THE THINKING ANIMAL: NONHUMAN MOVEMENT IN AMERICAN ROMANTICISM

by

ELIZABETH HEINZ SWAILS

(Under the Direction of Cody Marrs)

ABSTRACT

"The Thinking Animal" explores how American Romantic writers Herman Melville, Emily Dickinson, and Henry David Thoreau perform thought experiments to reveal human thinking's innate animalistic movement. As these writers probe the enigmatic connection between how a nonhuman animal moves their body – flying, diving, slithering, cantering – and how human thinking moves within the mind, they weave together personal observations of animals and nineteenth-century scientific findings in zoology, mental science, and phenology to trouble traditional representations of human rationality and animal agency. Methodologically, this project operates at the intersection of animal studies, new materialism, posthumanism, and aesthetics by bridging Melville, Dickinson, and Thoreau's animals with their philosophies of mind and with twenty and twenty-first theories in classification, materiality, and lineology. This multifaceted approach uncovers Melville's thinking that moves as looping conundrums around scientific classifications of sharks, fish, tortoises, swarms, and even slaves. Dickinson's thinking moves as a material sensation of expansion, evasion, and creativity prompted by flying birds and weaving spiders. And, Thoreau's thoughts move seasonally

as he simultaneously tracks his thoughts and the movements of the autumn fox, the summer moose, and the winter night owl. Each writer shows how nature's beings, human and nonhuman, are profoundly connected by the movement of thinking.

INDEX WORDS: American Romanticism, Melville, Dickinson, Thoreau, Animal, Nonhuman, Thinking, Thought, Movement, Classification, Mental Science, Zoology, Tracking, Phenology, Posthumanism, New Materialism, Animal Studies

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DEDICATION

For Marshall who supported me through the many phases of this project. And for my parents who always believed I could do anything I put my mind to.

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ABBREVIATIONS

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BC "Benito Cereno" (cited by volume and page number in Northwestern edition)

BT "The Bell-Tower" (cited by volume and page number in Northwestern edition)

E "The Encantadas" (cited by volume and page number in Northwestern edition)

Fr *The Poems of Emily Dickinson* (cited by poem number in Franklin edition)

J *The Journal of Henry David Thoreau* (cited by volume and page number in Houghton Mifflin edition)

L *The Letters of Emily Dickinson* (cited by letter number in Johnson edition)

MD *Moby-Dick* (cited by volume and page number in Northwestern edition)

MW *The Maine Woods*

NH "The Natural History of Massachusetts"

NM "Night and Moonlight"

VoB *The Voyage of the Beagle*

W *Walden*

Week *A Week on the Concord and Merrimack Rivers*

CHAPTER ONE

INTRODUCTION: THE ROMANTIC ANIMAL'S INTELLECTUAL GENEALOGY

The thinking enmeshed in Herman Melville, Emily Dickinson, and Henry David Thoreau's Romantic literature weds provocatively cerebral qualities with startlingly animalistic methods of locomotion. Melville's characters – depicted on ships and in strange lands where they encounter the unique movements of flurrying whales, steadfast tortoises, death-tick hummingbirds, or oddly tame lizards – are defined by their manner of thinking. These characters, and the animals they think about, seldom go introduced without the phrases "thought I," "thinks I," "thought he," and "methinks." Dickinson's poems and letters encounter thoughts that "dwell out of Sight" (Fr1012) as physical snarls, cleaves, splinters, swerves, and creaks. Her lyrical brains and minds, united through their moving thoughts' animality, seek to feel thoughts as a hummingbird flying through the garden in the brain (Fr370), a rat balking at human wit that fails to circumvent his schemes (Fr1340), and a caterpillar whose soundless steps arrest sluggish human comprehension (Fr1523). And, as Thoreau tracks seasonal animals throughout New England, he detects in their paths a method for tracking his own thinking's phenological movements. In the prints left by the autumn fox and the summer moose and the sounds emitted by winter night owls, Thoreau discovers that he can track how his body and mind move in sympathy with the seasons, how his thinking makes contact with the earth, and how instinct *is* the animal imagination. Through portrayals of the reciprocal movements shared by thinking and animals, these writers reveal a fundamental but rarely

acknowledged fact: our thinking, our most definitive human property, is profoundly animalistic because of the way it moves.

For Melville, Dickinson, and Thoreau thoughts, at their moment of inception, are intangible entities, dynamic *things*, with a life of their own, feeding and thriving on momentum. Dickinson, in one of her most famous letters to Thomas Wentworth Higginson, asks if her "verse is alive" because "the Mind is so near itself – it cannot see, distinctly" (L260). Articulating a central issue for each writer, Dickson implies that vibrant thoughts infuse her verse with vitality yet those thoughts, so inwardly manifested, are too close to see. What thoughts lack in appearance they generate in their movements' animality; they are things that "take root and unfold themselves" (*W* 143). They are things that create a motion-bound "creature in thee" (*MD* 6:202). Things that must embrace their "lateral and ricochet motion" to emerge as *a thought* (*W* 153). The creaturely motion these writers attribute to thoughts' thingness finds exegesis in the current conversation about the agential force of *things*.[1] Colin Dayan, for example, posits Melville's similes and metaphors are post-humanist because they seek "to show the thing-likeness that might seem human" (48). This interpretation characterizes Melville's style with a life-like energy embodied by a "thing-ness" and an *almost* "human" quality, permitting, as I argue, his words' status as things to be ripe with thinking's animalistic vivacity (48). Of Emily Dickinson, Jed Deppman maintains in *Trying to Think with Emily*

[1] The agential thingness of a variety of objects currently preoccupies Romantic scholars from literary post-humanism and new materialism to animal studies and ecology. For more examples of how critics currently analyze the power of things, especially things' vital ecological energy (in literature and elsewhere), see Jane Bennett's study of "thing-power" in *Vibrant Matter: A Political Ecology of Things*, Duke UP, 2010; Timothy Morton's claim for "hyperobjects" in *The Ecological Thought*, Harvard UP, 2010; Bill Brown's *A Sense of Things: The Object Matter of American Literature*, U of Chicago P, 2003, and *Other Things*, U of Chicago P, 2015; and Graham Harman's *Object-Oriented Ontology: A New Theory for Everything*, Penguin, 2018.

Dickinson that she has a "thematic obsession with *things* that refuse to reveal themselves to her: God, heaven, nature, mind, and ecstasy" (emphasis mine xix). Yet, by way of an animal's movement, Dickinson's elusive things materialize in the realm of her comprehension. Extending claims for Thoreau's things in *Bird Relics*, Branka Arsić postulates that Thoreau's vital materialism depends on his proximity with material things, such as stones, leaves, fossils, and galls. She notes how Thoreau strives to suspend the mind so drastically that his reality is annulled, allowing "*things* [to] come so close to us [and him] that we are disclosed by . . . them, settling among them" (emphasis mine 261). Intrinsic in the conceptual negotiation of these *things* – Melville's similes and metaphors that "seem human," the entities that "refuse to reveal themselves" to Dickinson, and Thoreau's natural objects that expose the self and prepare it for a "settling among" – is their thinking's movement: mimicking, hiding, and joining. As we read their works, we traverse the movement of these writers' thoughts, seeing them as almost human, as refusing to reveal themselves, and as illuminating because their thingness permits an animal-like movement that's not entirely human.

By extending the critical conversation on the force of things into the realm of animalistic motion, I acknowledge a curious imagination that Melville, Dickinson, and Thoreau possess. As F.O. Matthiessen says in *American Renaissance*, Melville has "the rare kind of dramatic imagination that can get movement directly into words" (644). This comment applies equally to Melville's contemporaries, Dickinson and Thoreau. Between the three of them, we find an aesthetic execution of thinking that depends entirely on movement; sliding between perception, language, and expression, their thinking's movement emerges in their literature as if we have direct access to their genius's

intangible essence. But that access occurs imaginatively for us and for them, as they invoke what Cindy Weinstein and Christopher Looby call the aesthetic "play of the imagination" (4). Through imaginative play each writer seeks a literary figure to illuminate thinking's all-too-abstract movement. Their search culminates with nonhuman animals who convey exceptional locomotion indicative of human thought soaring, diving, slithering, and migrating. The animals are how they get "movement directly into words," or how they insert thinking's movement into literature.

Adopting a stance that operates at the intersection of post-humanism, new materialism, science studies, animal studies, and aesthetics, I show how we can complicate and clarify critical assessments of Melville, Dickinson, and Thoreau's animals and their philosophies of mind. Their tendency to blend and blur mental boundaries and human/animal distinctions crystalize when we articulate their thinking *as* animalistic movement, a mode of thinking *with* animals. As Christine Kenyon-Jones argues in *Kindred Brutes*, "animals are good to think with" because in the Romantic era, "a new emphasis on nature" revealed not only differences between humans and animals but similarities, too (2). These similarities, aesthetically speaking, prompted Melville, Dickinson, and Thoreau to deny Cartesian dualisms and merge the animals with their thoughts, elevating both nature and its animals to a cognitive status previously reserved for humans. Thoreau, thus, finds his thoughts following and wedding with a "silly loon" who, while diving and resurfacing in the pond, "was thinking one thing in his brain" while Thoreau "was endeavoring to divine [the loon's] thought" in his mind (*W* 256). Dickinson, likewise, locates birds within her mind when she, for example, begs "the

Robin in your Brain / To keep the other - still -" (FR604).[2] And Melville especially blurs thinking-man and thinking-whale in Captain Ahab's mind. The maniacal captain whose "one un-sleeping, ever-pacing thought" for the murder of the great white whale so profoundly preoccupies him that said thought leaves strange footprints on Ahab's "ribbed and dinted brow," an "inward mould of every outer movement" (*MD* 6:160). In these writers' human-animal creations, they, according to Michelle M. Neely, "trouble easy assumptions about human uniqueness and superiority" ("Animals" 270). For Melville, Dickinson, and Thoreau, the literary imagination reveals a thinly veiled, equalizing connection between how their own thinking moves, how the animals move, and how the animals' movements indicate that they, too, are thinking.

However, the loon, the robin, and the whale are not merely aesthetic figures; they do not illuminate thinking's movement simply because they are metaphorical or pejoratively anthropomorphized creatures in motion. Treating Melville, Dickinson, and Thoreau's literary animals as real, living beings with whom they establish an egalitarian relationship uniquely positions their depictions of human *and* animal thinking as both aesthetically distinctive and quite literal. Colleen Glenney Boggs suggests that Dickinson's figurative language exceeds the symbolic "by rethinking orthography as a confrontation with literal animals" (37). In Boggs's sense, the actual animals assist Dickinson's poetic production because she positions herself equivocally "where the human and animal are conjoined" (37).[3] Geoffrey Sanborn similarly indicates that

[2] See Gillian Osborne's "Dickinson's Lyric Materialism" and Aaron Shackelford's "Dickinson's Animals and Anthropomorphism" for two illuminating readings of "You'll know Her - by Her Foot – (FR604).

[3] Bogg's has extensively explored Dickinson's use of animals, especially how they aid in the formation of liberal subjectivity, in Chapter 4 of *Animalia Americana*. See also Boggs's contribution to *The Oxford Handbook of Nineteenth-Century American Literature*, "Animals and the Formation of Liberal Subjectivity in Nineteenth-Century American Literature."

Melville engages with nonhuman beings, such as trees, "to socialize with them" (10), permitting him to descend from "conceptual oppositions to experiential adjacencies" (12-13). In other words, Melville interacts with trees as an equal, an actual adjacent. Similarly, Emerson wrote in *The Atlantic*'s August 1862 issue that Thoreau "knew how to sit immovable, a part of the rock he rested on, until the bird, the reptile, the fish . . . moved by curiosity, should come to him and watch him" (244). Neely also cites Rebecca Harding Davis's response to Thoreau's death in which Davis recalls Emerson's claim that Thoreau was "an animal in human form" ("Animals" 269). Boggs, Sanborn, and Neely demonstrate these writers' intense desire to interact with real animals in order to literalize the abstract blurring between human and animal thinking and establish a very real equality with them. As Rosi Braidotti posits, animals have "started to be approached literally, as entities framed by coded systems of their own" (528). The coded system of which Braidotti speaks is precisely what thinking's movement helps illuminate.

Animals arouse Melville, Dickinson, and Thoreau's intellect and imagination with their curious propensity for what appears to be thinking; in their actual moving bodies a mind is palpably at work, and this realization sent their own thoughts into motion. But any assessment of animal interiority begs the question of whether these writers are simply anthropomorphizing. Aaron Shackelford explains critics avoid anthropomorphism because it "implies a grievous scientific error that puts our own narcissism in the place of careful observation," but he also encourages us to see anthropomorphism as a chance to discover how Romantic writers understand animals (47). Anthropomorphism, though it can entail an anti-scientific, overly sentimental representation of nonhumans with human characteristics, has some benefits when reading these writers' animals. According to

Greg Garrard's *Ecocriticism,* anthropomorphism can "involve the knowledgeable and careful use of familiar terms to describe homologous behaviours [sic] in species" (206). Lorraine Daston also suggests we can trouble anthropomorphism conceptually if we see in the word a hidden "multitude of anthropoi," specifically kinds of human minds, "as well as the multitude of "morphoi," meaning "shapes of understanding other minds" (51). Melville, Dickinson, and Thoreau's works certainly house a multitude of minds and demonstrate their own thinking's variability, but in those minds, too, are many "shapes of understanding *other* minds," including the animal mind (emphasis mine Daston 51). If we are to charge them with anthropomorphism, then we must recognize that the concept can be a method for not only recognizing but equalizing what's shared by species. We should also acknowledge that thinking of all kinds, no matter who does it, often troubles and evades human representation. Because Melville, Dickinson, and Thoreau's representations of animals results from careful attention to literal animals, anthropomorphism in the traditional sense doesn't fully work for them. They aren't projecting human thinking onto animals because they feel animals lack mental capacity; instead, they recognize a familiar intellectual essence in animals that is as difficult to represent as human thinking. This commonality encourages them to conceive of literal animals as thinkers whom they seek to understand with the terms available to them, such as *thinking*. Given the exceptions contemporary anthropomorphism presents, Melville, Dickinson, and Thoreau's use of the concept works to test thinking's limits – their own and the animals' – not to reduce the animals to nonthinkers in need of human versions of thought.

In the succeeding chapters, I underscore the movement of Melville, Dickinson, and Thoreau's thinking, one that I have already defined as initially thing-like but ultimately remarkably animal and will soon define as especially Transcendental in its aesthetic form. Their thinking's movement is first and foremost how we continue to bring together work that considers their Romantic portrayals of nonhuman animals and their literary philosophies of mind. In addition to the aesthetic, post-humanist, and new materialist conversation (briefly previewed above) to which this project contributes, I also survey significant findings in animal studies, both in the field of literature and science. Melville, Dickinson, and Thoreau's perspective of animals, and nature more broadly, is essential in a study that makes claims for animalistic thinking, especially if we are to avoid the misapplication of traditional anthropomorphism. Not only do their works indicate a singular animality in human thinking's movement, but they also demonstrate an exceptional understanding of animal life and even cognition, a contemporary subject that is rapidly growing in our Anthropocentric era. As a result, both nineteenth century and twenty-first century science figure prominently as analytical methods in my readings. I maintain that when we put contemporary science and Romantic literature into conversation, we can use the very real guidance they offer, in the face of rapid extinction and environmental collapse, to understand literary forms of human and animal thinking. Perhaps through movement we can all think *together* to develop conservation methods that preserve both the moving animals and the movement of our thoughts about them.

Chapter 1 proposes that Melville portrays embodied, nonlinguistic, and swarming thoughts via pilot fish, tortoises, and swarms, which counteract the static thinking he detects in nineteenth-century scientific classification. Using Michel Foucault's study of

order and classification in *The Order of Things* (1966), I show how Melville's aesthetically conceived thinking in *Moby-Dick* (1851), "The Encantadas" (1856), "Benito Cereno" (1856), and his late poem "The Maldive Shark" (1888), acquires a fraught, hostile, and frustrated tone as he combats classificatory logic's settled truths. Melville wavers between thoughts that slowly ponder with tortoises but also ram steadfastly against impediments, and he allies himself with beasts of the sea (pilot fish and sharks) only to resolutely admonish those same animals for their beastliness later. His thinking, when overcome with endless possibilities, fans outward into a swarming vortex. As a result, his thinking moves in aesthetic looping conundrums as he strives to reconcile supposedly permanent truths about animals with the realization that nothing at all is permanent.

Dickinson can be equally as frustrated as Melville, but when it comes to animals, Chapter 2 suggests she favors a curious intimacy with them: her desire to connect with the animals ignites her intellectual interest in them. Though we may consider connecting with others inherently sentimental, her relationship with the animals is peculiarly mental, allowing her amorphous verse to enact what Stacy Alaimo theorizes in *Bodily Natures* (2010) as "trans-corporeality." In Chapter 2, I adapt Alaimo's theory for a trans-corporeal environment, where "*trans* indicates movement across sites" (2), to explore how Dickinson locates thinking's movements across bodily sites within the human mind/brain environment. The movement across is also a movement *within* where thoughts are animal bodies inside the mind/brain, allowing her to imaginatively feel the expansive thoughts of "The Brain - is wider than the Sky" (Fr598) as hummingbirds darting into the distant atmosphere of "Within my Garden, rides a Bird (Fr370), the unidentifiable thoughts of

"A Thought went up my mind today" (Fr731) as unnamed birds laboring at a tree in "His Bill and Auger is" (Fr990) and routing through the garden in "A Route of Evanescence" (Fr1489), and the creative thoughts of "I felt a Cleaving in my Mind" (Fr867) as spiders weaving in "The Spider holds a Silver Ball" (Fr513), "A Spider sewed at Night" (Fr1163), and "The Spider as an Artist" (Fr1373). Paul Gilmore's analysis of nineteenth-century cognitive literary studies proposes that humans inherently wish to read others' minds, and to satisfy this desire humans invent "imaginative narratives" about individual's "inner lives" (328). Dickinson performs this desire to read minds by using imaginative narratives about animals to bring the brain and mind's thinking to life animalistically. Bolstered by her engagement with the sciences of the human mind, her poetic narratives of animal movement demonstrate poetic thinking's variability and the mind and brain's inseparability, all of which are vast moving entities that parallel the immense reach of the natural world.

Finally, Chapter 3 tracks Thoreau's seasonal animals' movements across his work to demonstrate how he develops a phenology of thinking that synthesizes scientific and literary discourses, the mind and the body, and human and animal movements. Beginning with one of his earliest published essays, "Natural History of Massachusetts" (1842) and following him on his trek to Mount Katahdin in *The Maine Woods* essay "Ktaadn" (1846), and finally back to Walden Pond in the *Walden* (1854) chapters "The Village" and "Former Inhabitants and Winter Visitors," I show how Thoreau develops a sympathetic method of tracking seasonal animals' movements that corresponds to the tracks his own thoughts leave in his mind and in the earth. To clarify this multifaceted connection among Thoreau's works, I apply support from twenty first century findings in

animal tracking technology and British anthropologist, Tim Ingold's, theory for the life that permeates all lines left by human and nonhuman creatures in *The Life of Lines* (2015). In tracking and recording his own thinking, Thoreau discovers the inborn seasonality of his thoughts and his body that both move along the same tracks left by the autumn fox who moves in sympathy with the sun, the summer moose who binds their thoughts to the earth, and the winter night owl who embodies the instinctual nature of the animal imagination.

"NO CREATURE COULD MOVE SLOWLY WHERE THERE WAS SO MUCH LIFE": THE AMERICAN ROMANTICS AND THE MOVEMENT OF NATURE[4]

To understand the power of animals' movements in Melville, Dickinson, and Thoreau's thinking we must first address America's literary legacy of nature. If we take Lawrence Buell's claim for "environmental perception" seriously in *The Environmental Imagination*, then there is no better way to understand America's nature than by looking "searchingly at the most searching works of environmental reflection" (2). With Buell's call in mind, I turn first to Ralph Waldo Emerson and, to a lesser degree, William Ellery Channing's Transcendental definitions of thinking. Both utilize the movement present in nature – seasonal change, celestial phases, and processes of birth and decay – to account for how the human mind achieves comprehension and expression: the byproducts of thinking. Transcendental thinking moves across planes and through barriers, breaking from the notion that mind/body, mental/physical, immaterial/material forms are distinct and dissimilar. But, Melville, Dickinson, and Thoreau's depictions of nature and animals do not merely replicate Emerson and Channing's Transcendental motifs. Rather, each

[4] From "The Sea and the Desert" in Thoreau's *Cape Cod*, 145.

writer, in their own way, is indebted to Transcendental conceptions of moving thoughts because those figurations denote both the mind and nature's permeability and liveliness.

Nature's representative perviousness also marks the entry point chosen by recent nineteenth-century American scholarship in posthumanism and new materialism, which seeks to impart nature with agency by challenging the human self's traditional superiority over nature. I bridge these critical lenses with current work considering Melville, Dickinson, and Thoreau's thinking, and the result is a post-human material thinking, one where thoughts and bodies imaginatively blend into one another as simultaneously corporeal and incorporeal. But this thinking mode could not exist without nature's movement. Nature enables minds and bodies to transform and evolve along egalitarian trajectories, providing a crucial backdrop for the metamorphosing aesthetics each writer applies to thinking. Melville's nature demonstrates his philosophical vacillation through the conflicting function of human thoughts – violent and serene, abundant and desolate, and terrifying and beautiful. Dickinson's nature reveals how thinking can be imaginatively felt as physical expansion, as deceptive and unknown, and as a webbing creative network. And Thoreau's nature, because it is deeply cyclical, functions as a model for how his own thinking moves phenologically. Each writer views nature as an agential force driving human thinking just as it propels animal bodies.

Emersonian Philosophy of Nature's Movement

Emerson's nature[5] is at once aesthetic and spiritual. Thoughts, as he posits, comingle with nature's beauty and laws, for nature's laws "are the laws of [the] mind"

[5] For a wide variety of current perspectives on Transcendental philosophy, including Emerson's role, see Lawrence Buell's biography *Emerson*, Harvard UP, 2003; *The Oxford Handbook of Transcendentalism*, edited by Joel Myerson, Sandra Harbert Pertulionis, and Laura Dassow Walls, Oxford UP, 2010; and,

("The American Scholar" 27), and only the poet can truly convey this phenomenon. Within this paradigm, Emerson's nature remains metaphorical, a "picture-language" ("The Poet" 242): "parts of speech are metaphors, because the whole of nature is a metaphor for the human mind" ("Language" 10). Lawrence Buell emphasizes in *Literary Transcendentalism* how Emerson's metaphorical mind/nature construction consistently utilizes "the analogy of nature" for artistic expression based on the belief that "the work of art . . . should take shape *like* an organism" (emphasis mine 169). The simile implied in Emerson's organic structure supports his most espoused claim that nature and the human spirit (referred to in many instances as "Mind") operate uniformly as one, but being "like" an organism is not exactly the same as being *an organism*, a distinction that the other three writers strive to make. Nevertheless, when treated together as one in the same, Emerson's nature, like the mind, displays what Nicholas Guardiano calls an "intelligent design," implying that nature permeates the mind and vice versa through a shared pattern (68). Though largely metaphorical, Emerson's poet deciphers nature's invisible rules from the perspective that the mind and nature blend into one another and become animalistic in their co-dependent movements.

In written form, Emerson believes thoughts move as "passionate and alive . . . *like* the spirit of a plant or an animal" (emphasis mine, "The Poet" 241), and this spirit is innately charged with poetic meter's movement.[6] William Ellery Channing – a descendent of Transcendental philosophy, a good friend of Thoreau's, and a source that

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Andrew Taylor's *Thinking America: New England Intellectuals and the Varieties of American Identity*, U of New Hampshire P, 2010.

