine, 1970.

Lomax, Alan, and Carl Sagan. Letter to Alan Lomax Regarding the Voyager Golden Record. June 6, 1977. Manuscript/Mixed Material. Retrieved from the Library of Congress, www.loc.gov/item/cosmos000113/.

McNew, Janet. "Mary Oliver and the Tradition of Romantic Nature Poetry." *Contemporary Literature*, vol. 30, no. 1, 1989, pp. 59–77. *JSTOR*, https://doi.org/10.2307/1208424.

McKillop, Alan D. "Mrs. Radcliffe on the Supernatural in Poetry." *The Journal of English and Germanic Philology*, vol. 31, no. 3, 1932, pp. 352–59. *JSTOR*, http://www.jstor.org/stable/27703650.

Oliver, Mary. *American Primitive*. Little, Brown and Company, 1983.

Oliver, Mary. *Our World*. Beacon Press, 2007.

Ostas, Magdalena. "Keats's Voice." *Studies in Romanticism*, vol. 50, no. 2, 2011, pp. 335–50. *JSTOR*, http://www.jstor.org/stable/23056041.

Owe, Andrea. "Greening the Universe: The Case for Ecocentric Space Expansion." *Reclaiming Space: Progressive and Muticultural Visions of Space Exploration*, edited by James S.J. Schwartz, Linda Billings, and Erika Nesvold, Oxford University Press, 2023, 325-336.

Purdy, Jedediah. *After Nature: A Politics for the Anthropocene*. Harvard University Press, 2015.

Purser, Ronald E., et al. “Limits to Anthropocentrism: Toward an Ecocentric Organization Paradigm?” *The Academy of Management Review*, vol. 20, no. 4, 1995, pp. 1053–89. *JSTOR*, https://doi.org/10.2307/258965.

Rahway High School. Wawawhack, the Rahway High School student newspaper, vol. VI, No. ?. 1950. Periodical. Retrieved from the Library of Congress, www.loc.gov/item/cosmos000003/

Rigby, Kate. *Reclaiming Romanticism: Towards an Ecopoetics of Decolonisation*. London, Bloomsbury, 2020.

Sagan, Carl. *Cosmos*. Ballatine Books, New York, 2013.

Sagan, Carl. Carl Sagan's University of Chicago undergraduate notebook. s, 1950. Manuscript/Mixed Material. Retrieved from the Library of Congress, www.loc.gov/item/cosmos000008/.

Sagan, Carl. *Pale Blue Dot: A Vision of the Human Future in Space*, Random House, 1994.

Salama, Hatem Salama Saleh. “Dissolution into the Natural World: An Ecocritical Study of Mary Oliver's American Primitive.” *Annals of the Faculty of Arts: Ain Shams University*, vol. 41, 2013 pp. 497-525

Souder, William. *On a Farther Shore: The Life and Legacy of Rachel Carson*. New York, Crown Publishers, 2013.

Starr, Nathan Comfort. “Negative Capability in Keats’s Diction.” *Keats-Shelley Journal*, vol. 15, 1966, pp. 59–68. *JSTOR*, http://www.jstor.org/stable/30209856.

Wigod, Jacob D. “Negative Capability and Wise Passiveness.” *PMLA*, vol. 67, no. 4, 1952, pp. 383–90. *JSTOR*, https://doi.org/10.2307/459816.

Zona, Kirstin Hotelling. “‘An Attitude of Noticing’: Mary Oliver’s Ecological Ethic.” *Interdisciplinary Studies in Literature and Environment*, vol. 18, no. 1, 2011, pp. 123–42. *JSTOR*, http://www.jstor.org/stable/44086932.