[6] Buell states in *Literary Transcendentalism* that "Emerson's own prose style has often been cited as a perfect instance of such [an organism's] formlessness. Its most familiar pattern is a staccato movement through a succession of analogies, a continuous process of statement and restatement until the topic seems finally exhausted" (177).

we know Melville studied[7] – also illuminates movement's role when he remarks that thinking is generally "free, bold, and majestic" where "a full mind will naturally overflow in long sentences" when "thick-coming thoughts and images crowd upon it" (21).[8] Channing's thoughts move in the mind with the energy of natural elements: "dart[ing] as meteors," "shin[ing] with sun-like splendor," "rush[ing] into twilight regions," and "pierc[ing] shadows" (263-64).[9] When he channels this movement into writing, he feels he can "seize thoughts, and fix them in enduring form" (263). Emerson shares Channing's notion that thinking is "spontaneous," but only the artist can communicate that spontaneity in refined form through "will" or a "certain control over the spontaneous states" ("Intellect" 226). When the artist harnesses this energetic motion and projects it outward, "it is a thought" that only the artist can "descend into the hand" (298). However, Emerson denotes an inherent instability to this method of thinking and expression. Though publishing thoughts suggests a permanency – or, as Channing says, an "enduring form" – Emerson explains that "everything looks permanent until its secret is known" ("Circles" 216). He relates this transience to nature where there are "no fixtures," where "the universe is fluid and volatile," and where "permanence is but a word of degrees" ("Circles" 216). Emerson thus designates the Romantic mind as one where thoughts move constantly because nature moves constantly.

Nature's ceaseless movement, in the Emersonian sense, where nothing is fixed and there are only shifting degrees, might be characterized as everlasting life free of

[7] See *Melville's Marginalia Online*.
[8] From Channing's response to criticisms of Milton's difficult prose in *Paradise Lost* in his chapter "Remarks on the Character and Writings of John Milton."
[9] From Channing's "Remarks on National Literature." This and the note above are both taken from Channing's *Complete Works* in Melville's personal collection (see *Melville's Marginalia*)

corporeal boundaries. Adopting life's processes, the poet's "speech flows with the flowing of nature" and with "all the facts of animal economy—sex, nutriment, gestation, birth, growth" ("The Poet" 244). Nature's eternal renewal promises that decay will sprout a forest, a carcass will feed hungry predators, a dying sunflower will produce nourishing seeds, winter will necessitate spring, and rain will vanquish drought. When rendered in the poet's words, perpetual renewal indicates the permeability of boundaries between mind and nature. Emerson explains this as the poet's soul free-floating and detached with the "ripeness of thought" and able to spread "poems and songs" as a "deathless progeny" ("The Poet" 245). In *Impersonality*, Sharon Cameron notes Emerson's claim that "the human mind cannot be enshrined in a person," which she interprets as his impersonal self-reliance that recognizes the "inadequacy of any person" (82-83), allowing him to abandon the human self for the mental permeability he desires. In Emerson's nature, then, the mind escapes the material self's boundaries and thoughts live on forever because, by way of art, they are inherently attached to nature's life-like forms, such as "the spirit of a plant or an animal" ("The Poet" 241). Mark Nobel speaks of this attachment in his work on Emerson's *Natural History of Intellect*. Nobel posits that Emerson sought to establish an "anatomy of intellect" that would "naturalize the mind via an almanac of mental states," and these mental states work like "an electric field of power *binding things together*" (emphasis mine 81-83). Both critics recognize a porousness at the root of Emersonian philosophy; Emerson's words sought to travel through conceptual and corporeal barriers, letting forces from either side of that barrier comingle. The mind can extend beyond its material form and nature can be brought within the mind where artistic expression rides upon "the horses of thought" ("The Poet" 249).

Melville, Dickinson, and Thoreau all read Emerson's work, and Transcendentalist work more broadly, and, as Romantics, they also probe nature for ways to explain and understand the human mind's thinking. However, they also significantly depart from Emerson. First, as already stated, the natural world is not *solely* emblematic for them. Additionally, Emerson has been often labeled "more interested in man than nature," which does not hold entirely true for the other three writers (Buell, *Literary Transcendentalism* 168). For them, nature's apparent intelligent design follows movements – animal, phenological, symbiotic – and demonstrates that nature's thinking anticipates human thinking. As Guardiano suggests, "the artistry of nature . . . stems from a phenomenological open-mindedness regarding the autonomy of nature to organize itself into meaningful designs, while not assuming that human beings have exclusive license to 'intelligent' action" (69). In other words, nature possesses an intelligence apparent in its "meaningful designs," and the human and animal thinker flow from nature's thinking, not the other way around. But one aspect of Emersonian philosophy does persist for each writer: in nature, humans are privy to a porousness that resides within themselves and all living things. Through this permeability, minds and bodies integrate like nature because they are nature – the natural world knows no boundary, and thinking minds become limitless.

Boundary-Breaking in New Materialism and Post-humanism

Literary post-humanism and new materialism take up Romantic claims about permeable boundaries and invite us to explore how humans and the natural world can be brought into clearer focus if they are treated as fluid, inseparable entities with shared subjectivity and agency. Encouraged primarily by crises of the Anthropocene, these

critical lenses are especially pertinent to the argument at hand. They offer methods for understanding the blended human and nonhuman agency, expressed here as thinking, portrayed by Romantic writers as well as theories for how we might live more ethically and sustainably in the twenty-first century. In short, materialists indicate the importance of a world shared by innumerable interconnected beings and processes with their own agential vitality, and post-humanists focus on portrayals of binary disruption that allow humans to access states beyond human limitations.[10] For the movement of Melville, Dickinson, and Thoreau's thinking, these lenses show how nature embodies movement through a variety of interactive and animalistic forces. These movements pose challenges to human subjectivity, allowing other beings (animate and inanimate) to blend with humans. Ultimately, post-humanism and new materialism bolster thinking as animalistic movement because they each view nature's nonhumans as central forces redefining preconceived assumptions about the superiority of human agency.

New materialism[11] often uses nature to pose questions about the mixed agency of human and nonhuman materiality. From Thoreau's leaves and stones to Dickinson's dead

[10] If we take the above mentioned critical examples of Emersonian philosophy as starting points for understanding these other three writers' posthumanism and materialism, then Cameron and Noble both demonstrate how Emerson serves as one of the first writers to probe the movement of thinking, but not necessarily as the one who made such a stance applicable to actual human and animal minds. Cameron ultimately finds Emerson's impersonal (a term closely related to the posthuman) inadequate because it resides in words alone. For her, unlike Melville, Dickinson, and Thoreau, Emerson does not model how one might actually abandon the self (94). Similarly, Noble's analysis of Emerson's materiality indicates that Emerson's theory allows him to solve human particularity, making the human more general (like an object) and subject to force, but the same theory cannot resolve aspects of humanness that still make humans distinct.

[11] New materialism is a vast network of critical perspectives that incorporates many approaches from feminist to ontological. In short, each branch seeks to dismantle the subject/object divide through a theory of interconnectivity that allows us to politically and ethically consider the impact of everything in our world – such as trash, food, inanimate objects in our homes, and even climate change – as they relate to each other and to humans. For more on new materialism's political and ethical implications, see Donna Harraway's "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," *Feminist Studies*, vol. 14, no. 3, 1988; Karen Barad's *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, Duke UP, 2007; Stacy Alaimo's "Trans-

crickets and flower petals to Melville's clumps of kelp and whale skeletons, the effects of material substances – the essence of nature – apply not only to phenomena of the outer world but also to mental states, consciousness, and literary production. In this vein, Jane Bennett's *Vibrant Matter*, though focused primarily on twenty-first century politics and ethics, credits "Romantic thinkers" (like Emerson and Thoreau) with recognizing nature as "generativity" rather than an inert environment on which humans act (117). The generative natural world also contains nonhuman "catalysts" that have powerful effects on human affect, and, arguably, many states of mind (Bennett xii-xiii). Bennett demonstrates how scholars inside and outside of Romantic literary studies recognize Romantic writers' material awareness of the "more-than-human-world."[12] The "more-than-human-world" concept has pertinent implications for thinking: if the world is more-than-human, then might the mind's thoughts also be considered as such? Mark Noble helps answer this question for Romantic modes of thinking, emphasizing how the Lucretian assertion that "tracking the atom discloses the tracks of thought" (2) appears repeatedly in Romantic poetics from Emerson to Whitman. The movement implicit in Noble's "tracks of thought" recall the animal tracks of Melville's thoughts as Ishmael examines the whale's brow in "The Prairie": "all above them in the forehead's wrinkles,

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corporeal Feminisms and the Ethical Space of Nature" in *Material Feminisms*, Indiana UP, 2009, pp.238-264; and, *New Materialisms: Ontology, Agency, and Politics*, Edited by Dianna Coole and Samantha Frost, Duke UP, 2010.

[12] Tired of the humancentric implications of terms like "nature" and "environment" and the overuse of "culture" as something intrinsically human and anti-nature or anti-environment, David Abram coined the term and the concept of a "more-than-human-world" in his 1996 publication of *The Spell of the Sensuous: Perception and Language in a More-Than-Human-World*, Vintage Books. In his preface, he says his work emerged from the conflicting forces of human technology and the "sensuous reality" of nature's "more-than-human mystery" (x). For Abram, "only in regular contact with the tangible ground and sky can we learn how to orient and to navigate in the multiple dimensions that now claim us" (x). He says we must think in new terms about "our current estrangement from the animate earth" in order to resolve "the rapid deterioration of wild nature, the steady vanishing of other species, and the consequent flattening of our human relationships" (x).

you seem to track the antlered thoughts descending there to drink, as the Highland hunters track the snow prints of the deer" (346). One among Thoreau's many tracking examples covered in Chapter 3, his *Walden* "hermit" also expresses his wandering thoughts as tracks when he says, "my thoughts have left no track, and I cannot find the path again" (245). Like Noble's view of material motion, Theo Davis calls attention to material objects' placement, a materialist trend that we shall see is particularly illuminating for Dickinson's desire to feel animal movements in her mind. Davis combines aesthetics with materiality and the mind, offering that "one poses a jewel, a banner, or a bird in order to draw other minds to it," and through this "relational notice" objects do not stand as others to the human self but as interchangeable with the self (10).

Though various, or perhaps because of their variations, materialist perspectives highlight how the materiality of bodies, objects, and processes of force possesses a metamorphosing quality, a fluidity that works its way from the world into the self and vice versa. When applied to the thinking Melville, Dickinson, and Thoreau display in their works, we can see not only how nature's materials like stones, flowers, skeletons, and animal tracks contain vitality but how they can engender and *become* thoughts. Through a more-than-human movement – one that we might cast as traveling atoms, specifically placed jewels, or even nonhuman animals – new materialism demonstrates nature's role in thinking's life-like materiality because the critical approach understands nature as an inherent, agential force in all human and nonhuman life.

Post-humanism, like new materialism, works to reevaluate conceptual boundaries[13] and offers a way for us to see thought's thingness and to give it an atypically

[13] As with new materialism, post-humanism's view of boundaries is vast and encompasses multiple disciplines. Over the past twenty years many post-humanist works have emerged. See, for example,

human shape. By proposing a method for transcending or even eradicating the human, post-humanism supports an abstract and imaginative rendering of thinking that morphs human thoughts into animals. Nature, at least initially, figures into this critical lens through a primarily ecofeminist perspective where scholars subvert Cartesian dualisms that privilege the human. In the human/nature dualism, according to Neil Kessler, "the more-than-human world is conceptualized as somehow inferior and subordinate to the human"; thus, post-humanism naturally elevates the nonhuman animal (9). Romantic works generate rich analyses that problematize such subordination, including the relegation of nonhuman animals like Melville's tortoises in "The Encantadas," by questioning what it means to be human. Scholars have consequently coined conceptual frameworks of impersonality, inhumanity, and nonhumanity. These terms are equalizers and erasures that magnify the blendings and crossings of humans and nonhumans in Romantic writers' literary maneuvers. Michael Jonik's inhuman, for instance, asserts that the "human body is an assemblage," "always already multiple, in process, relational" (6). Viewing the human as an assemblage implicates a chorus of others involved in human processes, including thinking. While Jonik indicates a bringing-in or subsuming quality to the inhuman, Cameron, as we have already seen with Emerson, details a Romantic impersonal that requires "a penetration through or a falling outside of the boundary of the human particular" (ix). Whether it be an interior comingling or an exterior shedding

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Donna Haraway's *Simians, Cyborgs, and Women: The Reinvention of Nature*, Routledge, 1991; Neil Badmington, ed., *Posthumanism*, Palgrave, 2000, and his essay "Theorizing Posthumanism," *Cultural Critique* 53 (2003): 11-27; Bruce Clark, *Posthuman Metamorphosis: Narrative and Systems*, Fordham UP, 2008; Alan and Josephine Smart, *Posthumanism*, U of Toronto P, 2017; Cary Wolfe, *What Is Posthumanism?* University of Minnesota Press, 2009. For Wolfe's early contributions to defining posthumanism see also *Critical Environments* (1998) where he discusses posthumanism as a mode of thought and *Animal Rites* (2003) where he examines posthumanism's engagement with anthropocentrism and speciesism.

away, the Romantic posthuman is an assortment of forces, alien, familiar, and unconventionally human. And, because post-humanism often relates to or depends upon contact with nonhumans, it expands not only the restrictions of human bodies but also the limitations of human thought.

Melville, Dickinson, and Thoreau's Nature

In Chapter 1, Melville's vacillating, skeptical philosophy is his nature. His thinking about how humans think of animals follow a seemingly unending loop of conundrums that arise from classificatory logic's truth statements about animals. Pilot fish and sharks' symbiotic movements in "The Maldive Shark," tortoises' winding and webbed paths in "The Encantadas," and swarming brit, right whales, and even slaves in *Moby-Dick* and "Benito Cereno," all evoke a philosophy of mind that refuses to settle for classification's proclaimed truth. The wavering quality of Melville's work has rarely gone unnoticed by critics, nor has the natural world's role in his fluctuating skepticism. Melville "relies upon a certain breed of skepticism" (37), according to Elizabeth Duquette's analysis of Melville's cetology; his skepticism, perhaps like the sperm whale species, possesses a set of identifiable traits. Maurice Lee, in *Uncertain Chances*, defines these traits as Pyrrhonist, a version of skepticism where Melville is "taken to disbelieve even the claims for disbelief itself" (48), leading to Ishmael's view that "there is no end to "Why?" (52). Paul Hurh also acknowledges in *American Terror* that readings of Melville are sure to reveal "a mind that frequently swerves from one position to its diametric opposite and back again" (167). Without stating it directly, these critics find in Melville's philosophical swaying to and fro his thinking's characteristic looping movement. And few critics avoid mentioning nature, even if only in passing, as they

consider Melville's thinking. Both Tim Marr and Colin Dayan detect a vibrancy and a "rage" (Dayan 49) in Melville's natural figurations, again showcasing the common divergence of both Melvillian thinking and critical analysis. Where Marr sees a Melville who reveres nature's ability to materially "germinate anew after devastation and disaster" (196),[14] Dayan finds a Melville who portrays a nature that is so natural it causes a "pile-up of matter" of mystical proportions (52). In the approaches we apply to Melville's thinking about matter, many of us also locate a post-humanist message, one that Melville places clearly in the fins, paws, and talons of the nonhuman animal. Skeptical of interpreting nature according to transcendental and scientific terms, Melville, from Elizabeth Shultz's perspective, reads nature through a lens of fundamental interdependency, "an understanding of unity between humanity and nature" (100). Sanborn also notes how Melville "seems to draw from the animals and transmit to them an energizing feeling of fellowship" (11). The energy clearly apparent in Melville's skepticism is that of movement, a seesawing rising and falling, and one that I argue also loops sometimes endlessly around knowledge about animals.

Unlike Melville and Thoreau, Dickinson does not interact with nature on voyages and expeditions but in her gardens and the local woods of Amherst. This locale allows her poems to expand her mind and the landscape outward from a microcosmic level that simultaneously juggles nature's familiarity with its foreignness. Judith Farr relates Dickinson's role as "nature poet" to her garden, viewing it as a "cosmos" visited and tenanted by various creatures who help foster its status as "a sustained and exquisite

[14] In "Dead Bones and Honest Wonders," Jennifer Baker, like Marr, finds imaginative vitality in Melville's engagement with nonhuman matter, saying Melville "works to imagine an imaginatively constructed reality that is also shaped by the materials of the natural world" (96) and these materials ignite a sense of Romantic awe and wonder.

intellectual construct" (213). Gillian Osborne also posits that Dickinson's lyric materialism[15] allows readers to view "Dickinson's work as if it were a gardening or birding manual, as a list of instructions for what to do in the backyard" (58). Despite these readings' emphasis on Dickinson's communication with a local, familiar nature, other critics notice her distance from nature. For example, Christine Gerhardt says Dickinson "acknowledg[es] nature's difference and distance" (65), Julianna Chow indicates Dickinson's species "are in many ways beyond human comprehension" (432), and Cody Marrs explains that Dickinson confronts nature with "a feeling of wonder that simultaneously obliges and resists understanding" (204). Each perspective indicates a mental haziness in Dickinson's speakers' minds that, for all their striving, cannot grasp nature. Recalling Dickinson's question to Higginson about her verse's liveliness, nature, too, seems so near to her she cannot see it "distinctly" (L260). However, as the ambiguity of Dickinson's verse tends to do, scholars also find her blurring the boundaries between human and nature by uniting them as one in the same. Dickinson grants "a natural order that refuses the rigid separation of human, animal, and plant that shaped nineteenth-century conceptions of personhood" (161), says Mary Kuhn. Margaret H. Freeman similarly argues that "for Dickinson, nature, self, and poetry are unified" (58). These analyses highlight a persistent feeling in Dickinson's words about nature, an atmosphere

[15] See Virginia Jackson's *Dickinson's Misery: A Theory of Lyric Reading*, Princeton UP, 2005, for the theory of materialism that has continued to prompt re-readings of Dickinson's objects. In short, Jackson problematizes the initial publication (and continued publication) of Dickinson's work, and how we keep trying to "make out of the heterogeneous materials of her practice a literature" (1). Such materials include the items she circulated with poems – crickets, flower petals, a leaf – and the materials she wrote on, such as stamps, scraps of paper, and items from her backyard. All of these, according to Jackson, materials mark Dickinson a master of lyric materiality.

of knowing and unknowing akin to Melville's skepticism, that permeates her mind *because* it permeates the natural world.

Of the three writers, Thoreau's nature is most pronounced in the American literary imagination. And, in terms of his thinking, his use of movement perhaps stands out as the most applicable to daily life. As one bent on walking and moving his own body across vast swaths of land, sitting stationary in moments of nature-induced reflection, and tracking animals across rough terrain, he is particularly attuned to how bodily movement engenders his thinking. Indeed, as Maurice Lee posits, "thinking becomes an action" for Thoreau (127). In this sense, one imagines Melville, like Ishmael, on the masthead moving his thoughts with the "opium-like listlessness" induced by waves (*MD* 6:159), and Dickinson, rather than moving, embodying an image of stillness, watching motionless and paralyzed in observation so as not to disturb garden visitors' movements. But Thoreau, an "animal man" (*W* 158), seeks to move his own body in an animal manner because, in leaving his own tracks, he leaves a piece of his thinking in the earth like the animals who move and think before him.

Jane Bennet writes in *Thoreau's Nature* that he "stands by as an object among others in Nature, as an object for contemplation" (31). Like Bennett, many critics attribute Thoreau's communication with nature to his deep curiosity in matter, and some have already suggested how this illuminates his thinking, generally referred to as "contemplation." Arsić argues in *Bird Relics*, for example, that Thoreau's contemplation dissolves "the boundaries of the personal mind" (274) by releasing the mind into nature where "all matter is treated as contemplative, alive, and thoughtful" (310). But others, like Michelle Neely, suggest that Thoreau's boundaries have less to do with the mind and

more to do with how he perceives life in nature: "he takes materiality seriously and as a result is able to imagine a human identity that does not exist apart from nature and to express the continuity between humans and other forms of life." In this treatment of matter and mind, Thoreau's view of a thinking nature takes a more explicit stance than Melville's or Dickinson's. Where Melville and Dickinson insert ambiguity, abstraction, and skepticism, Thoreau portrays the literal courses an animal takes in their environment, and that course, because it is there in front of him, functions as an invitation not to break boundaries but to discover how boundaries were never really in nature to begin with.

"THOUGH OF REAL KNOWLEDGE THERE BE LITTLE, YET OF BOOKS THERE ARE A PLENTY": NINETEENTH CENTURY SCIENCE AND THE PROBLEM OF KNOWING NATURE[16]

As Emersonian philosophy and contemporary theories for materiality and personhood show, Melville, Dickinson, and Thoreau's imaginative pliability permits them to understand thinking as a permeable part of nature. However, in nineteenth-century America, rapid expansion and scientific methods attempting to control nature through objective systems and hierarchical arrangements countered the imaginative powers nature offered thinking. In the quest to know nature's functions and laws, the scientific writing Melville, Dickinson, and Thoreau encountered often engaged in an "anthropocentric flattening" (Kuhn 154) that portrayed knowledge of not only nature but of animals and the animals' mental capacity as fundamentally conclusive, static, and devoid of life. But I do not suggest that these writers are anti-science or that scientists do not invoke their imagination when they study nature and its animals.[17] Instead, Melville,

[16] In "Cetology," Ishmael laments the difficulty of knowing the whale through science despite the innumerable scientific sources that purport to do so (*MD* 6:135).

[17] Nina Baym's 1965 article "Thoreau's View of Science" in the *Journal of the History of Ideas* is an often referenced account of Thoreau's ultimate divorce from science because science could not prove man's

Dickinson, and Thoreau treat scientific claims with suspicion, using scientists' findings, as Richard E. Brantley says, to "sharpen their skills at language" (15) and to show that other ways to think about and attempt to know animals and minds exist. Despite scientific thinking's movement towards static conclusions, its fixed methods helped Melville to challenge taxonomic classification, Dickinson to explore connections between mental science and zoology, and Thoreau to develop his own phenology by honing the movement of their own thoughts as an alternative, aesthetic way to understand the natural world and its creatures.

Melville's skeptical response to life sciences' taxonomic classification, a systemization that – when compared to nature's power – he mocks as the product of "baby man" (*MD* 6:273), contributes to his thought's looping movements because classifications stimulate his frustration with settled truths. Dickinson's challenge to mental science emerges as abstract renderings of dividing brains or elusive thoughts, and her message about animals as objects of science is clear: "It's very mean of Science, To go and interfere!" (Fr117). For her, life and mental sciences were too dualistic, too Cartesian, in their insistence that mind and brain and human and animal were diametrically opposed. Scientists' findings resulted, too, from killing flowers and butterflies so "a monster with a glass" could inspect and then display them in "Cabinets" where the imaginative power conveyed by their movements was forever still (Fr117). And, for Thoreau, the most science-minded of the three, most of the sciences, with the exception of phenology, embodied a cool detachment, a "dry dock" that proves humans "poor navigators" of their thoughts (*W* 316). For him, science homogenizes thinking,

relevancy in nature. Many have also suggested that Melville uses science to mock the field and its practitioners, a point I emphasize in more detail in Chapter 2.

eliminates subjective variation, and deprives a mind too focused on facts of the imagination's power. Despite these beliefs about science, though, each writer was thoroughly devoted to reading science throughout their lifetimes, indicating that no matter how much the science's implied control frustrated them, it inspired them too.

Scientific Sources

The sciences' developing nineteenth-century notion of objective, verifiable truth reinforced life's hierarchical divisions as natural and imbued Melville, Dickinson, and Thoreau's works with imaginative tension, giving rise to Melville's looping thoughts, Dickinson's variable thoughts, and Thoreau's seasonal thoughts. Their scientific sources also situate them historically in one of nature's most transformative eras in America. For example, westward expansion and the capitalistic aims that America increasingly favored generated an attitude of power that coincided with the control the sciences intended to exude over nature. Shultz notes, in the context of *Moby-Dick*, that human expansion, promoted by "greed and technology," inaugurated humans' desire to "deny their interdependency with nature" (110).[18] These attitudes toward material gain and growth corresponded with cultural divergence from what Hadley C. Leach expresses as "teleological accounts of creation" (227). At roughly the same time, though this is admittedly an over-simplification of very complex shifts in thought, nature's role as resource intensified, God's role in nature's purpose diminished, and science's desire for objective detachment from nature emerged. For many Americans, nature was no longer a staple in daily life but a "refuge from the rapid pace of modern life" (Judd 57), and

[18] Richard Judd also explains in *Finding Thoreau* that distance from nature resulted from capitalistic expansion: "Larger factories, faster locomotives, and new industrial technologies quickened the flow of material goods, and the rise of commercial advertising encouraged consumers to express themselves through acquisitions" (33).

nature's new status inspired novel literary portrayals of its value from travel writing to scientific findings, all of which were available to Melville, Dickinson, and Thoreau in popular sources and critical guides. From such sources they gleaned details of new methods that depended on a notion that nature could be made static and predictable, and this suggested a permanency (i.e. no movement) to the facts that these writings proffered.

While Melville, Dickinson, and Thoreau had decidedly different educational backgrounds, they read many of the same scientific works, and they used science similarly by weaving together the field's various strains into imaginative creations of moving animalistic thoughts. While all were arguably self-taught in one way or another, many regard Melville as almost entirely self-taught, gleaning his scientific details from periodicals, local lectures by working scientists, published findings by both professional and semi-scientists, and critical reviews of scientific works.[19] Critics trace his influences to natural historians Thomas Beale and Charles Darwin and zoologists like John Hunter, Georges Cuvier, Richard Owen, and Louis Agassiz (Baker 86-7). Sources that figure prominently in Chapter 1 fall into the category of life science, particularly zoology and natural history, and include Georges Cuvier's *Animal Kingdom Arranged in Conformity with Its Organization* (1834) and Charles Darwin's *The Voyage of the Beagle* (1839) and *The Expression of Emotions in Man and Animal* (1872).

Like Melville, Dickinson was privy to scientific findings via popular journals and periodicals, such as *The Atlantic Monthly*, *Harper's*, and the *Eclectic Magazine*, but she was also exposed to writings in the family library maintained at the Dickinson home in

[19] Melville's scientific sources are well-documented at this point. For a good survey of these sources and how they contribute to Melville's self-education see Tyrus Hillway's essay "Melville's Education in Science" in *Texas Studies in Literature and Language* (1974).

Amherst. Through these resources, Michael Kearns establishes that she was familiar with mental scientists Joseph Haven, Thomas Upham, Dugald Stewart, and Thomas Brown. She also encountered neuropsychologists like Thomas Reid, and physiologists, such as Peter Mark Roget, R.B. Todd, William Benjamin Carpenter, and Alexander Bain (Kearns 13-18). The curriculum she was taught, especially at Mount Holyoke Seminary, has been well-documented,[20] and it is significant for my analysis of her brain and mind poems that she was, according to Baumgartner, "among the first generation of American students who studied anatomy and physiology as part of their general course of study" (58). Indeed, her school's founder, Mary Lyon, championed scientific education for girls. Chapter 2 details her engagement with zoology, particularly Louis Agassiz's *Principles of Zoology* (1857), and sciences of the mind with special attention to Thomas Reid's *An Inquiry into the Human Mind* (1810), Thomas Brown's work *Lectures on the Philosophy of the Human Mind* (1848), William Hammond's *A Treatise on Diseases of the Nervous System* (1871), and John Haven's *Mental Philosophy* (1881).

Our critical purview of Thoreau's science has shifted over the years depending on whether or not we consider him primarily a man of literature or a man of science, but many have begun to treat his career as equally dependent on both modes. His education was by far the most formal during his years at Harvard, but he was also significantly self-taught throughout the course of his career, as Lee notes when he observes how "Thoreau's naturalist researches . . . began in earnest in the early 1850s and continued until his death in 1862" (Lee 137). Thorson also attests that "Thoreau was, among many

[20] For detailed summations of Dickinson's readings, see Jack Capp's *Emily Dickinson's Reading, 1836-1886*, Harvard UP, 1966; Richard Sewell's *The Life of Emily Dickinson*, Straus and Giroux, 1974; Jed Deppman's *Trying to Think with Emily Dickinson*, U of Massachusetts P, 2008.

other things, a competent, self-taught, physical scientist, in terms of both daily practice and published contributions" (Thorson 256). Thoreau, perhaps even more than Melville, engaged with natural historians in a variety of fields from ornithology (Audubon and Thomas Nuttall) and ichthyology to botany (Candolle and Sprengel), paleontology, and geology (Arnold Guyot, Louis Agassiz, Robert Hunt, and Georges-Louise Buffon) (Arsić 223-43). While Thoreau was very well-versed in nearly all fields of nineteenth-century science ranging from those already mentioned to racial science, ecology, and evolution, I turn to a science that Thoreau embraced before it was even a formal scientific practice: phenology. Rather than show how he responded to specific strains of phenological thought as I do with Melville and Dickinson, I regard Thoreau as a pivotal figure in developing phenological practices because he insists that tracking the seasons must involve tracking certain animals. In Chapter 3, Thoreau's phenological sources, specifically William Howitt's 1831 publication *Book of the Seasons; or the Calendar of Nature*, serve as a point of comparison that highlights Thoreau's focus on animals.

Objectivity and Hierarchy

Of pivotal importance for understanding how the sciences influence the aesthetics of Melville, Dickinson, and Thoreau's moving thoughts are two distinct features of nineteenth-century scientific works: objectivity and hierarchy. Both concepts rely on systemization and order, a type of thinking these writers understand as static. Not only does such systemized order strip nature and its beings of their fluctuating liveliness, but it also prioritizes human beings, which we have already seen is a current focus of literary post-humanism and new materialism. In addition to these critical lenses, studies in scientific objectivity usefully portray how scientific methods, in the name of knowing

nature, can make nature seem unnatural and stationary. In Lorraine Daston and Peter Galison's work *Objectivity,* they posit that science's objectivity was a kind of "unprejudiced, unthinking, blind sight" (16), the polar opposite of Melville, Dickinson, and Thoreau's intentional bias for nature, profound thinking in motion, and honed vision of the natural world's movements.

Speaking to the aforementioned emphasis on America's changing natural and intellectual landscape, the rise of objectivity changed how people viewed and treated nature as controllable through knowledge. As Lee posits, the nineteenth century "saw dramatic transformation in the realms of epistemology, ontology, and metaphysics, with concurrent upheavals in education, aesthetics, and the circulation of ideas" (xix). One way this upheaval came to bear on nineteenth-century knowledge production was through the rise of objectivity's implied "asceticism" where nineteenth century scientists developed anxiety over subjective depictions of nature, arousing their desire for restraint in all observations (Daston and Galison 122).

In the name of restraint, objectivity became a method of which hierarchy is a subset or sub-method. Put another way, if objectivity is the procedure by which scientists produce knowledge, then hierarchy can be the resultant form that knowledge takes. Jennifer Baker articulates this process in the form of a question: "how exactly is the mind induced by physical nature to discern some kind of organization or law?" (92). Georges Cuvier, who figures prominently in Chapter 1, answers this question in *The Animal Kingdom* when he says, "it is impossible that a long and close attention to any one systematic pursuit, will not produce a tendency to a systematic accuracy in every other" (Cuvier xv). Cuvier proclaimed systematic accuracy in 1827 during natural systems'

initial phase of proliferation, which Leach says began in earnest between 1825 and 1845 when "twenty different" systems of nature, "each promising to provide an authentic representation of nature's family relationships," were released in the United States (229). These publications' central concerns revolved around questions of objective hierarchy: "were categories natural or artificial? Static or changing?" (Leach 229). Robert E. Abrams's evaluates the time's landscapes and implies these categories were indeed static. By way of emerging oceanographers, Abrams claims even the vast ocean became "a space of predictable, static constants" easily comprehended through "tables and charts" that conveyed the possibility of "precise navigation throughout a precisely oriented world" (56). Ultimately, as Robin Peel also notes, "knowledge was changing the way the world was understood and represented" (74) by implying that achieving unwavering certainty about natural phenomena was possible. As a result, objectivity subverted other ways of knowing the world, especially aesthetic means of knowing.

As an aesthetic mode of knowing, Melville, Dickinson, and Thoreau's animalistic thinking roots itself in nature's changeability, porousness, and movement. The aesthetic fluidity they use to describe thinking thus cannot be a precise method in the scientific sense because they do not "repress the willful intervention of the artist-author" with "procedures" and "strict protocols" (Daston and Galison 121). Peel makes a similar point when she says, "what art can do, sometimes more imaginatively than methodical science, is make intellectual leaps ahead of those made by the empirically based disciplines" (306). As we shall see in the following section, one of the leaps Melville, Dickinson, and Thoreau made was that animals could indeed think. But, in terms of the sciences they read, their intellectual leap maintained that literary renditions of thinking's movement–

its fluctuations, evolutions, and variety – as opposed to the stasis of scientific findings could aesthetically mimic natures' movement. The sciences, then, are just one more way we illuminate the animalistic movement of Melville, Dickinson, and Thoreau's thinking.

"I FEEL FOR THEM A TRANSPORT OF CORDIALITY": THE ANIMALISTIC PROPERTY OF THINKING'S MOVEMENT[21]

If Melville, Dickinson, and Thoreau's nature embodies porous movement that allows them to blend their thinking as human and animal, and if scientific methods of objectivity and hierarchy generate a challenge that illuminates their thoughts' animalistic movement, then the actual animals are their model thinkers because of how they move. As exemplary thinkers, Melville's swimming whales demonstrate incomparable "braining feats" (*MD* 6:338), Dickinson's spider weaves intelligently as a "Neglected Son of Genius" (Fr1373), and Thoreau's foxes expertly navigate the woods following the "fluctuations of some mind" ("Natural History of Mass." 15). By casting animals as thinkers, these writers predict contemporary animal studies' efforts to dismantle the notion that humans are the only species capable of complex thought. In so doing, as Braidotti suggests, Melville, Dickinson, and Thoreau's nonhuman animals negate the humancentric, hierarchical "normative image of thought" (527) because their movements open new thought trajectories for humans. These writers' image of human thinking, then, embraces its animalistic movement by recognizing animals' thinking capacity. Animal studies labels this type of human-animal transmogrification "becoming-animal," a human transformation that subverts anthropocentrism and embraces transspecies commonality to recognize the aggregate energies that compose the human *and* animal self (Braidotti 530).

[21] From Dickinson's 1865 poem "A narrow Fellow in the Grass" (Fr1096), an animal poem that focuses on a snake's movement as it "rides" across the grass, splitting it like a comb splits hair. She also significantly refers to the snake as one among "Nature's People" for whom she feels a "transport Of Cordiality."

Theories for "becoming-animal" elucidate literary language's role in Melville, Dickinson, and Thoreau's thinking by showing how their literary language's movement – the inscription of their thoughts across a page – mirrors the thinking present in nonhuman animal bodily movements. In this way, Melville, Dickinson, and Thoreau's moving thoughts – as literal and aesthetic, human and nonhuman – constitutes a "multispecies alliance" (Massumi 266). Melville's thoughts become-animal as they align with the symbiotic swimming between sharks and pilot fish, the lumbering intentionally of tortoises, and the swarming inundation of brit and right whales; Dickinson's thoughts become-animal as they merge with the expansive and elusive flight of hummingbirds and the creative talents of spiders; and, Thoreau's thoughts become-animal as they leave their own tracks in the paths created by the fox, moose, and owl. These writers' alliance with the animals is not only crucial for how they achieve the animality of their thinking's movement, but such a relationship also aligns with our current efforts to conserve animals for the culture of thought they possess.

Animals as Agential Thinkers

Literary animal studies is methodologically similar to posthumanism and new materialism because it acknowledges agency that is both permeable with humans but also independent of them. However, while previous sections focused primarily on human thinking as animalistic motion (moving with nature and science), this section emphasizes the literal animal's agency as a thinker on the move, giving the blendings occurring in Melville, Dickinson, and Thoreau's thinking the literal slant I suggested in my opening paragraphs. Susan McHugh attests to this literalization when says animal studies "can contribute to a broader understanding of porous species forms" (492). In the context of

my argument, animal studies demonstrates how human and animal thinking were already porous in Melville, Dickinson, and Thoreau's works because they understood that we not only share the same environment and many of the same physical structures with animals, but we also share similar cognitive capabilities. When species are brought together in Melville, Dickinson, and Thoreau's literature, thinking's movement emerges as equally human and animal, deflating preconceived human superiority and elevating animal agency as more than metaphorical.

But, as the previous section on science demonstrates, animal agency was not popular in the nineteenth century, and it is still not resoundingly popular today, despite increased interest in the animal mind. Neely speaks to this point and notes how Thoreau was exposed to prevailing scientific and philosophical approaches that stressed "a great chasm" between human and animal minds as well as minority claims for continuity between human and animal "ways of knowing" (274). Phillip Armstrong similarly states of Melville that "as Melville knew, the imputation to whales of agency of any kind was among the most contested of notions in contemporary whaling literature" (100). Nevertheless, as Shackleford explains in the context of Dickinson, even the most common animals in New England challenged traditional conceptions of animal intelligence and capabilities to the point that the region's greatest thinkers were certainly aware that "their grasp of animal lives was rudimentary at best" (49). Despite their era's continued insistence that animals could not think, Melville, Dickinson, and Thoreau's emphasis on thinking as animalistic movement suggests they had a sense of animals' elusive intelligence and agency that was far ahead of their time.

These writers were not entirely alone in their opinion of animal minds. Indeed, by the early 1800s it was common knowledge that "animal and human bodies shared the same organs, senses, and physical structure" (Neely 271). The focus on animal intelligence, particularly if they had rational or emotional abilities, evolved from the obvious similarities between humans and animals and played out in the time's popular periodicals. Melville, Dickinson, and Thoreau would have seen an increase in articles considering topics like "Have Animals Souls?" (1856) and "Are the Lower Animals Approaching Man?" (1887).[22] These titles sound very similar to titles of popular sources found on newsstands today. Both *Time* and *National Geographic* recently released special editions claiming to educate readers on the workings of the animal mind. For instance, Jeffrey Kluger, *TIME Magazine's* editor at large and author of the popular 2017 special edition "The Animal Mind: How They Think. How They Feel. How to Understand Them," introduces the animal mind saying, "the more deeply scientists look into the animal mind, the more they're discovering it to be a place of richness, joy, thought, and even nuance" (4). Virginia Morell speaks to this budding interest and notes

[22] See Jennifer Mason's *Civilized Creatures: Urban Animals, Sentimental Culture, and American Literature, 1950-1900*, Johns Hopkins UP, 2005, p.19. See also Susan Pearson's "Speaking Bodies, Speaking Minds: Animals, Language, and History," *History and Theory, Theme Issue* 52 (2013): 91-108. Mason and Pearson read the article and book titles circulated in the nineteenth century as examples of the growing understanding of animal welfare in the United States following the Civil War. Historian, Janet M. Davis, highlights that, along with the message of abolitionists, the carnage of wartime photographs available to the national audience, especially images of dead horses and soldiers, helped inaugurate a national anti-cruelty movement. The movement focused on laboring animals like horses and cattle, and their efforts culminated on April 10, 1866, when New York Legislature helped incorporate the American Society for the Prevention of Cruelty to Animals (ASPCA). They also established new state anticruelty laws to help prosecute abuse, blood sports, and abandonment. https://tah.oah.org/november-2015/the-history-of-animal-protection-in-the-united-states/. These laws were supported by influential writers as well. For example, in 1869, Harriet Beecher Stowe published an article entitled "The Rights of Dumb Animals" that tried to empathetically probe the relationships and similarities and differences among humans and animals. Stowe encouraged readers to acknowledge their duty, as humans, to protect those who could not speak for themselves.

that "hardly a week goes by that doesn't see a study announcing a new discovery about animal minds: 'Whales Have Accents and Regional Dialects,' 'Fish Use Tools,' 'Squirrels Adopt Orphans,' 'Honeybees Make Plans,' 'Sheep Don't Forget a Face,' 'Rats Feel Each Other's Pain,'" and so on (1-2). These discoveries further solidify the notion that, as animal philosopher Dale Jamieson insists, we are not "nature's only minded creatures" (17). Like in the nineteenth century, the titles and headlines today perpetuate a dialogue about animal intelligence that undermines the very deep-felt claim that has persisted for centuries: humans are the only rational thinkers on earth.

But how do we know animals think? Twentieth and twenty-first century philosophers and scientists continue to make strides in animal cognition, especially with the advent of cognitive ethology.[23] Colin Allen and Marc Bekoff, both cognitive ethologists, acknowledge however that animal consciousness remains difficult to ascertain (300). Animal philosopher Robert W. Lurz reiterates this issue saying, "it is anything but obvious what (if any) types of behaviors in animals require an explanation in terms of thought, reason, or consciousness" (3). While these philosophers understand what Melville, Dickinson, and Thoreau also knew – that determining animal thinking remains enormously challenging – they do not propose that it is a lost cause, and in many ways Melville, Dickinson, and Thoreau predicted the agency that such studies now

[23] Ethology is the general study of animal behavior, but cognitive ethology – a field pioneered by Donald Griffin's publication of *The Question of Animal Awareness*, Rockefeller UP, 1976 – specifically considers if and how an animal's conscious awareness and intention emerges in their behavior. According to moral philosopher, Gary Steiner, Griffin wanted to "arrive at more edified conceptions of the subjective lives of animals than either the Western philosophical tradition or behavioral ethology allow" (221). In doing so cognitive ethology ascribed "conceptual ability to animals" which involves "sophisticated mental operation" (222). Steiner provides this useful example: "to distinguish . . . black from white does not require any conceptual ability. To recognize that black and white are both colors does" (emphasis in original 221). And Griffin suggests that animals can indeed make this conceptual distinction, attributing to them a higher level of thought.

attribute to animals. Findings in cognitive ethology that focus on animal movements and intelligence appear throughout subsequent chapters in support of Melville, Dickinson, and Thoreau's thinking, moving animals. For instance, Chapter 1 applies theories of swarm intelligence to Melville's swarming whales, brit, and slaves; Chapter 2 employs findings in spider hydraulics and spinneret-glands as well as avian brain capacity to help interpret Dickinson's emphasis on flight and web-spinning; and, Chapter 3 incorporates current advancements in global animal tracking and movement ecology that permit us to see anew the very same tracks and movements that Thoreau followed when he tracked animals by their prints.

The connection I make between contemporary animal studies and Melville, Dickinson, and Thoreau's literary portrayals of animal thinking hinges on the agentive power apparent in animal movement, which, like animal intelligence, has also received much attention in the modern era. Taking advantage of the contemporary human mind's addiction to visual stimulation and coupling that with the very serious need for human action, producers, directors, and a talented and patient camera crew entice us to watch how animals' lives are captured in their movements.[24] We watch in suspense as the wildebeest make their annual trek across the southern half of Africa, outrunning lions on land and crocodiles in the water; we watch in disbelief as Cape fur seals outpace or succumb to Great White attacks around Seal Island; we watch in awe as the Blue-Footed Booby of the Galapagos courts his mate with sticks, stones, and dance; we watch with compassion and understanding as the solitary female Orangutan gingerly coddles her

[24] Series, such as *Planet Earth*, *Life*, *Blue Planet*, *NOVA*, and the extensive lineup of shows available on Animal Planet, NatGeo Wild, PBS, and Netflix have portrayed animals moving across television screens for the last twenty years.

newborn in Borneo's remaining forest. As these animals express their intelligence in their movements – their ability to locate resources, their fear of death, their unrivaled abilities to capture prey, their intimate courtships, and their innate desire to nurture their young – they show us how they think. These cinematic portrayals of animal lives reveal what Marc D. Hauser explains in *Wild Minds*: "we share the planet with thinking animals. Each species, with its uniquely sculpted mind, endowed by nature and shaped by evolution, is capable of meeting the most fundamental challenges that the physical and psychological world presents" (257). In animals' swift, nimble, delicate, ferocious, cunning, and tender movements, no matter if we see them on television or in real life, we witness animal minds at work and are encouraged to view them as agential thinkers.

As contemporary viewers we are privileged to see animals' movements around the globe though new mediums, but in the nineteenth century, depictions of foreign and native creatures often depended on the power of writing. Through Melville, Dickinson, and Thoreau's efforts to capture animals' remarkable locomotion in their literary language, they show us how those animals are also an innate component to their thoughts because the animals are thinking too. This consequently imparts animals with the literal, agential significance they deserve because they instruct humans on their thoughts' ability to become-animal. Through thinking's movement, human minds become inseparable from the animal bodies with whom they co-exist, but this does not mean that animals are passive participants in the human minds' thought process. Ultimately, Melville, Dickinson, and Thoreau recognize animals as independent creatures with thoughtful and conscious abilities who invite us to treat them as the intelligent thinkers they are.[25]

[25] In his contribution to *PMLA*'s 2009 special edition on animal studies, Carey Wolfe argues that animals displace the "schema of the knowing subject and its anthropocentric underpinnings" (568). Through this

Literary Language as the Nexus of Moving Thoughts

Recovering the animal thinkers of nineteenth-century American literature elevates their agency, but it does not resolve the problem of human language, which served as a basis for discrediting animal intelligence in the first place.[26] This returns us, as it often does, to the problem of language and the notion of superior human rationality,[27] but animal movement as it takes shape in Melville, Dickinson, and Thoreau's *literary* language helps resolve this paradox. Literary language possesses the potential for humans to become-animal because it resolves some of the physical differences that evolution imparted upon humans' movement, specifically humans' status as erect and bipedal. Our ability to walk on two feet not only distinguishes our movements from those of other animals, but it may actually be what led us to become the only language-speaking species. Harry Smit, a cognitive neuroscientist who studies the evolution of human and animal communication, explains that "walking upright was probably the first step toward linguistic behavior, because it resulted in a change in the position of the larynx . . . and

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displacement, animals become knowing subjects as well. This is a point that Christine Kenyon-Jones reiterates in *Kindred Brutes.* She detects in nineteenth-century writing about animals that "they exist as independent entities from humankind, rather than its mere tools or adjuncts" (2). As independent entities, they are naturally agentive forces, and that force is arguably the power of knowing and thinking.

[26] In the context of Thoreau, Neely explains "language has historically been one of the bulwarks of human exceptionalism – an attribute supposedly distinguishing absolutely humans from all other animals" (271). When considering why animal studies has emerged as such a fruitful critical lens in our current era, Kari Weil says in *Thinking Animals: Why Animal Studies Now?* Columbia UP, 2012, "our engagement with animals may reveal to us our particular human stupidity, and it is only by deeply attending to animals, or more precisely, by becoming attuned to them, I want to suggest, that we may be able to think otherwise and overcome some of the limitations of our so-called rational condition" (xvi).

[27] Recounting the claims made by contemporary philosopher Donald Davidson, Robert Lurz explains that animals have been traditionally degraded as unthinking beasts because they do not have language, and, without language, it is impossible to know what they believe. Davidson unites these issues by claiming that, without language and the beliefs it furnishes, animals are incapable of asking what others believe and of being surprised when something goes against a belief they hold; thus, they do not think (Lurz 7-8). For theories on animal languages and the ways in which animals communicate see Henrik Brumm, *Animal Communication and Noise: Animal Signals and Communication*, vol 2, Springer-Verlag Berlin Heidelberg, 2013; and, Andrew McAninch, Grant Goodrich, and Colin Allen, "Animal Communication and neo-expressivism," *The Philosophy of Animal Minds*, Cambridge UP, 2009, pp. 128-144.

freed the hands from the constraints imposed by quadrupedal locomotion" (158).[28] If our language-use caused our physical movements to diverge from those of our nonhuman relatives, then we might also argue that language brought our thinking within our mind where the movements of thought we once expressed outwardly were retained, but language did not entirely vanquish our internal animality. Instead, our interior lives came to depend on a linguistic movement that, like the thinking from which it emerges, was innately animal in its rising, charging, circling, and meandering motion. And their minds' interior movement is perhaps nowhere better expressed than in literature. Similar to Emerson, Melville, Dickinson, and Thoreau are artists who mold language and permit their thoughts to "descend into the hand" ("Intellect" 298). Philosopher, Brian Massumi, posits that when becoming-animal "language, taken to the literary limit, gives the human all the more animal character" (Massumi 280). Theoretically speaking, then, to understand the animalistic movement of thinking that Melville, Dickinson, and Thoreau portray, we must recognize that literary language is also animalistic in its movement because it is the nexus that permits us to imagine thought's returning to and becoming animal.

As noted, most literary animal studies currently emphasize a theory for becoming-animal, but very few, with the exception of Massumi, explore movements' significance. Massumi's theory for becoming-animal postulates that literature is how and where we accomplish human-animal transformation because literature's creative movement conveys a sort of co-composition occurring between humans and animals:

[28] Smit adds that when human hands were freed from quadrupedal locomotion, "they could be used in a wide range of new contexts unrelated to their prior functions, e.g., for gestures such as pointing" (158). This point extends the current argument into the realm of body language, both human and nonhuman, where more literary and scientific research proves necessary.

> languaging is on the continuum, across the range of animality. It is an axis of animal life, one of its differential dimensions. By carrying its abilities in this dimension to their highest power – literary language – the human can contrive to overcome its own conceit and remit itself to the creative movement of its own animality. *For all animals embody creative movement, creativity in movement, relationally co-composing.* (emphasis mine 280)

Though Mussami's theory does not suggest that co-composing results from conjoined human-animal thinking, he does point directly to literary language's movement as an indicator of human animality. When coupled with scholarship on animals in Romantic literature, becoming-animal begins to take shape as another transformative equalizer and unifier, like that of post-humanism and new materialism, and suggests how thinking's animalistic movement coalesces in Melville, Dickinson, and Thoreau's literary language. For example, Boggs posits that Dickinson's similes make "language the locus of an animal presence" that amalgamates humans and animals (207). Speaking directly to movement, Arsić notes that as Thoreau translated Aeschylus's *Prometheus Bound* in 1842, he found that life's inherent motion did not designate "a hierarchical line but charts an egalitarian network along which beings transform" (129).[29] And, when Sanborn describes the power of Melville's exclamations – for example, when "Moby Dick bodily burst into view!" (*MD* 6:557) – "he is paralleling nonhuman and human" through a movement that insists one is "a life among others" (17). In a way, these critical approaches also contribute to becoming-animal by infusing these writers' use of language with an animal essence that moves equilaterally. But these readings are overlooking the significance of thinking *as* movement, for it is in thoughts where the possibility of

[29] While Arsić's chapter on "Harvard Vitalism and the Way of the Loon" in *Bird Relics* makes this claim in relation to the vitalism at the core of Aeschylus's philosophy, I add that the process of translation – the immersion in language – constituted a moment in Thoreau's thinking where the movement of language became the movement of thinking about the movement of life. A three-fold motion based equally in the language thoughts proffer and the motion language captures.

becoming-animal can descend into literary language and can move with the animals from mind to page as co-composers.

In "The Bat is dun, with wrinkled Wings" (Fr1408),[30] Dickinson co-composes with the bat, an "Elate Philosopher," whose "small Umbrella quaintly halved" describes an "inscrutable" "Arc" in the air. Though "not a song pervades his Lips," Dickinson adopts poetic language so that she and the bat may co-compose their thoughts together through orchestrated movement. Her words achieve the "Arc" the bat inscribes across the sky and within her mind – one that appears inscrutable emitting from the exalted bat's philosophy but is clarified by her poetic language. She, like the bat's maker, is an "adroit Creator" able to convey "the eccentricities" of both her own thoughts and the bat's. Thoreau's fascination with weeds similarly enacts a movement of co-composition in *Cape Cod* when he desires to "become more intimately acquainted" with a species of kelp because ocean "products have a certain fabulous quality": in the ocean "animal and vegetable kingdoms meet and are strangely mingled" (53). His mind participates in this

[30] The Bat is dun, with wrinkled Wings -
Like fallow Article -
And not a song pervade his Lips -
Or none perceptible.

His small Umbrella quaintly halved
Describing in the Air
An Arc alike inscrutable
Elate Philosopher.

Deputed from what Firmament -
Of what Astute Abode -
Empowered with what Malignity
Auspiciously withheld -

To his adroit Creator
Ascribe no less the praise -
Beneficent, believe me,
His Eccentricities –

mingling as well – he becomes kelp-like in his thinking – and he explains to his readers that when examining this kelp he takes on a "greenness" and the weeds become "those grotesque and fabulous thoughts which have not yet got into the sheltered coves of literature" (53). Of course, they have now; wading and rolling with the kelp, Thoreau thinks and writes with it, inscribing their grotesque and fabulous thoughts relationally. And, in "The Sphynx," when Ahab implores the "mighty head" of the decapitated whale to "speak . . . and tell us the secret thing that is in thee," he exclaims "of all divers, thou hast dived the deepest . . . has moved amid the world's foundations" and "hast seen enough to split the planets" (311-12). Here, Melville writes of Ahab's wish to be where the whale's head, his brain and thoughts, have been. The "venerable head," like the "Elate" philosophizing bat and the "fabulous thoughts" of kelp, possesses secret thoughts in motion that dive deeper than any human can go. But "not one syllable is thine!" (*MD* 6:311-12). Again, like Dickinson who writes of the bat's inscrutable "Arc" and Thoreau who describes the kelp's "grotesque and fabulous thoughts," Melville is tasked with co-composing with a creature in motion. With the whale, he dives to the deepest of thinking's depths, imagines a moving animal's thoughts, and embraces how that motion engenders his own thinking's aesthetic conception.

Through a co-composition that depends entirely on movement, we not only see literary language become-animal but we see Dickinson's thinking become-bat, Thoreau's become-kelp, and Melville's become-whale. Massumi says when the reader is "lulled by the words" of a writer, their mind "falls in with the rhythm, riding the figural movement as a hawk in the wind. A nonvoluntary – not simply involuntary – merging into the movement of becoming occurs" (277). For Massumi, this process of becoming-animal

"brink[s] on the incorporeal" and suggests an "incorporeal materialism" (278). Similarly, Braidotti's theory for becoming-animal marks the animal not as taxonomically classifiable nor solely metaphorical but as "a body that can do a great deal, a field of forces, a quantity of speed and intensity, and a cluster of capabilities," which she defines as "posthuman bodily materialism" (528). Through the incorporeal blendings of thinking minds, Melville, Dickinson, and Thoreau achieve a post-human mental state where they can then merge with the material bodies of moving animals. In this way, their literary language serves as a nexus where animal materiality moves in a manner that empowers the animal mind and where the incorporeality of human thinking takes shape in the materiality of language.

Extinction as the Loss of Thinking's Movement

By becoming-animal, Melville, Dickinson, and Thoreau's literary language prospers because they achieve a means for thinking *with* the animals. But, when the animals are lost, their thinking and their literature suffers from the stasis that ensues. In Thoreau's journal from March 23, 1856, he expresses the creative pain of extinction. He wrote, "I spend a considerable portion of my time observing the habits of the wild animals, my brute neighbors": "By their various movements and migrations they fetch the year about to me. . . . But when I consider what nobler animals have been exterminated here, the cougar, panther, lynx, wolverene [sic], wolf, bear, moose, deer, beaver, turkey, etc., I cannot but feel I have lived in a tamed . . . country." He asks, "would not the *motions* of those larger and wilder animals have been more significant still?" (emphasis mine, *J* 8:220-22). The larger, wilder animals are the creaturely bodies of a "poem," and without them, Thoreau is privy to only "an imperfect copy . . . mutilated

in many places." Not only life experiences a loss but so too does art when animal movements disappear, and Thoreau asks, "is it not a maimed and imperfect nature that I am conversant with?" His desire to converse with nature's animals indicates an intelligent quality to animal movements that seem to speak back to him; without those movements, the conversation is one-sided, the poem is incomplete. Melville and Dickinson understood this loss, too. Like Dickinson who feels "a transport / Of Cordiality" with "Nature's People" (Fr1096) and Melville who fears that "the hunted whale cannot now escape speedy extinction" (*MD* 6:460), Thoreau is both saddened and brought into relation with nonhuman animals in moments when their movements are most obviously absent. Emergent theoretical strains in animal studies attend to the progression of loss and the Sixth Extinction[31] in the twenty-first century and indicate the intellectual cultures we are currently losing as a result of mass die-offs. But these die-offs were evident during the nineteenth century as well, and as Melville, Dickinson, and Thoreau show with their portrayals of thinking's animalistic movement, not only are we losing a way of life when we lose animals, we are losing a way to think.

In addition to wildlife documentaries, the proliferation of images by twenty-first century wildlife photographers, such as Joel Sartore,[32] Paul Nicklen,[33] and Thomas

[31] For current discussion of the Sixth Extinction see Elizabeth Kolber's *The Sixth Extinction: An Unnatural History*, Henry Holt and Company, 2014, and Ursula K. Heise's *Imagining Extinction: The Cultural Meanings of Endangered Species*, University of Chicago Press, 2016.

[32] Joel Sartore is a *National Geographic* contributor and photographer for *The Photo Ark: One Man's Quest to Document the World's Animals*, National Geographic, 2017. His Instagram page explicitly links the project with the need to "save species" (390). Sartore finds the more than 6,000 featured species exclusively in zoos, wildlife centers, and homes of private caretakers, not in their native habitat which indicates our normalization of their captivity. While captivity is still widely embraced by zoos, the current extermination rate coincides with the rise of conservation programs in zoos (The Bronx Zoo and the San Diego Zoo along with the Georgia Aquarium are among some of the most televised programs for their efforts in the US).

[33] Paul Nicklen is also a *National Geographic* contributor and the co-founder of Sea Legacy, an environmental conservation organization whose mission, according to their Instagram account, is to

Mangelsen,[34] reveal the kinds of animal images that Melville, Dickinson, and Thoreau's words brought to life. The stories these images tell now are intended to have an impact on human viewers so that we may fight to save the animals from ourselves; save the rhinos and elephants from a new type of genocide fueled by the poaching of their horns and tusks; save the orangutans from massive palm oil deforestation; save the innumerable species of insects who are dying out faster than we can discover them; save our oceans from the inundation of plastics and deadly acidification; save rare species, like the pangolin, and declining species, like sharks, from the Eastern market; save endangered marine turtles, primates, apes, big cats, lizards, and more from the exotic pet trade; and save the many wild spaces whose area and native species are rapidly dwindling as a direct result of unbridled human activity (most recently and notably in the Amazon rainforest and across Australia). These images build upon what nineteenth-century American literature foretold. When Dickinson's poem asks, "Who robbed the Woods"

"create healthy and abundant oceans." While working as a marine biologist, Nicklen realized he could make a bigger impact through his photos than his science. He's been capturing the effects of climate change with the world's most renowned images of sea creatures, including Melville's favorite: the sperm whale. See their amazing movements captured by Nicklen here https://www.facebook.com/watch/?v=387710425234008.

[34] Thomas D. Mangelsen is a natural history photographer and creator of the Legacy Reserve Collection, and he partners with Dr. Jane Goodall to offer a wildlife excursion to those who buy one of his photographs from his collection. He is perhaps best known for the images of a bear you may have seen, Grizzly #399, from Grand Teton National Park. https://www.mangelsen.com/the-matriarch-grizzly-399-3207.html. Mother to over a dozen cubs, this bear has been photographed teaching her young to live in the human world by crossing roads and attempting to avoid hunters, who are now allowed to trophy hunt Grizzlies in Wyoming thanks to losing ESA protection in 2017. Grizzly #399 is 22 years old, a remarkable age for a wild bear. But, according to National Geographic, more than half of her 16 descendants (cubs and grand-cubs) have been killed in "various kinds of negative encounters with humans." Several have been killed illegally by hunters, others hit by cars, while others still were killed for bothering cattle or for getting too close to humans. And, Mangelsen himself revealed to Anderson Cooper on *60 Minutes* that he has been told by hunters that they are determined to kill #399 for their own trophy collection. Grizzly #399 is emblematic of the polarized forces governing the wild animals of the world. One wonders how wild these animals truly are at this point, for #399 is #399 because she was fixed with a collar at a young age by humans. https://news.nationalgeographic.com/2016/06/grizzly-bear-399-cub-snowy-killed-hit-and-run-grand-teton-national-park/.

(Fr57),[35] and Thoreau's journal asks, "do not the forest and the meadow now lack expression?" and Melville's novel asks, "Does the Whale's Magnitude Diminish?—Will He Perish?," each asked a question that has been answered with a resounding "yes." Yes, humans robbed the "trusting woods" (Fr57); yes, humans stripped the forest and meadow of expression; yes, humans diminished the whale.[36]

Melville, Dickinson, and Thoreau lived and wrote in a time very much like our own. The wild America they saw indicated an equally wild world, but what was shrinking then is alarmingly reduced now. This has much to do with every context in which I have

[35] Kuhn notes that the poem title reference here is the second variation of the poem "Who robbed the Woods." Dickinson replaced the original "I" with "who" making the poem potentially indicative of a "larger exploitative operation" (145-46).

[36] Between the mid nineteenth and mid twentieth centuries, technological advancements in whaling continuously progressed, which led to a steep decline in many whale species. While the sperm whale was hunted to a critically low level, they have benefited from post-WWII efforts to manage whale habitats and populations. According to the New Bedford Whaling Museum, in 1949 the International Whaling Commission was established to monitor whale populations, but their rules were often neglected, making their aims less than effective for the whales. In 1972, the United Nations "called for a cessation of whaling and the United States Congress passed and Endangered Species Act." Whale sanctuaries (specially protected portions of the ocean) emerged in the 1970s and '80s (https://www.whalingmuseum.org/learn/research-topics/overview-of-north-american-whaling/whales-hunting). The sperm whale (*Physeter macrocephalus*) population bounced back due to these international actions, but today the International Union for Conservation of Nature's Red List of Threatened Species (established in 1964) lists the sperm whale population as "unknown" and their status as "vulnerable." Their "vulnerable" status appears midway on the scale which descends from "least concern" down to "extinction" in the following order: not evaluated (NE), data deficient (DD), least concern (LC), near threatened (NT), vulnerable (VU), endangered (EN), critically endangered (CR), extinct in the wild (EW), extinct (EX). The status of all threatened species across the globe are found on the Red List with the most up-to-date, peer reviewed estimates, and information on how to find updated statistics (https://www.iucnredlist.org/). While the descendants of Melville's sperm whale inspiration survive today as vulnerable, other whales he portrayed in *Moby-Dick* have not fared so well. The North Atlantic Right Whale (*Eubalaena glacialis*) is listed as "endangered" according to the Red List global assessment in 2017. In Melville's time, there was some confusion over how to classify this whale, which he explores extensively in Chapter 32: "Cetology." However, we now believe the Right Whale discussed in Chapter 58: "Brit," a central focus of chapter 2, and in Chapter 75: "The Right Whale's Head—Contrasted View" was likely the North Atlantic species. According to the Anderson Cabot Center for Ocean Life at the New England Aquarium, this species is now "one of the rarest whale species in the world" with numbers estimated to be less than 425 individuals. Those who remain are exceedingly threatened by vessel strikes and fishing gear entanglements, and their recovery is impeded by "low reproduction [a problem with many of the world's large animals], habitat loss, disease, and environmental contaminants" https://www.andersoncabotcenterforoceanlife.org/rightwhales/right-whales/.

placed these writers: we have distanced ourselves from nature, we have plundered it for its resources, we have enslaved and annihilated its animals, and we have forgotten our own animality that is innately built into the movement of our thoughts. What many of our eyes ignore, the conservationists plea for us to see, and literary criticism – responding to the warnings embedded in literature's evocative portrayal of nature and its animals – joins this plea. In an analysis of Dickinson's poetry in the Anthropocene, Marrs states that "the very notion that nature and humanity are somehow distinct is what made nature's decimation possible" (208). Armstrong speaks to this decimation in terms of Melville's whales saying, the use of terms like "instinct" to deny whales agency was espoused "by a capitalism that sees nature as a resource" (100). Dayan and Shultz echo this claim and suggest that "Melville made readers aware of brutality and extermination" (Dayan 53), and he revealed "his profound anxiety for [whale] species as well as for all life" (Shultz 106). The New England in which these writers lived was also devastated by deforestation; quoting John Opie's *Environmental History of the United States*, Gerhart notes that "by 1850 Connecticut and Rhode Island has consumed 70 percent of their forests; Massachusetts, 60 percent; Vermont, 55 percent; New Hampshire, 50 percent; and Maine, 25 percent" (58). Indeed, the nineteenth century saw one of America's most disturbing environmental transmutations on record. And, today, the result of human destruction and assumed superiority has situated animals as "dependents in permanent technoscientific foster-care," according to Massumi (265).

The literature of Melville, Dickinson, and Thoreau not only offers imaginative possibilities for how to embrace the animals with whom we share the world, but they teach us the value of thinking that moves, evolves, and progresses *with* other species.

Indeed, their literature implores us to use our imaginations: to move our minds with nature, to allow our thinking to become-animal, post-human, and material, and to accept our own innate animalistic movement. If we are to avoid the complete fulfillment of the Sixth Extinction, which would eliminate innumerable precious species as well as the thoughts they possess and inspire, then we must think differently. We cannot think of the world as built upon hierarchies where animals are somehow suffering from consequences that cannot touch humans. Though often referred to in their literary form as "living ghosts"[37] whose impending death has already been accepted as unavoidable, they are not yet gone. Like Melville, Dickinson, and Thoreau, we should not be satisfied with the stasis of such conclusions. The movement of our thinking must literally *move us* with the same bursting, meandering, tumbling motion of the hummingbirds who burst into Dickinson's garden in search of flowers, the right whales who meander through the brit floating around Melville's *Pequod*, and the hawks who tumble through the sky above Thoreau's Walden Pond.

[37] In "Melville's Creatures, or Seeing Otherwise," Dayan posits that the way the sailors treat the tortoises in Melville's "The Encantadas" invokes "the living ghosts of slaves" (46). Massumi likewise states that "the prospect of [animals'] disappearance makes them already a future abstraction, living ghosts of themselves" (273).

CHAPTER 2

MELVILLE'S THINKING ANIMAL AND THE CONUNDRUM OF CLASSIFICATION

On the third day of the chase for Moby Dick, Ahab reflects upon his own thinking and concludes that he "never thinks; he only feels," for God alone has the "right and privilege" to think. Ahab admits that if humans do think, then "thinking is, or ought to be, a coolness and a calmness," but, instead, "our poor hearts throb and our poor brains beat too much for that" (563). With the chase for the great leviathan coming to a close, Ahab considers a central component of Melville's work: thinking about thinking. This example is one among many in Melville's oeuvre that equates human thinking with physical movement; in this case, the throbbing, beating rhythm of a heart and brain. However, the relationship Melville establishes between thinking and movement conflicts with the parameters of Enlightenment reason, especially the type of classificatory thinking occurring in nineteenth-century life sciences. This mode of reason embodied by an impossible "coolness and a calmness" casts thinking as the anthropocentric, systematic, linear, and fundamentally conclusive mark of humanity. What initiates and comes to dominate almost every instance of thinking in Melville's great novel is the whale himself, and that elusive, monstrous animal just so happens to be forever on the move and forever out of Enlightenment reason's reach. He is, after all, a seemingly immortal, "ubiquitous," (*MD* 6:182) white Sperm whale who perpetually defies all of science's carefully crafted descriptions of the whale. Without that great animal and his everlasting movement, there

would be no need for Captain Ahab, there would be no chase, there would be no great American whaling narrative. For Melville, there is a connection, however enigmatic, between the way an animal moves and the way human thoughts move within the mind.

Melville's works are riddled with movements of thinking and nonhuman animals. He explores how thoughts, for example, can jump from one association to another, vanish right when we need them, linger in inflexible convictions, hover momentarily in a memory, and loop endlessly around a series of conundrums. Each movement is strikingly similar to the way a flying fish might appear in the air and dash back into the water, or a porpoise might descend at the very last moment, or a tortoise might ram against an immovable rock, or an albatross might hover in the sky, or a great white whale might loop endlessly around a doomed ship. Using *Moby-Dick*'s (1851) scientific references as a foundation,[38] this chapter intervenes in the current nonhuman turn vis a vis the growing interest in Melville's thinking and animal thinking by interrogating Melville's understanding of human and nonhuman minds in "The Maldive Shark" (1888), "The Encantadas" (1856), "Benito Cereno" (1856), and the *Moby-Dick* chapter "Brit."

In each work, Melville portrays acts of human thinking, either his own or his character's, with the movements of nonhuman animals to discover alternative modes of thinking that challenged scientific methods of anthropocentric classification. His test of these methods arises from the notion that classification is a conundrum: the system of ordering animals is made possible by the variety and multitude of animals, but the

[38] *Moby-Dick* contains some of Melville's most abundant scientific references, especially concerning the whale. But this chapter intentionally focuses on some of the other animals he thought about, such as tortoises, brit, right whales, and even people. The narrower focus helps illuminate the significance of some less-frequently studied animals in Melville's works. Nevertheless, the science in *Moby-Dick* is a central framing devise for this chapter's readings of animals.

reduction resulting from classificatory thinking promotes a verbal reduction of the animals that often leads to physical reduction as well (i.e. hunting, slaughter, extinction). My exploration of Melville's efforts to think around these conundrums unfolds with the aid of his moving animals. The pilot fish and shark in "The Maldive Shark," for example, reveal the insufficiency of hierarchical classification. The tortoises of "The Encantadas" emerge as non-linguistic or languageless and embodied modes of thinking that attempt to contrast the violence perpetuated by human classificatory language. And, the swarms that appear throughout "Brit" and "Benito Cereno" demonstrate acts of swarm intelligence (SI) that initiate thought experiments on thinking vs. instinct and human animalization. Nonhuman movement allows Melville to investigate how humans think about nonhuman animals, especially how we think about animal thinking. This revision of human thinking reveals an alternative narrative for knowledge production, one that is not only inclusive of animal subjects but also depends on the knowledge the animals seem to possess in their movements. In the following examples of animals that Melville met both physically and imaginatively – fish, sharks, tortoises, and whales – he links human and nonhuman thinking through shared acts of movement, allowing animal bodies to reveal their thoughts and human minds to follow the movement of thinking the animals portray.

Before attending to the ramifications of Melville's epistemological challenge to scientific classification, one of his more immediately relatable moving animals, the dog, proves useful for understanding the alternative thinking and knowledge Melville attributes to nonhuman movements. The little spaniel, who only appears twice in the short story "The Bell-Tower" (1856), might be dismissed as an empty figure only there to reinforce the suspense of discovering Bannadonna murdered by his own nonhuman

creation. Though only mentioned sparingly, the spaniel's forethought proves superior to the soldiers' as they approach the atrocity lying beyond Bannadonna's door: "unbeknown to [the soldiers], [the spaniel] had followed them thus far, stood shivering as before some unknown monster in a brake: or, rather, as if it snuffed footsteps leading to some other world" (BT 182). Far before the canine's current role in negotiating and representing the biopolitics of our era, the dog was a sniffer of superstitions, a master of ghostly apprehensions due to their seemingly innate sixth sense for the supernatural. Melville explores the spaniel's innate forethought of the human catastrophe by showing exactly how their body moves in response to disturbing stimuli. The spaniel's movements of following, halting, and shivering all communicate their perception of the situation: something ungodly awaits us behind that door. Had the soldiers noticed the dog's movements, the one character in the scenario "unbeknown to them," then they may have been spared the "spectacle disclosed" (182). However, these soldiers, like their commanding chief magistrate, seem to maintain purposeful ignorance throughout the tale, a mindset that allowed Bannadonna to commit many of the brutalities central to the bell-tower's flaws. Joshua Russell's theory of animal narrativity conveys the animal thinking the soldiers missed: "animal narrativity describes the qualitative, felt sense that stories are present in animal bodies, gestures, and relationships" (146). Through the spaniel's bodily movements, Melville highlights both human ignorance and canine intelligence because he suggests that tending to the dog's movements would have assisted the soldiers in their discovery. In *When Species Meet*, Donna Haraway explains that animals of all kinds are "always meaning-making figures that gather up those who respond to them into unpredictable kinds of 'we'" (5). Although Melville's soldiers are not active participants

in this "we," Melville's writing is; his portrayal of the dog's thinking, perception, and ultimate knowledge, pulls readers into a "we" with the dog if we choose to respond to it; that is to say if we choose to acknowledge the story of thought emitting from the dog's body.

Melville's nonhuman animal characters, from Moby-Dick to the bell-tower spaniel, all participate in complex acts of thinking, but as the introduction demonstrates, human thinkers are privy to a dense intellectual and philosophical history concerning both thinking and the nonhuman animal. The life sciences' role in this history particularly informs Melville's portrayal of his human and animal thinkers because these scientific branches frustrate his moving thoughts about animals. In keeping with Transcendental notions of thinking, Melville's thoughts about the natural world move with the innate processes of that world; in an ideal, transcendent form, those thoughts would adapt and evolve fluidly with the animals like the many instances of Ishmael's introspection demonstrate.[39] However, Melville's skepticism constantly reminds him that no knowledge, or thinking, can be consistently applicable, not even his ideal form of moving thoughts.

The tension between Melvillian modes of thinking and their relationship to the nonhuman world has led nineteenth-century scholars to re-examine how the animals that

[39] One of *Moby-Dick*'s most famous passages, from "The Mast-Head," illustrates Ishmael's transcendental introspection as a reverie style of moving thoughts. As the waves and the beings that ride them prompt the movement of his thoughts, Ishmael "loses his [human] identity" and partakes in a unified soul where the distinction of "mankind and nature" dissolves. In this state of moving thought, the thoughts that escape him, or perhaps the answers that Melville never intends to find, take on life as a sea creature. The unknown becomes only faintly known, yet the recognizable aspect of the unknown importantly takes a nonhuman shape as an "uprising fin" that moves by "continually flitting." As Ishmael's thoughts "flit" or dash through his mind, he feels them moving and fluttering just out of full reach, much like a pod of dolphins might skim the water just before a ship, and he transcends his physical form and into the mental depths inaugurated by the waves (*MD* 6:159).

populate Melville's works complement and contrast life science's portrayal of those same animals. Throughout the sixteenth, seventeenth, and eighteenth century, philosophers and historians worked to perfect knowledge systems that eventually led to emphasis on the life sciences in the nineteenth century. By embracing Enlightenment reason, the sciences became increasingly bent on producing and reproducing facts. Recent studies in Melville's thinking show that the steadfastness of nineteenth-century logic elicited various responses in Melville's works. Paul Hurh, for instance, establishes that Melville permeated his works with a dismal tone of terror as a reaction to the Enlightenment's supposedly universal method of thinking (6). While Maurice Lee notes that Melville emerges with "a penchant, perhaps even a compulsion, for upsetting the most sacrosanct assumptions of his time," assumptions that would have been based upon Enlightenment reason (48). When applied in the life sciences, this practice in logic reinforced a long-held, anthropocentric belief in human superiority and generated a notion of certainty and precision about beings that Melville responds to with frustration and mockery.

Melville's sense was that life science, such as natural history and zoology, created the illusion that thinking was *not* "the classification of the constituents of a chaos" (*MD* 6:134), but, instead, could become concrete, verifiable, and static. For him, the science's insistence on repeatedly certifiable conclusions (via experiment and observation) seemed to generate an impossible permanency in epistemology. This chapter uses Michel Foucault's theory of classification in *The Order of Things* (1966) to help define the issues Melville encounters with classificatory systems as they contribute to developing epistemologies about animals. Foucault traces order's implications and its subsequent classifications back through the pre and post-Classical era. He evaluates the networks and

linkages that human thinkers generated as they made living beings into units of knowledge constituted by "identities and differences" (Foucault 139). Much of his work references this tendency in natural history, and he concludes that "the historians of the nineteenth century were to undertake the creation of a history that could at last be 'true'" (132). To generate this so-called ordered truth about life, natural historians created a written version of living beings that eliminated the rich language of previous eras and left the descriptions of life "stripped naked" (129-30). In other words, scientific thinking did not *move*, and life itself became stationary on the page. Elizabeth Duquette explains that Melville breaks from this trend in thought by "loosen[ing] the constraints on speculation, unshackling thought from its dependence on codifiable knowledge" (46). Within the orbit of this loosening resides the nonhuman animal who was a frequent object of nineteenth-century study. The more the animal was studied the more life science put on the pretense that conclusions about animal behaviors, actions, and physical biology could be concretely and perhaps permanently defined through classification. Jennifer Baker inserts Melville within this scientific tradition and suggests that his treatment of both natural historians, such as Thomas Beale and Charles Darwin, as well as zoologists like John Hunter, Georges Cuvier, Richard Owen, and Louis Agassiz, indicate that Melville did not so much denounce life sciences but rather he often questioned what actually determined "knowledge of an animal" (87).

The field of post-humanism facilitates new approaches to Melville's thinking about knowledge, especially his challenge to situations where long-held human assumptions about others, and the barriers that persist because of those assumptions, are re-imagined. In his comprehensive study of post-humanism, Cary Wolfe proposes that

"the nature of thought itself must change if it is to be post-humanist" (xvi). Post-humanist and animal studies scholars position Melville within this thinking dynamic because of his experience with nonhuman animals and his propensity to challenge methods of thought. Sharon Cameron and Colin Dayan, for example, have noted the post-humanist aspects of Melville's work that shatters the individuality of humanness and releases humanity's dominion over thinking and knowledge. Dayan explicitly links Melville's epistemology with his "obsess[ion] with creatures" and suggests that his nonhumans caution readers about the "boundaries of consciousness" proposed by Enlightenment reason (46). Similarly, Cameron describes Melville's impersonal in *Billy Budd* as "the unpersonified impersonal" where Melville's humans assume nonhuman traits, liberating them from distinctions and generating "an openness" where characters are no longer "an autonomous or independent entity" (181). Michael Jonik's recent work adds Melville's "inhuman" to Dayan's post-human and Cameron's impersonal, saying, "the inhuman destabilizes complacent normative determinations of human identity, individuality, and personhood" (14). The posthuman, impersonal, and inhuman, though not exactly the same, each demonstrate that Melville's thinking comes from elsewhere, from other minds, from other bodies, and even from sources not considered alive. Post-humanism, and its efforts to reorient human centrality, helps explain how Melville interprets animal movements and their non-linguistic, embodied, and collective modes of thinking. These modes escape strict classification because they defy human assumptions that thinking is based in language, disembodied in the human mind, and fundamentally independent.[40]

[40] For an overview of nineteenth-century theories about the mind, especially its materiality and the notion of disembodied thoughts, see J. Wayne Lazar, "Brain Physiology and the Mind in the Nineteenth Century." *Journal of the History of the Neurosciences* 21, no. 4 (2012): 343-365. This source is considered in more detail in Chapter 2.

What follows maps a series of moving thoughts simultaneously generated by Melville, his sources, and his human and nonhuman characters. Melville's attempts to think about nonhuman thinking without relying on nineteenth-century modes of scientific classificatory logic often results in an aesthetic rendering of frustration. Branka Arsić proposes Melville is "a rigorous philosopher, a thinker of great caliber" (2), but, as he thinks about how humans think about animals, he realizes that human thinking about thinking often omits animal thinking. If this sounds circuitous, it is. Melville's style, as he considers these overlapping methods of thinking, quite literally results in a thinking loop built on a series of conundrums. By nature, conundrums are puzzles that raise questions that can never be adequately answered because the information needed is too enigmatical. The moments in Melville's work where he frustratingly wavers between a variety of possible conclusions, stops short of any conclusion, returns to a point only vaguely considered, devolves into cryptic wordplay, or overwhelms with a cascade of associations only faintly related embody what I label his looping conundrum. These conundrums reveal the trajectories of his thinking in motion. The possibility of knowledge always hovers in the distance where it moves as elusively as animals do but that possibility keeps his conundrums from slipping into paradox. For Melville, there always could be an answer even if he is unable to escape the looping of his thoughts while he searches for it. Melville's looping conundrums arise from the notion that the life science's classification of nonhuman animals is a limiting form of thinking that unjustly reinforces human superiority and inserts them into rigid categories, stripping them and thinking of their inherent motion. As a result, the thinking nonhuman animal becomes psychologically and cognitively multidimensional because Melville's words, the quintessence of his thoughts,

move with the them to illuminate how their thinking emits from their movements as anti-hierarchical, embodied, non-linguistic, and collective.

Fish and Shark Symbiosis and the Insufficiency of Hierarchical Classification

Georges Cuvier's *Animal Kingdom Arranged in Conformity with Its Organization* (1834),[41] especially the volume *Fishes*, is an established source of Melville's, especially for *Moby-Dick.* The title alone speaks to classificatory logic's central issue because it follows suit with the notion that beings and thoughts about them can be reductively organized according to a system. Foucault explains that "order is, at one and the same time, that which is given to things as their inner law, the hidden network that determines the way they confront one another" (xx). He adds that this version of order "has no existence except in the grid created by a glance, an examination, a language; and it is only the blank spaces of this grid that order manifests itself in depth as though already there, waiting in silence for the moment of its expression" (xx). When I reference the classification Melville considers, I mean something akin to Foucault's definition of order where life scientists, like Cuvier, take order as an inborn part of nature that was always waiting there for language to express – humans merely had to confront nature to see its order. In such classifications of animals, Melville finds this same hole, a space of emptiness and absence, a blankness where the "unwritten" life of nonhuman animals remains "incomplete in any literature" because the animal's classificatory description is stripped of their natural movement (*MD* 6:135). Like Foucault, Melville does not see

[41] Melville was familiar with both Georges-Frédéric Cuvier, the French zoologist mentioned in Chapter 32: "Cetology" of *Moby-Dick*, and his more famous older brother Georges Cuvier who was also a zoologist and naturalist. The latter, Georges Cuvier, is author of *The Animal Kingdom Arranged in Conformity with Its Organization*. This work, especially the volume *Fishes* or *Class Pisces*, is the volume referenced here. In the final section of this chapter, I also refer to his first volume on *The Class Mammalia.*

order in this "blank space"; instead he sees the unpredictable, improvisatory, perpetuation of movement and change. For him, classification is tantamount to stillness because it erases the individuality, creativity, and improvisation of human thinking; it erases that which is naturally "free, bold, and majestic" (Channing 21) and this is a confounding conundrum.[42] In the example that follows, Cuvier's fish description underscores how systematic classification insufficiently categorizes the fish as an unintelligent, nearly inanimate specimen deserving of its inferior position below other creatures. Melville's late poem, so chosen to demonstrate how Melville thought about animals throughout his career, reveals this classification's insufficiency through his portrayal of the symbiotic relationship between sharks and pilot fish. Melville's fish does not conform to a hierarchical systematic arrangement; his fish embodies intelligence and diplomacy through their subtle yet profound arrangement with sharks, and this contrast with the fish's classification sends Melville's thinking into endless looping around conundrums.

In Cuvier's "Supplement on the Fish in General" (1834), he details the fish's insignificance to celebrate the animals ranked above them in life's supposedly natural hierarchy. Cuvier writes, "Of all vertebrate animals, fish, in fact, show the least signs of sensibility. . . . they are destitute, or nearly destitute of voice, and of all the sensations which that faculty awakens or supports. Their immovable eyes, their *fixed osseous face, their members without inflections, moving by totality, have no play in their physiognomy; no expression of their emotions*" (emphasis mine 28-9). The words I emphasize are those that Melville marked himself in his marginalia, and in them we see perfect articulation of

[42] *The Complete Works of William E. Channing* vol. 1, specifically "Remarks on the Character and Writings of John Milton," housed in *Melville's Marginalia Online* for Melville's response to Channing's description of moving thoughts.

Foucault's "blank spaces" of classification. As Cuvier confronts the fish, who is literally out of water in his laboratory,[43] he classifies them with no sensibility, no voice, no expression, no emotions, as if the fish's lifeless stillness represents the totality of their being. We also see synonyms for stillness: "immovable," "fixed," and "no play," perhaps more indicative of the thinking Cuvier performs as he dissects and labels the fish than of the fish itself.

Melville places a check by a passage on fish tears where Cuvier claims "no tear moistens, no eyelid shelters or wipes the surface; it is, in fish, only an indifferent representative of that beautiful and animated organ which is found in the superior classes of animals" (29). Not only is the fish inferior, but even their eyes are stripped of the life Cuvier finds only in "superior" animals. Cuvier assumes a fish cannot cry, but how would anyone see said tears in a body of water? That point is not as significant as this point – why is the fish classified as inferior? For Cuvier, it is because the fish is no better than an inanimate bone (which I would argue is also a moving entity – do teeth not shift, are bones not the foundation of bodily movement?). He concludes, "their sense of feeling almost obliterated on the surface of their bodies by interposition of scales, . . . is confined to the tip of their lips, which in *some species are themselves converted to the hardness and insensibility of bone*" (emphasis mine 29). Again, the words I underscore are those Melville marked with a check. Taken together, these claims are troubling because, in Cuvier's classification, fish are wholly unfeeling both bodily and emotionally; in essence,

[43] Jennifer Baker, in her history of Melville's scientific reading, explains that Cuvier was a "closet naturalist . . . work[ing] primarily in the laboratory" (87). Cuvier was not a field naturalist dealing with and observing living animals.

they are rigid, stiff, mindless prey for the "*superior* classes of animals" (emphasis mine 29).

Superiority, according to Cuvier, is determined by power over those deemed inferior, and this perspective was supported by long held notions of hierarchy. Eric Wilson notes that Cuvier belonged to a group of pre-Darwinian thinkers who maintained that life was dictated by a "great chain of being," a "static, spatial chain of being, reaching down from God to angels to men to animals to vegetables to minerals" (132). This chain, according to Wilson, was ruled by three ideas: "hierarchy, continuity, and plentitude" (132), but Melville's poem "The Maldive Shark" (1888) suggests otherwise. This poem illuminates the very rich life of the resourceful pilot fish whose intellect seems to emit from their symbiotic movement with sharks, not from their place beneath sharks in the hierarchical chain of life. Melville also explains this relationship and his fondness for the pilot fish in the chapter "My Lord Shark and his Pages" of *Mardi and A Voyage Thither* (1849) as "one of the most inscrutable things in nature" because of their "reciprocal understanding" with one another (53). In the lines of "The Maldive Shark," this inscrutable relationship also highlights Melville's frustration with classification, resulting in a looping conundrum because he cannot reconcile the symbiotic relationship between fish and shark with the classification that claims fish are inferior to sharks.

> About the Shark, phlegmatical one,
> Pale sot of the Maldive sea,
> The sleek little pilot-fish, azure and slim,
> How alert in attendance be.
> From his saw-pit of mouth, from his charnel of maw
> They have nothing of harm to dread,
> But liquidly glide on his ghastly flank
> Or before his Gorgonian head;
> Or lurk in the port of serrated teeth
> In white triple tiers of glittering gates,
> And there find a haven when peril's abroad,

An asylum in jaws of the Fates!

They are friends; and friendly they guide him to prey,
Yet never partake of the treat—
Eyes and brains to the dotard lethargic and dull,
Pale ravener of horrible meat.

Figure 2.1 Pilot Fish drawing from the *Journal of the Lucy Ann Voyage* 1841-1844 by John F. Martin.[44]

Melville has a complicated relationship with sharks in whom he seems to see traits unflatteringly human and in keeping with hierarchical superiority. In "Stubb's Supper," for example, Ishmael explains hunting whales as a "shocking sharkish business" (*MD* 6:293). The sharks, in their humanness, "systematically [trot] alongside" slave ships

[44] Image curtesy of the New Bedford Whaling Museum: Image drawn by John F. Martin on Saturday, January 29, 1842. The entry from that day reads, "calm and squally looking. Employed the morning in trying out the Black Fish oil. The two fish yielded about one barrel. In the afternoon the Chief mate struck a large shark which we skin'd and took out his jaw. The Jaw had 4 rows of teeth. The skin is an excellent substitute for sand paper. Today we seen plenty of albacore but caught none. Lat 0° 56'. Long:" Though the pilot isn't mentioned, the image suggests Martin saw them.

waiting for a meal just as humans have made a systematic process of hunting whales: charting movements, surveying seasons, observing behaviors, and so forth. This accounts for at least part of why Melville consistently refers to sharks so negatively despite the sharks' supposed superiority over other fish. Nevertheless, quite the opposite of Cuvier's assumptions, Melville's depiction of the pilot illuminates the subjective experience of the intelligent, congenial fish who astutely entered an agreement with the most feared predator in the sea, the shark. While Melville risks reducing the shark to Cuvier's senseless, lip-feeling, bone-fish by labeling them "phlegmatical," his portrayal of the pilot-fish is tender and filled with admiration.

Melville conveys the fish's nature by describing how they move, and, in those movements, not only does the possibility of the fish's thinking come to life but human thinking opens to classifying alternatives by engaging in poetic form. The *pilot* is "alert in attendance" as they "liquidly glide" along the shark's flank or even lead in front of their "Gorgonian head." At times, the brave pilot ventures into the shark's mouth, but not as a sacrificial meal. Instead, the pilot takes refuge in the shark's teeth where so many other fish and sea mammals find their end. In terms of thinking, one line reads "eyes and brains to the dotard lethargic and dull." Again, Melville does not admire the shark's potential for thinking, but he does directly counter Cuvier's scientific assessment that classifies the fish as senseless, voiceless, and destitute. Cuvier, though, does have one point right – the fish does not possess the ability to express emotions or thoughts with their face. What Cuvier misses is the expression of the pilot's moving body – in and out of the shark's mouth, leading ahead, snuggling to their flanks, and even ignoring the feast on which the shark feeds.

Through the pilot's movements, Melville exposes a systematic failure in classification: not all relationships in nature develop according to an invisible, hierarchical law constructed by human language. Not all beasts, including humans, are or even need to be ferociously superior, and this concept prompts the movement of Melville's and readers' thinking about how humans have portrayed the hierarchy governing animal descriptions and relationships. First, where Cuvier classifies all fish, Melville isolates one species – the pilot fish. Doing so engages in a mode of classification similar to Linnaean taxonomy, which uses binomial nomenclature to individualize species' names, and, like Linnaeus, Melville avoids totalizing classification by recognizing an individual among many. Individuation presupposes an existence counter to hierarchical arrangement because individual qualities cannot truly be ordered. In other words, who can really say one individual is lesser or greater than another? Melville echoes this process of individuation in "Sketch Third: Rock Rodondo" of "The Encantadas" (1856) when his narrator goes fishing at the base of Rodondo and explains, "nothing was more striking than the complete novelty of many individuals of this multitude" (136). Rather than seeing a uniform mass of fish, the narrator sees the novelty of variety and individuality; in the multitude there are individuals, not an individual mass made of many. Melville's perspective, then, contrasts with the views of both nineteenth-century natural historians and zoologists. As Baker explains, "the natural historian found wonder in multitude, the zoologist found his in unifying generalization" (87). To see the pilot fish as an individual fish among their species which is an *individual* type of fish among all fish, reverses the natural historian's multitude and the zoologist's unifying

principles in favor of the singular and subjective which counters the hierarchical and classificatory.

Far from the expressionless, voiceless, immovable fish of Cuvier's conformist organization, the pilot is actually a moving brain for the shark. Now, considering the fish as a brain, Melville's thoughts take him where the fish goes; the fish leads Melville's thinking just as they lead the shark. Together they move in and out of the shark's mouth, imagining it as "white triple tears of glittering gates." However, his thoughts "liquidly glide" alongside the shark long enough to still consider the shark a "sot" and "dotard" – long enough to classify. Melville's urge to classify despite efforts not to constitutes the main conundrum in this case. While disrupting Cuvier's classification of the fish as inferior, Melville cannot resist classifying the shark as inferior, but all is not totally lost in the shark's classification. If we consider the poem's title, then we get some glimpse of Melville's desire to disrupt classification through a classification that is actually not a classification at all, which shifts the fish and shark's positions. And, here is where the conundrum really begins to loop: if recognizing the individual species of the pilot fish actually disrupts the all-consuming category of "fish" that Cuvier uses to eliminate the fish's thinking and label it inferior, then Melville's labeling of the Maldive Shark achieves the same disruption of classification through opposite means. For example, why not call this poem "The Pilot Fish" since the fish takes the subject position of the poem? Ultimately, titling the poem fish or shark does not actually label the relationship the poem captures; the relationship is dependent upon the complex thinking the animals display in their movements and labels cannot account for the reality of unclassifiable thinking. But,

knowing this, Melville still entitles the poem "The Maldive Shark" – our first conundrum that opens the loop of cascading conundrums that follow.

First, there is no such thing as *the* (singular) maldive shark now or in the nineteenth century. In fact, there are many species of shark located in the Maldives, but not a singular species known as the maldive shark. By labeling the shark with a singular name, Melville seems to follow the pattern he sets with the pilot fish. To recognize the individual species is to ultimately recognize individuality that then disrupts an objectifying, all-consuming label like Cuvier's "fish," which then aids in revealing an individual pilot fish's (or maldive shark's) potential for individual, anti-hierarchical thinking. No, if a thought-path works smoothly for Melville once, it cannot work smoothly twice. Thinking, for Melville, is never smooth nor easy to follow. Therefore, in classifying the shark as a maldive shark, a singular species, Melville shows that even though we can classify these animals with names that suggest they all fit within a specific species, we can also simply make up names for a species[45] that does not actually exist which disrupts the original hierarchical classification altogether. Although naming the pilot gave them a platform for displaying their thinking, naming the shark shows that their thinking is always beyond the label human thinking gives it. In fact, the mysterious symbiotic relationship they establish with the fish (or vice versa), cannot be classified at all. Their thinking, like our own, is beyond our language's ability to describe, and that is Melville's maldive conundrum. That is where the fish's movements take his thinking: the hole of science and flimsiness of hierarchy gives way to the hole in his thoughts which only the pilot fish's movements, in this instance, can open.

[45] See the Huzza Porpoise in "Cetology" (*MD* 6:143-44) for a similar example.

Tortoises and the Price of Languageless Thinking in "The Encantadas"

Many discussions of Melville's "The Encantadas" (1856) compare his portrayal of the Galapagos,[46] especially its resident tortoises' representation of geological time, to Charles Darwin's depiction in Chapter Seventeen "Galapagos Archipelago" of *The Voyage of the Beagle* (1839). As a known scientific source for Melville, Darwin's text counters Cuvier's pre-Darwinian emphasis on hierarchy and elucidates how Melville, at times, embraces a relationship with science as he explores thinking's movement and the thinking animal. In the context of both Melville and Darwin's works, the tortoise's movements achieve two aims: 1) they demonstrate a type of embodied thinking that can exist without language, which demonstrates one way for humans to engage in moving thoughts;[47] 2) they exceed the metaphorical and reveal the violence of classificatory language because it perpetuates actual violence toward the animal. Though the tortoises may usefully stand in as "captive black bodies" (Taynol 257) or "the living ghosts of slaves," (Dayan 46) they are living beings with their own untold experience that can aid human thinking about them. When we cast them metaphorically, we rightly illuminate the atrocities done to the enslaved and oppressed, but our thinking about how we think of them, and the violence committed against them, remains limited and anthropomorphic. To deny the tortoise their status as animal repeats, in some respects, the erroneous thought process that denies the enslaved human their status as human. Recognizing the

[46] For useful comparisons of these texts see Denise Taynol, "The Alternative Taxonomies of Melville's 'The Encantadas,'" The New England Quarterly 80, no. 2 (2007): 242–279), and Willaim Howarth "Earth Islands: Darwin and Melville in the Galapagos," The Iowa Review 30, no. 3 (2000): 95–113).

[47] For theories on how animals communicate, see Andrew McAninch, Grant Goodrich, and Colin Allen, "Animal Communication and neo-expressivism," *The Philosophy of Animal Minds*, ed. Robert Lurz, Cambridge UP, 2009, 128-144. See also Henrik Brumm, *Animal Communication and Noise: Animal Signals and Communication*, vol 2, Springer-Verlag Berlin Heidelberg, 2013.

tortoise as tortoise reiterates an argument made by Colleen Glenney Boggs. Boggs says she "worr[ies] that human exceptionalism actually enables abuses because it sets up a dichotomy between human beings who have representational subjectivity [in the "symbolic order"] and animals who lack it" (99). Ultimately, literary critics encourage us to acknowledge human violence towards others, but human exceptionalism can restrict that acknowledgement to human-to-human violence and omit human-to-animal violence.[48] Melville's "The Encantadas" is a series full of violence of both kinds, but Sketch Fourth's closing slaughter reveals the movement of the human's anthropocentric thinking which importantly contrasts with the type of embodied, non-linguistic thinking produced by the tortoise's movements. In the tortoise's movements, both Melville and Darwin recognize an "antediluvian" mode of languageless and embodied[49] thinking etched into their shells and in the paths they walk. Their non-linguistic thinking exists outside the boundaries of human language's classifications yet not outside the human violence perpetuated by those classifications (E 9:131).

Throughout "The Encantadas" (1856), Melville's tonal certainty mirrors that of Darwin's and other naturalists to undercut classification's supposed certainty; in this case, the tortoise's "self-condemned" classification as human resource: meat. The

[48] Tanyol's conclusions on classification remain in the human realm of imperialism where the tortoises and the islands metaphorically echo science's subservience to colonialisms' imperatives. Similarly, Dayan claims the tortoises "represent all of human history" bent on "cycles of predation" (46).

[49] Branka Arsić's work on Thoreau in *Bird Relics* considers Melville very briefly, but her analysis of "being" in Thoreau's works may be usefully applied to Melville's embodiment of thinking here. She says, "perceptions and thoughts . . . assume the same objectivity as any other being or thing. They are not ideas . . . but 'nature objects and phenomena' themselves, like the wind blowing through a field . . . They therefore share the same ontological status with any other thing, closing the gap that separates minds from bodies . . . As the wind passes through a field, so thoughts . . . pass through a mind" (Branka Arsić, *Bird Relics: Grief and Vitalism in Thoreau*, Harvard UP, 2016, 100-101). The tortoises of Melville's "Encantadas" will similarly pass through the mind of Melville and his narrator, but these tortoises, at the same time, will also display their thoughts in an embodied form on their shells.

certainty is a ruse that blatantly negates classification's precision and resists what animal studies scholars like Kari Weil have labeled our "rational condition" (xvi). Melville's tone also calls into question the interfering role language can often play in the movement of our thinking about thinking animals, and Foucault's study of order deconstructs this linguistic interference. For instance, Foucault's preface opens as a response to Borges's passage on animal taxonomy, one that Borges found in a Chinese encyclopedia. Foucault emphasizes from the start that this linguistic process is one of "fable" that highlights our own thinking's limitations (xv). Groupings of this classifying sort are fables of the mind because only language can bring certain animals into proximity with one another. Foucault asks, "where else could they [Borges's animals: "embalmed," "sucking pigs," "stray dogs," "sirens," etc.] be juxtaposed except in the non-place of language?" (xvii). In terms of Melville studies, K.L. Evans speaks to this problem with language in *Moby-Dick* and explains that "language speakers" are exposed to a unique kind of anxiety stemming from the fact that human thinking and speech are only possible because of language. This presents an issue because language, and the concepts it fashions, can be "fabricated" as "creations of the mind" (18). Though Evans ultimately argues that Melville rescues the human mind from this predicament, she implies that there is room for doubt in our linguistic system. Melville's tone of false certainty underscores this doubt in the Encantadas sketches, particularly in terms of the animals his narrator comes into contact with.

For example, as Melville's narrator describes the birds at Rock Rodondo in Sketch Second, he declares, "I know not where one can better study the Natural History of strange sea-fowl than at Rodondo" (E 9:135). The narrator then proceeds to describe

the birds he sees as they appear on hierarchical shelves: the penguins, on the lowest shelf, are "without exception the most ambiguous and least lovely creature yet discovered by man"; the pelicans, ranked above the penguins, are "a pensive race . . . [with] dull, ashy plumage"; and the gray albatross, above the other two, is "an unsightly unpoetic bird" (E 9:136). These examples are all declarative sentences without any hesitancy or ambiguity that, for the most part, rank the birds according to their appearance's appeal. The same certainty occurs in Sketch Fourth where the narrator lists statistics "according to the most reliable estimates" for the number of animals, "man-haters," and "devils" on Albermarle (E 9:140). If the ruse was not evident before, then the list including "man-haters" and "devils" cues us into Melville's sarcasm.[50] His tone, then, serves to both reinforce and mock classificatory logic – the penguin is the "least lovely," the pelican "dull," and the albatross "unsightly" – while also suggesting that classificatory language can easily be built upon fabrications of the "most reliable estimates." Language tricks humans into believing our thinking about them is reliable. How do we really know the penguin is of lower order than the pelican and so forth? What determines if this proximity is correct? Is it simply that the penguins sit on the lowest shelf? But, if we do not consider animals language speakers analogous to humans, then perhaps their thinking escapes classification's fabrication. Perhaps in "all this discord of commotion" (E 9:136) and embedded in Melville's language there is a linguistic alternative, a way for Melville to "lateralize" hierarchical arrangements, as Geoffrey Sanborn sees occurring in Melville's nonhuman world (13). For instance, how is the pelican "pensive" and why is the albatross

[50] Some have argued Sketch Fourth specifically mocks Darwin's table of the Galapagos species at the end of Chapter 17 in *Voyage*. See H. Bruce Franklin, "The Island Worlds of Darwin and Melville." *Centennial Review* 11 (1967): 353-70.

"unpoetic"? These words demarcate types of thinking, and they ask us to view these birds as more than figures in a system of physical rank. There is something more to them that inherently lies outside of Foucault's "non-place of language." Their non-linguistic expressions encourage us to look elsewhere to understand them, and both Melville and Darwin prompt us to look at their movements where there is much in these "shapes disguiz'd" (E 9:130).

Of all the animals which Melville writes, the tortoise's movements are the most difficult to comprehend because they are of the same mysterious essence that marks their ancient, prehistoric bodies. Both Melville and Darwin describe the tortoise as "antediluvian" in appearance with Melville remarking these "antediluvian-looking tortoises . . . seemed hardly of the seed of earth" (E 9:131), and Darwin explaining "these huge reptiles, surrounded by the black lava, the leafless shrubs, and large cacti, seemed to my fancy like some antediluvian animals" (*VoB* 397).[51] In each case, the tortoise seems an otherworldly creature even more foreign to human understanding than other nonhuman animals because of their age, but Melville's encounter importantly occurs aboard a ship after his narrator's shipmates captured the three tortoises. Outside of their natural element and aboard a human machine, representative of the supposedly rational human mind, Melville's narrator observes an isolated event of curious movement that he initially detects in the tortoise's shells.

As the narrator observes the tortoises, he realizes their shells and movements exceed the classificatory knowledge intended to explain them, but the narrator struggles

[51] The tortoise of Melville's *Clarel*, "The Island" is described similarly with an "an ancient shell . . . where lichens dwell." Melville Herman, *Clarel: A Poem and Pilgrimage in the Holy Land*, ed. Harrison Hayford, Alma A. MacDougall, Hershel Parker, G. Thomas Tanselle, (Chicago: Northwestern UP and The Newberry Library, 1991), 396.

to reconcile this fact with what he, as human, is supposed to know about the animal. Foucault's definition of "structure," a central component in classification, clarifies the narrator's predicament. Structure depends upon scientific observation and "permits the visibility of the animal or plant to pass over in its entirety into the discourse that receives it" (135). The process of articulating "the visible" (or what humans see) also helps generate classification's supposed certainty, because this type of "passing" is a movement of thought that ends or stops with a verifiable conclusion (134). Though the narrator sees the animal and attempts to pass them over into discourse, his vision of them morphs into new, inexplicable forms. The narrator tries to describe the captive tortoises as "wondrous" with "vast shells medallioned and orbed like shields . . . dinted and blistered . . . shaggy . . . with dark green moss, and slimy with the spray of the sea" (E 9:131). Yet the longer he looks, though he admits to a tired mind from such a long stint at sea, the more the animal escapes language and definition. They are "translated" not by words, but by the night. They become as "unutterable" as the solitude from which they emerged. The narrator's discourse fails him, and the animal's appearance and influence become nearly impossible to "unfold." They appear both new and old: "they seemed newly crawled forth from beneath the foundations of the world" (E 9:131). The world has newly birthed them, but from somewhere ancient and foundational that drives them to crawl. Their "shattered shells" in their "peelings and healing" indicate their motion's slow intensity; in their crawling, they take the earth's abuse and the earth heals them. All of these observations seem too great to parse into language. The narrator realizes that he "no more saw three tortoises. They expanded—became transfigured. [He] seemed to see three Roman Coliseums in magnificent decay" (E 9:131).

As Melville's narrator thinks about these Coliseum-like beings, he takes a closer look at the markings on their shells: "the ancient scars of bruises received in many a sullen fall among the marly mountains of the isle—scars strangely widened, swollen, half obliterate, and yet distorted" (E 9:132). In studying these scars, he felt like "an antiquary of a geologist, studying the bird-tracks and ciphers upon exhumed slates trod by incredible creatures whose very ghosts are now defunct" (E 9:132). Note the classification that would be involved in a geologist's thinking, but, having failed to pass the tortoises into this discourse once already, the narrator focuses instead on how their wounds show their movements. In their scars' distortions, preserved in their slate-like shells, the tortoises reveal to the narrator languageless inscriptions of their physical and mental paths. "Trod" on their shells are legible signs of their own steps, but these signs are not linguistic. Instead, they are the markings of motion, which the closing images of Sketch First reiterate when the narrator notes how the tortoise's movements also change the landscape: "the vitreous inland rocks worn down and grooved into deep ruts by ages and ages of the slow draggings of tortoises in quest of pools of scanty water" (E 9:129).

While exploring the Galapagos, Darwin also noticed the impact of the tortoise's movements on the landscape when he discovered their web-like[52] paths to and from water sources. As he tracks the paths, he provides further insight into the shell markings that Melville's narrator notices. He explains that the tortoise's fondness for water propels them to travel great distances over treacherous terrain, and in doing so, they create "well-beaten paths [that] branch off in every direction from the wells down to the sea-coast" (*VoB* 405). Darwin exclaims, "I could not imagine what animal travelled so methodically

[52] Eric Wilson notes that "the web and the tree are master images for Darwin's ideas on the origin and diversity of species" (140).

along well-chosen tracks" (*VoB* 405-6). His notation on the tortoise's paths show that the tortoise builds an infrastructure which they create and communicate to one another without language. Indeed, the paths are so well-planned or "well-chosen" that the Spaniards found water because the tortoises showed them how, again without language. Through this languageless map-making, the tortoise moves methodically, carefully, and intentionally, and humans are exposed to a different way of thinking about how we think of them. Perhaps their toil is not so "penal" and "hopeless" but is instead purposeful and careful, as humans thinking about them should also be (E 9:129). And as we think carefully about them, could we also begin considering them as great thinkers? If so, can we see something of them in ourselves? If their movements show their thinking, can our movements also show our thinking? If we can take that leap, then could we also open our minds to the possibility that our own thinking moves like an animal? Darwin seemed to think so.

According to William Howarth, when Darwin lived in the village of Down in Kent after the *Beagle* voyage, he frequently took walks along a path he named "my thinking path" (95). He adds, "the path reflects a mind observing and probing the antithesis of nature and culture: going out and coming back, ascending and descending through shade and shadow, and encountering along the way . . . ideas of great magnitude" (96). Howarth's language suggests the movement of human thinking ("going out and coming back, ascending and descending"), and his point demonstrates that Darwin could clearly see that movement engendered thinking. In one of Darwin's later works *The Expression of Emotions in Man and Animal* (1872), he readily admits that "when our minds are much affected, so are the movements of our bodies" (31). Not only does this

support Darwin's affiliation between movement and thought, but he also hints toward thinking's embodiment. Though he does not explicitly link animals with these movements, he does suggest the potential to do so. But Melville's narrator does not quite reach this conclusion.

Despite the languageless thinking path that the tortoises prompt in the narrator's mind, his thinking eventually returns to the facts it claims to know – tortoises are merely meat – but not before his thoughts enter their own movement. After witnessing and recognizing the potential thought-process behind the tortoise's scars, which parallel the tracks they make in the earth, the narrator's thoughts mirror the tortoise's motion. While sleeping below the captive tortoises, he hears them drag along the deck, and he "thought. . . of the haunt from which they came" (E 9:132). The narrator imagines the landscape the tortoise travels and his own thinking begins to move:

> an isle full of metallic ravines and gulches, sunk bottomlessly into the hearts of splintered mountains, and covered for many miles with inextricable thickets. I then pictured these three straightforward monsters, century after century, writhing through the shades, grim as blacksmiths; crawling so slowly and ponderously, that not only did toadstools and all fungous things grow beneath their feet, but a sooty moss sprouted upon their backs. With them I lost myself in volcanic mazes; brushed away endless boughs of rotting thickets; till finally in a dream I found myself sitting crosslegged upon the foremost, a Brahmin similarly mounted upon either side, forming a tripod of foreheads which upheld the universal cope. (E 9:132)

Through the "inextricable thickets" of the tortoise's haunts and the narrator's mind, the tortoises lead the narrator in a dream of motion. "Straightforward," "writhing," and "crawling," they move "ponderously" together with the pun of "ponderously" not likely lost on Melville. Accompanied by the tortoises, the narrator heavily ponders over the "volcanic mazes" or thinking paths that the tortoises open for him. Ancient co-thinking culminates in the image of the Brahmin, casting the tortoises as sacred teachers and inviting the narrator to think with them as a "tripod of foreheads." With his thoughts

moving to the methodical tempo of the tortoise, the narrator sees that this method of thinking in motion "upheld the universal cope," meaning the tortoise's prehistoric thinking supports the vault of existence. If Melville were an optimist or even a pragmatist, he might end here, but that would eliminate the looping conundrum.

So, not so "strange to say," the tale ends with the narrator feasting merrily upon "tortoise steaks and tortoise stews" (E 9:132-33). This moment of the sketch makes a clear statement about classifying the enslaved as disposable meat, but it also provides the Melvillian thinking loop based on conundrum. The main conundrum occurs for our narrator post-epiphany because, although he understands and participates in the power of the tortoise's ancient thinking, he immediately transitions to feasting upon their meat. The transition's abruptness, after such an eloquent portrayal of an animal that seemed to be a supreme teacher, encourages readers to recoil to previous passages for clearer understanding of the human thinking taking place. Unable to fully embrace a non-linguistic thinking practice not bent on classified distinctions, the narrator's thinking rebounds to a mode where it can dismiss the tortoise as mere meat. If we loop back with Melville to previous paragraphs, then we can begin to appreciate a passage I intentionally neglected in the analysis so far.

About midway through the sketch, the narrator describes one tortoise aboard the ship as he "ceased his movements . . . [and] butted like a battering-ram against the immovable foot of the foremast . . . striving, tooth and nail, to force the impossible passage" (E 9:132). The narrator remarks that the tortoise's actions are indicative of "their stupidity" and "drudging impulse to straightforwardness" (E 9:132). He justifies this conclusion because he claims to have seen other tortoises not held captive on ships

"ram themselves heroically against rocks, and long abide there, nudging, wriggling, wedging, in order to displace them, and so hold on their inflexible *path*" (emphasis mine 132). Darwin's 1872 work on the expression of emotions again assists here. He bases his first principle of general expression on habit:

> when any sensation, desire, dislike, &c., has led during a long series of generations to some voluntary movement, then a tendency to the performance of a similar movement will almost certainly be excited, whenever the same, or any analogous or associated sensation &c., although very weak, is experienced; notwithstanding that the movement in this case may not be of the least use. (48)

The tortoise rams himself against the foremast out of habit, which became a habit through an inherited action that was originally prompted by a specific mental impulse or "expression," a trait that Darwin argues both humans and animals share. The tortoise is not stupid; arguably, the only stupid individual here is the narrator.[53] Of course the tortoise is going to try the same method on the ship that he uses to clear those mystical, webbed paths he creates while foraging for water. In their natural environment, the tortoise clearly succeeds in moving a great many impediments, otherwise, Darwin would not have been privy to their paths' intricacy. Melville's point seems to be that the individual driven by "a penal, or malignant, or perhaps downright diabolical enchanter" for "hopeless toil" and a "drudging impulse to straightforwardness" is the human (E 9:132).

The conundrum revolves around the notion that the human has both the ability to recognize the animal's thinking power and the ability to ignore that power for whatever simple gain that drives them. The opposing impulses make no sense, hence the abrupt

[53] The narrator of the Encantadas sketches is one among several of Melville's 1850s narrators, including the narrators of "Benito Cereno" and "Bartleby, the Scrivener," all of whom are painfully impartial, unreliable, and ignorant. It seems these narrators, unlike the tortoises, have only one side to their mind, neither sunny nor gloomy but forever cloudy.

shift to feasting upon tortoise steaks. For both Melville and Darwin, there is one explanation they both use in their portrayals of the Galapagos. When describing the birds' tameness in his tortoise chapter, Darwin notes, "it would appear that the birds of this archipelago, not having as yet learnt that man is a more dangerous animal than the tortoise or the Amblyrhynchus, disregard him" (*VoB* 422-23). In "Sketch Third: Rock Rodondo," Melville writes similarly of the fish: "Poor fish of Rodondo! in your victimized confidence, you are the number of those who inconsiderately trust, while they do not understand, human nature" (E 9:136). Darwin and Melville propose that for all humans claim to know about animals, they know very little about the nature of their own thinking about animals and even less about animal thinking. Though humans see languageless thoughts in the paths the tortoise walks and the wounds they bear on their shell, they do not take those movements as invitations for extending beyond the conundrum of human modes of thinking. Instead, humans recoil to the fables they have created with their classifications: animals do not have minds, and are therefore inferior, so we may commit violence against them. When human thinking follows anthropocentric, classificatory logic, it easily justifies violent acts committed against animals because those animals have been long classified as inferior to humans. Human thinking then enters a cycle of predation where language and thinking reinforce one another and perpetuate the classifications that often condemn certain animals to their fate.

Swarms and Determining Truth through Collective Thinking in "Brit" and "Benito Cereno"

In the concluding paragraphs of "Benito Cereno" (1856) authorities behead the cunning Babo for his rebellious crimes and place his head on a stake where all can view the visage which housed a "hive of subtlety" (BC 9:116). Melville emphasizes that

Babo's "brain, not body, had schemed and led the revolt" (BC 9:116), signifying that Babo's thoughts drove his actions and reinforcing the intellectual superiority he displays throughout the narrative. Babo's hive undeniably houses the conspiratorial thoughts that swarm the seemingly impenetrable mind of his hapless guest, Captain Delano. Initially, Babo's thinking functions as a clouding swarm in the minds of others and then as a physical swarm of his fellow slaves. Delano's thoughts, as a result, "swarmed with superstitious suspicions" (BC 9:96). Such a paradigm recommends that swarms' movements serve to disturb thoughts too mired in knowledge that puts on the pretense of being settled or set (similar to seeing tortoises as meat or fish as inferior). In Delano's case, although the swarm is not entirely successful, his racist assumptions about the slaves aboard the *San Dominick* are, at least momentarily, disrupted by the swarm that Babo releases in Delano's mind. These disruptions allow Melville to explore the validity of Delano's animalization of the salves, revealing that animalization's counter-effect is possible through movement. Similarly, the moving swarms of brit and Right Whales in *Moby-Dick*'s "Brit" (1851)[54] initiate Melville's thought experiments on thinking versus instinct. In each case, swarms appear as unsettlers of thought and knowledge because no knowledge remains permanent for Melville, despite the efforts of life science's classifications. The swarm works to keep thinking on the move. As a vast body in motion, the swarm calls forth an embodied unison of established thoughts in order to scatter them endlessly.

[54] I read the swarms in these two texts as liberating for thinking, but there are many other swarms, mobs, groups, etc. in Melville that can offer other types of thinking. For example, the swarming sharks of *Moby-Dick* and the mobs of people in "The Bell-Tower" are both examples of a "sharkish" predatory type of thinking that arguably tends towards spectacle. Melville's thinking takes on many shapes and movements that allow us to read that thinking in a variety of ways.

The swarm of brit in *Moby-Dick's* aptly titled chapter "Brit" (1851) summons the Right Whale, both of whom Ishmael must consider scientifically and metaphysically in order to achieve the full effects of the swarm's unraveling. As Ishmael thinks with and through these swarms, they unravel the knowledge that thinking is superior to instinct. Initially, the brit seems a peaceful swarm that continues the novel's transcendental motif of reflection as "for leagues and leagues it undulated round" the ship and its mesmerized crew (*MD* 6:272). In the subsequent chapter, "Squid," the swarm of brit's stimulation of passive pondering also parallels the mysterious jet of water that seems ever out of reach "in that surrounding serenity" (*MD* 6:275). Thinking moves in these scenes with a gentle ebb and flow as Ishmael's thoughts roll placidly with the calm sea.

Among the swarm of brit are the Right Whales who "sluggishly swarm through the brit" as they feed upon it for sustenance, and readers wonder with Ishmael how a whale compares to domesticated animals (*MD* 6:272-3). How, Ishmael asks, can "such bulky masses of overgrowth . . . possibly be instinct . . . the same sort of life that lives in a dog or a horse" (*MD* 6:273). This moment of thinking starts to loop, and the chapter's pacing intensifies as it challenges human conceptions of both human and animal instinct, behavior, and knowledge. In asking how a whale or, later, a shark (*MD* 6:273) might resemble a dog, readers are asked to *consider*, a word of thinking that comes to dominate this chapter, how one mind's expression might be found in another. We are asked how do our thoughts on these being's thoughts express a thought that becomes knowledge. And once that thought is knowledge, how do we know that our original thoughts that made that knowledge are sound enough to stand alone as permanent knowledge on our wandering thoughts? And if we could ask the whale or shark what they think about

having their thinking compared to a dog's or a horse's, what would they reveal? Would their thoughts on our thoughts, too, be considered knowledge or simply instinct? As we wonder, the chapter wanders into the depths of this Melvillian conundrum which uses the swarm's motion to juggle the interplay between thinking and instinct.

Ishmael's cognitive comparison of the Right Whale and the dog raises queries about the difference between instinct and thinking, a juxtaposition that has long stood in favor of thinking's value over that of instinct. Although the categories of land, sea, human, and animal appear to be classifications in "Brit," they, like thinking and instinct, also resist an all-consuming categorization. Where there seems to be difference there is an ever-present similarity, yet that similarity seems bewilderingly distinct when expressed by the variety of life found on earth. Foucault explains the issues that arise out of compiling similarities and differences via classification, explaining "when we establish a considered classification, when we say that a cat and a dog resemble each other less than two greyhounds do, . . . what is the ground on which we are able to establish the validity of this classification with complete certainty?" He also asks, "on what 'table', according to what grid of identities, similitudes, analogies, have we become accustomed to sort out so many different and similar things?" (xix). Duquette explains that Ishmael's bewilderment at the similarities and differences between instinct and thinking results from representational failure: "any idea of the whale that might be captured by a system of cetelogical representation is wholly inadequate" (35). This same categorical failure pervades the unsettling that Melville enacts, through Ishmael, as he ultimately proclaims that instinct and thought are either one in the same or too variable to meaningfully distinguish. What begins as a peaceful swarm as the *Pequod* pursues a mesmerizing jet in

the distance devolves into a body of thoughts on human knowledge and animal instinct that keep anything but a serene pace with the surrounding "meadows of brit" (*MD* 6:272). On the contrary, the pacing, or movement, of the chapter's thoughts increase to a crescendo that forecasts the attempt to unify thoughts and differentiate them from instinct as only unified in their unraveling movement.

Ishmael's curiosity about the Right Whale's instinct prompts him to ask what "some old naturalists" (*MD* 6:273) truly know when they argue that every animal on land has its counterpart in the sea. Ishmael admits that generally speaking, perhaps on the basis of physical traits, this may be true, but, when "coming to specialties," no fish possesses the "disposition" of a dog (*MD* 6:273). Here lies the heart of the conundrum. Human thinking does not contemplate the distinctions made by the classifications "instinct" and "disposition," for the nature of instinct suggests an animal responds to its environment by some innate, reactionary impulse. While disposition indicates an individuality of mind, meaning an animal, through their own unique makeup, actually performs the task of living based on purposeful individuated actions. However, confoundingly, what the dog possesses the fish cannot possess because they are different. So, the dog and fish can have dispositions, something akin to a personality, but their disposition cannot cross species lines. And, really, the dog's disposition is better because their instinct is not the same as the whale's or the fish's. But didn't the naturalists say that all land animals have counterparts in the sea? How is this possible if one animal (the fish) cannot have what the other (the dog) has but both possess a "disposition" or an inner life? Thinking loops around this conundrum. To claim a dog and fish are different internally without exploring that internal experience suggests nothing about their disposition and

everything about humans': it is human *instinct* to dismiss some animals as merely instinctual, non-thinkers, not our deep thinking that considers them so.

In classifying animals, humans reveal that our thinking hurtles toward conclusion with an instinctive leap to assumption because we do not yet possess the ability to explain thoroughly *why* the dog is or is not like the fish and vice versa. Foucault frames this issue in terms of Natural History's goal to "unite in one and the same operation what everyday language keeps separate," so Natural History desires to unite the dog and the fish as instinctual *and* in possession of a disposition, but the classificatory language used to describe them also keeps them separate (138). Melville's thinking moves fitfully around this conundrum. Ishmael adds to this unnatural separation when he says, "landsmen" have always believed animals of the sea are "regarded with emotions unspeakably unsocial and repelling" (*MD* 6:273). Ultimately, Ishmael believes this is an impossible conclusion, a representational failure; it cannot be verified. Nevertheless, he explains that, although we already know the sea is "an everlasting terra incognita," we continue to trust that our "science and skill" will solve all mysteries and we disregard that our creations are really the design of "baby man" (*MD* 6:273). In reality, despite our best efforts, the sea will always "insult," "murder," and "pulverize the stateliest, stiffest brigade [humans] can make" (271). Yet this is not what human thinking chooses to remember; instead, human thinking employs "the continual repetition of these very impressions," meaning the impression of our success over nature, our ability to state precisely what nature is, so that we continually forget "the full awfulness of the sea which aboriginally belongs to it" (*MD* 6:273). In this way, Melville believes thinking avoids its inherent conundrum by moving on a continuous, uninterrupted rotation, like a record

stuck on the same verse spinning endlessly in the mind and generating an impossible "coolness and calmness" (*MD* 6:563).

At this point, we have moved with the thoughts on Melville's pages. We felt we transcended with the swarm of brit, we thought we knew the beasts of the sea, we learned they are actually not the same as those on land, especially those we have spent centuries domesticating, and we arrive not at a fleshing out of the disposition we misunderstand but at a looping back to the assumption that knowledge made with "science and skill" can tame a sea, its creatures, and even minds. Melville's looping conundrum recognizes that that same knowledge already proves taming (or knowing) thoughts, knowledge, animals, and the sea is impossible. We use the "continual repetitions of these very impressions" (*MD* 6:273) of established knowledge, such as animals operate by instinct and not thought or the sea is tamable and knowable through skilled science, by using our instinct for ignoring the alternative that the sea, animals, and even humans are really "an everlasting terra incognita" (*MD* 6:273). Iain D. Couzin's study on collective cognition (another term for swarm intelligence) in animals, specifically how swarms or flocks move collectively, explains that groups of animals can demonstrate "collective memory," allowing them to repeatedly move as a unit (37). Couzin's point applies to the human thinking that Melville disrupts in "Brit." Essentially, humans' "collective memory" of knowledge influences thinking despite the fact that many of us do not have memories of that original knowledge's production. Thus, "the stateliest, stiffest brigade [humans] can make," meaning both the literal ships we build and the "naturalist" knowledge we maintain, will succumb forever to the "full awfulness of the sea" *because* our thoughts lead to impressions of permanently settled and unwaveringly accurate knowledge. To

transcend with the swarm of brit is not to know all but to know that we do not know anything. The swarm's effect is an unraveling unity, a body that always faces scattering and that only seems to unify because of that scattering.

In hardly two pages, "Brit" fakes transcendence, insults humans and their façade of certainty, and celebrates the sea for its remorseless violence and unknowability, but the chapter's conclusion does what human thinking will always do if it mirrors the animals – it keeps moving. Melville strives to abolish the human loop back to established sets of human knowledge, knowledge that leads to conundrums, despite knowing that looping's inevitability. But, thinking in this way is violent and terrifying. Via his narrator, Melville thinks about the sea's disposition, and that thinking moves with an animalistic violence as it works to break the thinking loop: "Like a savage tigress that tossing in the jungle overlays her own cubs, so the sea dashes even the mightiest whales against the rocks, and leaves them there side by side with the split wrecks of ships. No mercy, no power but its own controls it. Panting and snorting like a mad battle steed that has lost its rider, the masterless ocean overruns the globe" (*MD* 6:274). The ocean prompts thoughts that move with the disloyalty of a tigress and the unreliability of a riderless steed because doubt in our own knowledge makes thinking terrifyingly unreliable. This possibility "overruns [*our*] globe," a metaphor for the human mind, and now the entirety of the sea is a swarm, forever propelling thoughts into the unknown space of endless motion.

In the concluding paragraphs and engulfed in the sea's swarm, readers are ready to "consider," a word of thinking, pondering contemplation. So, with Ishmael, we consider how elusive thinking and knowledge really are:

> Consider the subtleness of the sea; how its most dreaded creatures glide underwater, unapparent for the most part, and treacherously hidden beneath the loveliest tints of azure. Consider also the devilish brilliance and beauty of many of its most remorseless

> tribes, as the dainty embellished shape of many species of shark. Consider, once more, the universal cannibalism of the sea; all whose creatures prey upon each other, carrying on eternal war since the world began (*MD* 6:274).

Within these considerations are another series of conundrums: how have our thoughts led us to believe the sea can be both subtle and treacherous? Are those conclusions an illusion or reality? Are they knowledge? These conundrums mirror the animals. For example, the sea's subtly resides in its ability to conceal its most lethal animals under beautiful water, and this camouflage extends to those animals as sharks appear outwardly slender and delicate, yet they house lethal force within their jaws. Within this world, too, these animals kill one another and carry on everlasting combat. This sounds much like the way classificatory thinking and knowledge function; they can appear subtle and even insignificant, but their unstable distinctions are also lethal. Thoughts generate versions of the truth compiled out of fabricated distinctions that prompt human desires to build ships, enslave other humans, and pursue animals for human gain. However, other thoughts, thoughts like Melville's, swarm and unravel these supposedly acceptable thoughts, and we cannibalize each other's words in a fierce battle of swarming thoughts as knowledge tries to progress towards truth.

Cannibalized words return us to Babo and the redactions appearing at the conclusion of "Benito Cereno." These redacted words emulate human thinking moving between thought and knowledge and considering the truth of the events that occurred aboard the *San Dominick* by picking and choosing which thoughts should become truth. Again, thinking moves in a deceptively smooth rotation, implying that the mind's thoughts are clean and clear enough to parcel into units of fact and fiction, that memory does not muddy thinking. Delano's version of the truth, a version dependent upon this

clean, smooth classificatory thinking, especially demonstrates Melville's swarms' unsettling power. Although Delano is very unlikely to be enlightened by the swarm, Melville's readers achieve enlightenment through the counter-effect of Delano's assumptions, specifically those that animalize slaves, and through Babo because Babo's thoughts unravel the racially motivated thoughts that dominated nineteenth-century American society. Each swarm example further unsettles established knowledge about slaves and animals by intricately ungrouping supposed knowledge that classifies them as inferior and, in Delano's words, "too stupid" (BC 9:75). In the narrative movement of "Benito Cereno," we see Melville's thought process at work as he swarms readers' minds with the possibility of the slaves' intelligence as superior precisely because they, and ultimately their thinking, move with swarming animals.

In addition to Georges Cuvier's work on fishes, his *Animal Kingdom* also demonstrates the scientific racism that classifies humans and influences thinking, like Delano's, during the nineteenth century. Again, the title speaks to the issue of classification because it follows suit with the notion that beings and thoughts can be precisely organized ("arranged") and conclusive ("conform[ing]"). Cuvier embraces this conclusive precision throughout his work, and a section from his first volume, *Class Mammalia*, specifically the "Order Bimana" (or "man"), describes three races whose classification he initiates by delineating color: 1) Caucasian (fair), 2) Mongolian (yellow), 3) Negro or Ethiopian (black). The Caucasians and their features are portrayed as "distinguished," "beautiful," "perfect," "remarkable." Their actions have generated "the most civilized nations" who "have most generally exercised dominion over the rest of mankind." The Negro, on the other hand, (ranked below the Mongolians who are

ranked below the Caucasians), is distorted with "wooly hair, compressed cranium, and flattish nose." Their lips receive special attention and are described as so "thick" that they resemble "the monkey tribe." He concludes, "the hordes of which this variety is composed have always remained in a state of complete barbarism" (97). Not only does Cuvier classify black people as monkey-like, but he also perpetuates conceptions of their supposedly barbaric intelligence. In other words, the animalization of slaves classifies them as less intelligent, less civilized, and less human.

Melville's animalization, though, is not the negative, dehumanizing process supported by his contemporary. Rather, in animalizing the slaves, Melville produces a counter-effect to classification that stipulates animalization as a marker of superior thinking. This counter-effect allows him to escape the looping conundrums of previous examples because he does not view animalization as classification. As a result, Babo is animalized not just as a bee but as an entire hive, and Melville explicitly locates the hive in Babo's mind. Babo's thinking, then, is almost always moving, granting him the supreme mode of thinking in the story because he can unravel the flawed knowledge that perpetuates the traditional animality of the slave/master dichotomy. Wilson argues that Melville's whales depict "other forms of animality [that] provide a standard of nobility for humans" (144). In addition to Babo's hive, the many swarming animals that Melville uses to describe the slaves' thinking and their movements recommend a similar standard. Delano, on the other hand, never succumbs to the swarm's unraveling – his thoughts remain stationary – because his repeated comparison of slaves to animals represents traditional classificatory thinking that assumes slaves are animalized objects. Paola Cavalieri notes the derogatory use of "the animal" that Delano adheres to: "animality is

the pole that sheds its negative light on whoever is to be derogated," and "historically, the subjugation of human beings has been usually coupled with their 'animalization'" (4).

Captain Delano's animalization is disparaging in Cavalieri's use of the term because he animalizes to justify his objectification and subjugation of the slaves. For instance, after being aboard the *San Dominick* for some time and feeling uneasy about the activities there, Delano sees his little boat, *Rover*, approaching, and he thinks, "that boat, *Rover* by name, which, though now in strange seas, had often pressed the beach of Captain Delano's home, and, brought to its threshold for repairs, had familiarly lain there, as a Newfoundland dog; the sight of that household boat evoked a thousand trustful associations" (BC 9:77). Later, we learn Captain Delano views the slaves similarly, "not philanthropically, but genially, just as other men to Newfoundland dogs" (BC 9:84). By comparing the boat, *Rover*, and then the slaves to Newfoundland dogs – a breed known for their loyalty, swimming skills, and black coat – Delano's animalization is proven to be one of subjugation and objectification. The Newfoundland relays a sense of loyalty and trust which both faithful companions (slave and dog) bestow upon their masters. Boggs calls this animalization an example of "embodied animality" where humans engage in an "animalization of human bodies" in order to maintain the representational system that prioritizes human subjectivity via "the abjection of animalized nonsubjectivity" (101). In the context of Delano's thoughts, human subjectivity is white subjectivity, so if the boat is an object further objectified by its relation to the dog, then both are subjugated through their "animalized nonsubjectivity," and the slave is even further objectified because their subjectivity is an "animalized nonsubjectivity" possessed by an actual object (the boat). On the surface, because Delano can only see the surface,

Melville wants us to apprehend the derogatory version of animalization, but because he really favors animalization's counter-effect. Animalization actually shows the thinking animal's power and reverses long-held assumptions about race-based knowledge and anthropocentric knowledge.

My notion of Melville's counter-effect is akin to Christopher Freeburg's argument for "blackness" in "Benito Cereno." Freeburg claims that Melville generates master/slave narratives as subject/object performances to emphasize that the slaves' enactment of their "subjection" is never complete because masters can never "transform humans into objects" (95). So, even though Delano casts the slaves as both dog-like and even boat-like, his objectification is ultimately impossible, and this is why his mind "swarmed with superstitious suspicions" (BC 9:96); he cannot make his versions of knowledge match the possibility of revolt occurring before him. Freeburg adds, "'Benito Cereno' allows readers to see the slaves' performance as *a ruse of objectification* that render all narratives of absolute power incoherent" (emphasis in original, 95). Melville's animalization in its pejorative sense is also a ruse, just as his mockery of hierarchy was a ruse in "The Encantadas," and this exposes Delano's behavior as the story's conundrum, the first conundrum that Melville actually knows the answer to. Delano's mind "swarmed with superstitious suspicions" (BC 9:96) because he faces what he perceives to be a conundrum: how could a slave possibly take control of a ship? Delano cannot fathom an autonomous, intelligent, human slave who could masterfully execute a revolt.

Delano will never comprehend Babo's capabilities as a thinker, but Melville's animalization counter-effect allows readers to think about how movements reveal the human in the slave and the animal in the human. His initial recognition of these

movements set the stage for the movements to come where human, animal, and thinking move collectively as an unsettling swarm. For example, about the ship Delano sees "a slumbering negress . . . lying . . . under the lee of the bulwarks, like a doe in the shade of a woodland rock" (BC 9:73). Her infant, in Delano's eyes, appears as a "wide-awake fawn" with "its hands, like two paws, clambering upon her; its mouth and nose ineffectually rooting to get at the mark; and meantime giving a vexatious half-grunt, blending with the composed snore of the negress" (BC 9:73). Delano assumes this scene is one of "naked nature" where the slave woman is like other "uncivilized women" "unsophisticated as leopardesses; loving as doves" and where the infant functions as a metamorphosing thing shifting from fawn, to pawed-beast, to rooting pig, and finally grunting animal, and this animalization comforts Delano (BC 9:73). Building upon Jonathan Elmer and Cary Wolfe's discussion of subject positions, Boggs might label this scenario where Melville uses a "metaphor to liken a human being to an animal" as an example of the "animalized human who is treated to the same kind of abject suffering as the animalized animal" (113). Delano is comforted because he casts the animal and the slave as inferior, so to see the slave woman and her child as animals confirms her inferiority, rendering her nonthreatening and vulnerable to abuse. But, by creating an alliance between the way the slave woman interacts with her child and the way an animal might interact with their offspring, Melville determines that the alliance between human and animal depends upon a type of movement apparent in the animal-like gestures the slave mother displays. Through the counter-effect of Melville's animalization, the more animal-like the mother and child are in their movements, the more powerful and less vulnerable they become.

Melville extends his counter-effect to thinking as he introduces the slaves' swarming nature. For example, when Delano notices the *San Dominick* does not have any boats other than "the unseaworthy old hulk of the long-boat" which, also animalized, is "warped as a camel's skeleton in the desert," he finds a group of slaves taking cover underneath it (BC 9:81). To Delano, the boat appears a

> subterraneous sort of den for family groups of the blacks, mostly women and small children; who, squatting on old mats below, or perched above in the dark dome, on the elevated seats, were descried, some distance within, like a social circle of bats, sheltering in some friendly cave; at intervals, ebon flights of naked boys and girls, three or four years old, darting in and out of the den's mouth. (*BC* 9:81)

Bats are swarming animals, and their mention here foreshadows a much larger and more violent swarm to come. Melville's foreshadowing also serves the larger prediction he makes about swarm intelligence, a focus of contemporary animal studies. But, importantly, the slaves-as-bats are portrayed as "a social circle," which suggests they are communicating in a manner lost on Delano. Melville captures their communications in their movements; the adults sit on mats or roost deeper within the downturned boat, evoking an eerie image of silent, still surveillance. The children dart to and from the boat entrance, moving with a subtle coordination that their adult counterparts will soon mirror.

The slaves reveal the thinking animal's power if humans are willing to embrace their animality. And, one way we might do this is through a greater understanding of swarm intelligence. Contemporary scientists continue to explore the power of swarm intelligence (SI) as it occurs among humans, animals, and insects. Jens Krause, Graeme D. Ruxton, and Stefan Krause define SI as possible when "two or more individuals independently, or at least partially independently, acquire information and these different packages of information are combined and processed through social interaction, which provides a solution to a cognitive problem in a way that cannot be implemented by

isolated individuals" (29). Couzin explains that ants, for example, function as mobile neural networks like neuron pathways connected by synapses in the brain. "Moving ants," he says, "can excite individuals with whom they come into contact . . . If an inactive ant is excited above a threshold . . . , they change state and start moving, thus becoming excitatory themselves. Activity, therefore, can spread across the colony" (Couzin 39). Melville's portrayal of the slave revolt led by Babo is a prime example of SI because of the cascade effect the slaves' movements have on one another.

For example, as Delano finally makes a move to leave the ship, he notices the slaves still seemingly peaceful at work. He "saw the oakum-pickers still gravely plying their fingers; and heard the low, buzzing whistle and industrial hum of the hatchet-polishers, still bestirring themselves over their endless occupation" (BC 9:96). The slaves' movements reinforce what Delano assumes their movements should – endless, contended toil. However, as soon as Cereno leaps to Delano's boat, the revolt comes to violence and Babo attacks Cereno with a dagger, which triggers activity that spreads across the "colony" of slaves. In response to Babo's move, "the whole host of negroes, as if inflamed at the sight of their jeopardized captain, impended in one sooty avalanche over the bulwarks. All this, . . .occurred with such involutions of rapidity, that past, present, and future seemed one" (BC 9:98). After subduing Babo, Delano and Cereno head towards Delano's ship, and the slaves are seen "thickly clustering round the bowsprit . . . [like] cawing crows escaped from the hand of the fowler" (BC 100). In response to Babo's initial movements, the slaves become a "mobile neural network" and communicate collective action to one another through their movements (Couzin 39).

The final scenes of revolt in "Benito Cereno," despite the revolt's ultimate failure, offer powerful examples of human thinking as animalistic movement. Nineteenth-century views of slaves might easily dismiss these scenes of human animalistic motion with scientific racism, but seeing the revolts and the slaves in this way indulges in the surface appearance of Melville's animalization and misses the counter-effect altogether. By invoking the movements of swarming animals – bats, crows, and even ants – Melville aesthetically produces the effect of moving thoughts which he then masterfully renders in the slaves' movements. Not only do these images conjoin human and animal thinking, but they also unravel pre-conceived notions about animals and slaves as inferior brutes. The swarm allows Melville to show alternative thinking methods by disrupting the established classificatory thoughts that support a body of knowledge he finds erroneously settled as truth. At the end of the narrative, we are all invited to join the swarm and "follow [the] leader" whose "hive of subtlety" set revolutionary thoughts in motion (BC 9:116-17).

CHAPTER 3

DICKINSON'S ANIMALISTIC FEELING IN ANTI-CARTESIAN THINKING

In the world of Emily Dickinson's poems, all of nature is a mindscape where nonhuman animals partake in and inspire thinking. Through their animated locomotion, her animals "transport"[55] or communicate her thoughts' movement as a material feeling, an imagined physical sensation. The "soft" steps of a "Caterpillar" (Fr1523), the "easy Sweeps" of a "Butterfly" (Fr1107), the nightly sewing of a spider (Fr1163), the "revolving" flight of a hummingbird (Fr1489), the labored drilling of a woodpecker (Fr990), the "slanted" flight of an owl (Fr728), and the "inscrutable" "Arc" of a bat (Fr1408) convey the imagined sensation of thinking's movement: stepping, sweeping, sewing, flying, drilling, slanting, and arcing. By coupling Dickinson's poems that portray animals' intelligent movements with those that depict nineteenth-century debates about the assumed division between immaterial mind and the material brain, her animal poems emerge as some of her most profound thought experiments about the Cartesian divide. In her garden – a microcosm of nature's material network and an intellectual conjurer for thoughts that "dwell out of Sight" (Fr1012) – Dickinson's moving animals possess an unrivaled, corporeal genius. These garden visitors imbue the thoughts running through her speakers' brain and mind with life-like, energetic motion, making thinking both a shared human and nonhuman experience as well as an occurrence in both the mind and

[55] From "A narrow fellow in the grass" (Fr1060); according to the Emily Dickinson lexicon transport means a) Convey; carry from one place to another; [fig.] enrapture; bear away the soul in ecstasy. b) Move emotionally; fill with intense feeling. I use the word in both senses of the term. Dickinson conveys thought's movement through animals' movements, but she also feels moved by the animals' movements.

the brain. With the hummingbirds of "Within my Garden, rides a Bird" (Fr370) and "A Route of Evanescence" (Fr1489), the woodpecker of "His Bill an Auger is" (Fr990), and the spiders of "The Spider holds a Silver Ball" (Fr513), "A Spider sewed at Night" (Fr1163), and "The Spider as an Artist" (Fr1373), Dickinson discovers that the material and immaterial world are deeply intertwined, that mind and brain are united by thinking's movement, and that thoughts do not merely resemble organisms; they are influenced by and attached to them. These animal poems, when read alongside her mind/brain poems "The Brain - is wider than the Sky" (Fr598), "A Thought went up my mind today" (Fr731), and "I felt a Cleaving in my Mind" (Fr867), show how mind, brain, human, and animal are all connected by the animalistic movement of thinking, a movement that she describes as an imaginatively felt mental sensation of material expansion, evasion, and creative union.

Despite the critical recognition that celebrates Dickinson as both a great naturalist and a great thinker, little has been done to read her animal poems as thinking poems. Those who study Dickinson's thinking, like Michael Kearns, historically locate her work among nineteenth-century scientific debates. While others, such as Jed Deppman, analyze her poetry as a mode of postmodern thinking by treating the poems as the "necessary byproduct" of thinking (xxi-xxii). Like Deppman, Greg Sevik also views Dickinson's poetry as "a distinct type of thinking" (26). These critics carefully attend to the frequency of Dickinson's mind, brain, and thought references, suggesting that her emphasis not only bears on her own conception of thinking but also allows her to insert herself into the time's dialogue about the connection between the human mind and brain. Kearns, who considers Dickinson to be a "careful mental scientist" (23), notes that "there are more

than eighty instances of 'mind' in its various forms in the poems" (14). Deppman breaks this number down further: "the word 'thought' occurs a total of 69 times in the poems, 'think' 43, and 'thinking' 6. . . . 'Mind' is used 79 times, usually as a noun, 'minds' 9, 'brain' 26" (31). Dickinson's references to animals prove to be equally if not more extensive. Ferris Jabr, speaking to Dickinson's influence as nature poet, says she mentions animals in her poems nearly 700 times with birds – mentioned 317 times – being her most referenced species. Dickinson's preoccupation with both human thinking and nonhuman animals do not exist independently of one another. Indeed, across the body of her work, she shifts back and forth between the two so frequently that she beckons us to see them in relation, to see her as one *moving* among conjoined human and animal modes of thought.

Counterparts to Melville's thinking pilot fish, tortoises, brit, and right whales, Dickinson's animals are intelligent, independent thinkers, like the spider, a "Neglected Son of Genius" (Fr1373), or the bat, an "elate philosopher" (Fr1408), or the dog, "the best Logician" (Fr370). As we saw with Melville's looping conundrums, the movement of Dickinson's animalistic thinking as a material feeling also responds to nineteenth-century scientific debates. She specifically engages with related debates in mental science and zoology, which both grapple with the Cartesian division between mind/brain and human/animal. In the mental sciences, the relationship (or lack thereof) between the brain's materiality and the mind's immateriality were frequently at the center of scientific arguments. Deppman explains that nineteenth-century New England experienced "mind mania," and critical works like Orestes Brownson's 1844 analysis of Kant in *Brownson's Quarterly Review* indicated that "the rationalist Cartesian 'I think' and the materialist

Lockean 'I am' have both proved inadequate" (210n42). As we also saw with Melville, zoologists were preoccupied with hierarchically arranging species with humans, of course, reigning supreme. For Melville, the Cuvier's particular dependence on taxonomic classification of animals, and even humans, ignited his skepticism and sent his thoughts into looping conundrums that moved with his symbiotic sharks and fish, steadfast tortoises, and swarming right whales, brit, and slaves. Similarly, Dickinson's radical skepticism, a mindset influenced by the nineteenth century's "mind mania" and her exposure to Scottish Common Sense Philosophy and German Idealism,[56] negates the pure rationalism embedded in the Cartesian claim that mind and matter are distinct and unrelated, leading to ambitious revisions of how her speakers think and feel.

In response to the philosophical inadequacy posed by rationalism and materialism, Dickinson adopts a stance that merges the Cartesian "I think" and the Lockean "I am" with a purely Dickinsonian "I feel." She develops her feeling of the mind/brain's thinking as a sensation of moving animals who make thinking material in its ability to expand, elude, and ignite creativity. Gillian Osborne argues that we must begin to view Dickinson's materialism as more than just "the things she wrote on, or the way she wrote" because "materiality is not a problem in Dickinson; it *is* Dickinson. Her work is about how text and material long to become close" (68). Such material longing extends to Dickinson's understanding of nature where her feelings about the natural world and its beings develops as materially and conceptually multifaceted. Christine Gerhardt, for example, suggests Dickinson views the natural world as an "active, feeling" entity (143), and Cody Marrs posits that "Nature's order can certainly be felt" but perhaps not fully

[56] See Kearns's "Emily Dickinson: Anatomist of the Mind" for proponents of both Scottish Common Sense Philosophy and German Idealism who influenced Dickinson's own philosophy of mind.

grasped (207). When these perspectives of Dickinson's nature are combined with views of her thinking, such as Kearns's notion that Dickinson "felt" thoughts as both part of and distinct from the human mind (26), an unusual ideation of feeling and thinking emerges. From nature's own feeling potential and her sense that she could feel a familiar and foreign connection to nature, Dickinson's thinking functions like earth's matter, moving within her mind as objects of matter (i.e. animals) move in the outer world. But rather than convey this feeling as entirely emotional – wonder, elation, confusion, and so forth – she casts thinking as a material sensation that moves animal-like within the mind and brain. Her response to the Cartesian emphasis on the division between mind and matter, then, embraces the brain as an emblem of the material body and the mind as an immaterial entity capable of material interactions. In this paradigm of remarkable materiality, nature's animals portray the movement of her animalistic thoughts as a *feeling*, a physical sensation, that not only materially links mind and brain but also unites human and animal.

Stacy Alaimo's theory for "trans-corporeality" in *Bodily Natures* where the "the human is always intermeshed with the more-than-human-world" (2), helps elucidate how Dickinson's animalistic thinking moves as an imaginatively felt cross-body/mind and cross-species material motion. The movement across the bodies of various species, both human and nonhuman, leads to her speakers evocative, anti-Cartesian conclusions that there is a "Robin in your brain" (Fr604), a "Mountain - in my mind" (Fr666), and a hummingbird who, along with the beloved Carlo, might "bore the Garden in the Brain" (Fr370). By disregarding Cartesian claims for mind over matter, Dickinson joins Melville's opposition to static certainty that rigidly separates human from animal and that

stifles thinking's ability to move in alternative ways. Michelle Kohler explains, "to study Dickinson's engagement with science and its methods . . . is to study her engagement with the broad dismantling of any notion of a stable epistemology or fixed notion of truth" ("Apparatus" 59). Gerhardt similarly suggests Dickinson's resistance to static epistemologies is a pushback against order and "the illusion of ultimate human knowledge and control so prevalent at the time" (66). But it is Richard Brantley who explicitly links this Dickinsonian tendency to Cartesianism when he posits, in *Emily Dickinson's Rich Conversations*, that Dickinson's Romanticism "would have resisted the Euro-continental drift that approximated all Romanticism to Descartes's French-rationalist elevation of mind over matter" (69). Dickinson's trans-corporeal thinking enacts the resistance to order that these scholars highlight through a performance of the mind/brain and human/animal's shared materiality. To feel a robin, mountain, and hummingbird in both the mind and the brain simultaneously withstands the Cartesian dualisms applied to human mental processes and to the human/animal divide, bridging the transferrable, material movement trans-corporeally occurring within human thinking and emitting from nonhuman bodies.

Both Dickinson's education at Mount Holyoke Seminary and her extensive independent reading not only fostered her famous skepticism, but they also provided her with the inspiration she needed to create her undeniably cerebral approach to the Cartesian mind/brain divide. From her Mount Holyoke textbooks, such as Calvin Cutter's *Anatomy and Physiology,* she would have been introduced to current findings in brain anatomy, including its status as a material object within the material body (Baumgartner 55). Her reading would have also exposed her to the many nineteenth-century scientists

who maintained that the mind itself was not material even though the brain was. Ultimately, those who felt the minds' faculties should be prioritized over the brains' functions thought the mind provided a connection to the spiritual while the brain did not. Not until mid-century did scientists begin to consider the mind as *part* of the brain.[57] Prior to this development, however, in neurophysiology, an area of study that coincided with psychological advances, debates about the role of the human mind continued to tread the line between spirituality and reason. [58] Scientists in neurophysiology examined how these forces operated on the intellect, an operation that they would vehemently maintain was *not* material (i.e. the mind is not material). J. Wayne Lazar indicates that in neurophysiology "spirit and intellect . . . shaped notions of mind and consciousness, which, in turn, shaped conclusions about brain function" (343). Ultimately, mid-century neurophysiologists,[59] such as Peter Mark Roget,[60] R.B. Todd,[61] William Benjamin Carpenter,[62] and Alexander Bain,[63] were concerned with whether or not the brain and mind fully functioned together through "psycho-physical parallelism" (Lazar 345). In

[57] Barbara Baumgartner explains that at this time, "the mind was no longer understood as a separate entity but as an expression of the brain and nervous system" (63). This fact is supported by William Alexander Hammond who explained in 1871 that "from all of which considerations the connection between the brain and the mind is clearly made out as any other fact in physiology. The mind differs . . . in being compound; that is, in being made up of several other forces. These are perception, the intellect, the emotions, and the will. All the mental manifestations of which the brain is capable are embraced in one or more of these parts [of the mind]" (327).

[58] Michael Kearns posits that Dickinson worked against the psychology of her time that was founded on Scottish Common Sense philosophy developed by Thomas Reid. This philosophy "held that the human mind was so designed as to develop naturally toward rule by reason and towards a spiritual awareness of God's divine plan" (13).

[59] Kearns has traced Dickinson's connection to neuropsychologists and notes that she would have been primarily exposed to Reid (as stated in the note above); however, the other authors (Roget, Todd, Carpenter, and Bain) were also contributing to the field around mid-century (see citations below).

[60] Roget, *Animal and Vegetable Physiology Considered with Reference to Natural Theology*, Volume 2. Philadelphia, Carey, Lea & Blanchard, 1836.

[61] Todd, *Cyclopaedia of Anatomy and Physiology.* London, Longman, Brown, Green, and Longmans, 1847.

[62] See Carpenter, *Principles of Human Physiology*. Philadelphia, Lea and Blanchard, 1845.

[63] See Bain, *The Senses and the Intellect.* John W. Parker and Son, 1855; and *Mind and Body*, Henry S King & Co., 1873.

other words, neurologists sought physical brain functions that could relate to the mental faculties (such as behaviors) associated with the mind (Lazar 345). However, many neurophysiologists, mental scientists, and psychologists were "unwilling to admit that mind was product of material processes" (Kearns 15). During the time, materialism was akin to physicalism which proclaimed that everything that exists is physical, but this would deny the existence of the immaterial spirituality bequeathed by an immaterial God.[64] Mental scientists like Joseph Haven, Thomas Upham, Dugald Stewart, and Thomas Brown (all of whom, except for Upham, wrote texts available to Dickinson in her family library)[65] fell in the same camp as psychologists like Reid and physiologists like Roget, Todd, Carpenter, and Bain. They all dismissed materialism as a possible solution for the Cartesian divide between bodily brain and disembodied mind. Ultimately, they all understood that the brain and mind were related, but how closely and deeply remained unclear.

In the context of broader nineteenth-century views of animal intelligence, the human/animal divide extends the Cartesian emphasis on the separation of mind and matter: animals are the essence of matter (like the brain), and, as such, they cannot be connected to the human mind or to human thinking. But trans-corporeal thinking is "a descendent of Darwinism," and as such, "insists that the human is always the very stuff of the messy, contingent, emergent mix of the material world" (Alaimo 11). Equipped

[64] Michelle Kohler decsibes the religious implications of an emerging material science: "Particularly in the wake of Charles Darwin's 1859 publication of *On the Origin of Species*, to be learned was not simply to wield facts and specialized vocabulary but to be immersed in their undoing. This destabilization was especially disturbing because science and other academic pursuits were not sharply distinguished from theological ones during much of the nineteenth century. In particular, New England Protestant intellectuals widely embraced natural theologies . . . [which] held that the empirical methods of the scientist could yield both material and spiritual truths" ("Apparatus," 58).

[65] See the Houghton Collection for a detailed record of the books Dickinson had access to at home. https://hollisarchives.lib.harvard.edu/repositories/24/resources/6412

with keen insight, innovative lyricism, and a ravenous intellect, Dickinson did not find the connection between mind and brain to be as mysterious as the scientists proclaimed because she did not view the mind, brain, or thinking as completely distinct or solely human. Julianna Chow expresses this well when she notes, "Dickinson's shrewd awareness and fascination with the minds of other creatures is an understanding of relative consciousness" (419). As noted, Dickinson acquired this understanding both in her garden and in her independent studies. With the 1859 publication of Darwin's *Origin of Species*, mid-nineteenth-century America saw no shortage of works concerning both biological and psychological animal traits. Between 1860-1869 alone a wide range of individuals, from amateur to professional scientists, physiologists, physicians, and even congressmen, released numerous publications concerning animals in one way or another, such as George Henry Lewes's *Studies in Animal Life* (1860), Lewis Henry Steiner's *Animal Magnetism and Hypnotism* (1861), Louis Agassiz's *The Structure of Animal Life* (1866), which figures prominently in Elusive Thoughts, John J. Wood's *Homes without Hands: Being a Description of the Habitations of Animals, classed according to their principle of construction*, John Timbs's *Eccentricities of the Animal Creation* (1868), and Ernest Menault's *The Intelligence of Animals* (1869). While we are not completely certain which texts Dickinson encountered – for example, Jane Donahue Eberwin notes that Dickinson probably never even read Darwin's works (51) – the conversation about animals was everywhere, and she would have been exposed to it even if only secondarily.

Like others writing at the time, Dickinson believed animals possessed an interiority, but they fell in with the many poetic subjects,[66] including thoughts, who

[66] I referred to these poetic subjects in the introduction as "things."

captivated her precisely because they often evaded her understanding. This aspect of animals – the familiar and elusive quality of their apparent yet unknown interiority – is akin to a Dickinsonian thought. Both animal life (or, more specifically, animals' unknown cognitive abilities) and Dickinson's own human thoughts surprised, fascinated, stumped, and inspired her. Chow acknowledges that Dickinson "could never completely know a species that is also a material being because its beginning and end, its many individual constituents, and indeed its very material existence, are in many ways beyond human experience" (432). Aaron Shackleford posits that Dickinson felt animals "possessed an interior language and life" (49), but Marrs notes, though her poems "are utterly replete" with nonhumans, she does not "offer anything more than a mere approximation, an imperfect effort to capture the uncapturable through language" (204). This human remove from animal interiority, though not necessarily remedied in her poetry nor by current more ecologically aware readings, is a consequence of what Bruce Boehrer calls the "crisis of distinctions" (545).[67] As with the Cartesianism of the mind/brain debate, in nineteenth-century America the human/animal crisis perpetuated long-held Cartesian dualisms that aggrandized human reason as a first principle, an innate given in the formula of existence. Humans, in the name of philosophical proof, continued to degrade "the apparent sentience of other animals . . . so that how beasts behaved no longer told us anything about what they thought or felt" (Boehrer 545-46). But Dickinson simply did not believe in the Cartesian divide between human and animal; to her, animals

[67] Boehrer adopts the concept of "crisis of distinctions" from René Girard's theory for "sacrificial distinction" in *Violence and the Sacred* (Trans. Patrick Gregory. Johns Hopkins UP, 1972, p.49). Girard contends that this crisis affects the "cultural order" which is "nothing more than a regulated system of distinctions in which the differences among individuals are used to establish their 'identity' and their mutual relationships" (49). Boehrer, arguing for the relevance of the concept in animal studies, applies the theory to the early modern cultural anxiety about human and nonhuman differences.

possessed a hidden but far superior knowledge evident in their movements. In an 1862 letter to Higginson she said as much: "You ask of my Companions Hills - Sir - and the Sundown - and a Dog - large as myself, that my Father bought me - They are better than Beings - because they know - but do not tell" (L261). "Beings" might be read here as "human *beings*"; her nonhuman companions are better than humans because they hold unspeakable knowledge. And that knowledge, though never fully grasped, emits from a shared human/animal immersion in the material world where hills, sundown, and human-sized dogs know but do not directly tell their understanding. Instead, their movements – the earth's subtle geological shifts, the sun's daily and seasonal rotations, and the dog's loyal yet primal sauntering – provocatively suggest an intellectual universe also present within her thoughts.

Because animals move physically throughout the material world, Dickinson imagines that they provide the key to describing thoughts' material sensation that, with a similar mystery that animals embody, "dwell out of Sight" (Fr1012). In the animals, she sees a shared, dynamic movement between her thinking and their intelligent actions: the animals move like a thought, and she feels these thoughts expand, contract, evade, drill, fly, and weave within her mind and her brain. But this feeling is most alive in poetic form, the ultimate expression of *her* thinking and a medium infused with material movement (e.g. sound, rhythm, rhyme, meter). As a literary form in persistent flux and often referred to in the nineteenth century by the word "thought" (Deppman 30), poetry announces these entanglements more urgently and economically than other outlets, and allows thinking to bridge the material culture of nineteenth-century writing with awareness of the natural world's materiality. In response to Jane Bennett's view of

vibrant materiality, Kohler argues that, like object-oriented ontologists, Dickinson provides "a different try at thinking about matter" ("Ancient" 237). When paired with Dickinson's animals this mental-meets-textual materiality "smudges to the point of erasure the separation of natural object and perceiving subject" (Kuhn 160), allowing her to imagine the "alternative subjectivities" of animals (Boggs 203). Species merge bodily and mentally as "many, mutable, and evolving" (Chow 417); their thinking moves together in the "entangled territories" of trans-corporeal modes of thought (Alaimo 3). Not divided along a Cartesian line, human and animal move together, trans-corporeally uniting with one another in the outer material world and in the inner materiality of thinking.

Expansive Thinking: The Reeling Hummingbird of the Wide Brain

In John Haven's 1881 publication *Mental Philosophy*, he describes the prominent nineteenth-century view of the relationship between dominant mind and subordinate brain. Chapter 2 of his "Supplementary Topics" details how the brain corresponds with the mind in sleep, dreams, somnambulism, and insanity. For an individual in the throes of somnambulism, the mind's thoughts move by a will of their own, yet that will is divorced from the body even though the body clearly moves:

> In sleep . . . the mind, however, is still active, and the thoughts are busy in their own spontaneous movement. To this movement, the brain and nervous system respond. That the brain itself thinks, that the nerves and muscles act, and the limbs move automatically, without the energizing activity of the mind, is a supposition purely gratuitous, inconsistent with all the known facts and evident indications of the case, and at war with all just notions of the relation of body and mind. (360)

Dickinson's skeptical thinking welcomed a war with "known facts." In her 1862 poem "Within my Garden, rides a Bird" and her 1863 poem "The Brain – is wider than the Sky -," the brain most certainly thinks with an expansive movement. The Dickinsonian brain

need not rely entirely on direction from the mind because its materiality is part of the growing, changing material world. As such, the material world infuses the brain with the potential to expand thinking beyond its own material limits, allowing the brain to achieve the same "energizing activity" of movement that Haven attributes to the mind. Yet, scientists like Haven inherited what he calls a mind over matter "doctrine of representative perception" that extends issues of brain/mind relations to the natural, outer world. Haven struggles to understand "how a purely spiritual existence, the human mind, can, by any possibility, take cognizance of, or be affected by, a purely material substance, the external world" (35). In other words, he cannot conceive of how an immaterial mind accounts for the external, material world. But, as Kearns notes, Dickinson gave questions of mental philosophy a "decidedly material twist" (13), and in doing so she allows the brain's thinking to move interchangeably with the mind's thinking. Instead of placing them in opposition, Dickinson's brain resolves issues of materiality that the scientists' mind cannot reconcile *because* the brain is material. In this way, the brain possesses the ability to generate moving thoughts that feel like a profound sensation of expansion, reaching the breadth of the sky and ocean and reeling with a hummingbird into "remoter atmospheres."

The brain's status as part of the physical body allows the modern reader, aware of traveling synapses in the brain, to more easily imagine it as full of moving thoughts. However, for a nineteenth-century thinker like Dickinson, who predated modern brain-scanning technology by many years, this movement was imaginatively felt as a material sensation. In the outer material world, she observed natural, material phenomena – an expansive sky, an overflowing ocean, and a flying hummingbird – that articulated the

brain's material motion of thought. Other poems help elucidate this point as well. For instance, she marks the brain's "Material Place" by its "Corridors" in "One need not be a Chamber – to be Haunted" (Fr670).[68] The brain's materiality takes shape as a chamber's corridors which conduct other bodies, or thoughts, to and from other rooms. Kearns posits that this poem demonstrates Dickinson's "often-*felt* conflict between body and mind" but, unlike mental scientists, she does not prioritize one over the other (emphasis mine 23). Indeed, when one encounters "ourself behind ourself," it is "the Body" who seems to act; that is to say it is the brain, with its material corridors full of movement, who acts and whose thoughts are *felt*. In other instances, Dickinson's brain and its thoughts can be felt as fitting within a groove ("The brain within its groove" (Fr563)), falling out of something like a hand or skull ("I've dropped my Brain" (Fr1088)), even being set free to roam ("If ever the lid gets off my head" (Fr585)), or opening up for

[68] One need not be a Chamber — to be Haunted —
One need not be a House —
The Brain has Corridors — surpassing
Material Place —

Far safer, of a Midnight Meeting
External Ghost
Than its interior Confronting —
That Cooler Host.

Far safer, through an Abbey gallop,
The Stones a'chase —
Than Unarmed, one's a'self encounter —
In lonesome Place —

Ourself behind ourself, concealed —
Should startle most —
Assassin hid in our Apartment
Be Horror's least.

The Body — borrows a Revolver —
He bolts the Door —
O'erlooking a superior spectre —
Or More —

viewing ("Could themself have peeped - / And seen my Brain – go round" (Fr445)). Sometimes the brain is possessed by an "I" and at others it is an entity all on its own.[69] Within the brain, thoughts can fuel the pathways of memory as well as the experience of unraveling sanity ("That first Day's Night had come –" (Fr423)). Thoughts can also embody the last felt glimmer before death (F340 – "I felt a funeral in my brain"). These are all features of Dickinson's brain where thinking has the imaginative potential to be both embodied and felt through its movements. The brain's physical features of fitting within, falling out, being set free, and being opened extend to thinking for it is the movement of *expansive* thinking that makes these imaginative possibilities conceivable.

Dickinson famously articulates the expansive nature of the brain's materially felt thinking in her 1863 poem "The brain is wider than the sky" (F598). In this poem, she expresses the movement of the brain's thoughts as expansive by way of nature's material width, depth, and weight.

> The Brain - is wider than the Sky -
> For - put them side by side -
> The one the other will contain
> With ease - and You - beside -
>
> The Brain is deeper than the sea -
> For - hold them - Blue to Blue -
> The one the other will absorb -
> As Sponges - Buckets - do -
>
> The Brain is just the weight of God -
> For - Heft them - Pound for Pound -
> And they will differ - if they do -
> As Syllable from Sound -

[69] According to Kearns, "the mind, as Dickinson portrayed it, can operate independently of the executive self, or 'I.' Contrary to the established psychology of her time – which was based on Scottish Common Sense philosophy developed by Thomas Reid" (Kearns 13)

Most critics agree that Dickinson's comparison of the brain to the "sky," "sea," and "God" all indicate that she seeks to describe the brain's enormity (an enormity that surpasses its physical confines) while also challenging debates of materiality, immateriality, and divinity. For example, Kearns explains that despite the metaphorical agenda of the first two stanzas, "the brain—the physical organ—is where meaning is made (syllables are distinguished); the poem is not just about the power of the human imagination but explicitly critiques orthodox psychology's privileging of mind's immateriality" (21). Baumgartner similarly states, "this cerebral organ is described in Dickinson's poem as exhibiting boundless capacity (unimaginable width and depth) while simultaneously being material through its weight" (62). Both readings indicate Dickinson's focus on the brain's materiality, particularly in the third stanza where mention of "weight," "heft," and "pound[s]" contribute to the brain's material size.[70] But there must be something more than the brain's simple material appearance offered by Dickinson's anatomy textbooks that makes the brain capable of widening farther and further than the sky, diving deeper than the sea, and weighing more than God. If the brain does think, then certain types of thoughts – those that *expand* the normal horizons of knowledge, such as the brain can think like the mind – must be capable of imagining such a wide, deep, heavy brain. In a late letter to Higginson about grief, Dickinson expresses that "it is solemn to remember that Vastness - is but the Shadow of the Brain that casts it" (L735). Here she figures the brain's unique capability to expand. The brain casts a shadow because it is physical and material and such objects cast shadows when positioned against light. But this "Vastness" also suggests the brain conjures this shadow

[70] This stanza also challenges immateriality as directly linked to the spiritual aspects of the mind. By making God materially weighted, the mind within the brain, too, becomes materially weighted.

– it thinks the shadow into existence and exacerbates mental states like grief. And, the level or "vastness" of that grief depends on the particular brain which casts the shadow of vast, weighty, and morose thoughts. In this way, the brain and its thoughts are dependent on a material existence which allows Dickinson to impart upon them a movement that is reflected, in this case, by light.

Within the first two stanzas, implied thinking takes on the enormity of two of nature's most visually endless creations: the sky and the sea. As the poem moves from sky, to sea, to the weight of God, the shifts take on increasingly expansive forms. In the first stanza, the brain's range spans the width of the sky, an entity we can identify as both materially endless and full of material interactions (i.e. shooting stars, a moving sun, a phasal moon). Dickinson would have reached conclusions about the sky's material interactions as a result of advancements in cosmology. New technology like improved telescopes allowed nineteenth-century scientists to see "farther and farther into the universe" (Peel 250). This new sight contributed to poems like "We grow accustomed to the Dark -" (Fr428) in which Dickinson explores "Those Evenings of the Brain." Like "The Brain - is wider than the Sky -" such poems link the brain with the universe's apparent material existence and contribute to what Mark Noble figures as "an attempt to rethink the human in material terms" (6). This view of material human "lends us the possibility of sensation and cognition" (Kearns 11). By merging these materialisms within this poems, Dickinson again displays "interpenetrating thoughts and things" (Brantley 79) through the sensation of thinking. Thoughts in "The Brain - is wider than the Sky -," move like material interactions in the sky. Thoughts achieve a material expanse as wide as the sky because Dickinson imagines them as moving materials in a

material brain. If we hold the brain against the sky, the brain proves to be big enough to easily contain the endless sky and "you," the reader, another thinking brain engaging with the expansive thinking brain at the center of the poem.

In the second stanza, the brain is capable of holding more than the sea for it is far deeper. When someone compares or "hold[s] them – Blue to Blue," the brain will absorb all of the sea, first, as "sponge" and then as "buckets" do. These items – sponge and bucket – stand in as containers for the brain's depth; the implication being that the brain is absorbing a sea's worth of something. That something is a material actant in the brain: thoughts. The brain thinks of the sea's depth as its own depth and in doing so it absorbs more and more thoughts, so many thoughts that a sponge won't contain them all; we need buckets. But this need for sponges and buckets suggests the brain's thoughts are felt; they are of the sea's consistency – filling and overflowing anything that attempts to harness them. Kearns says, "the third [stanza] arguably shifts to metonymy, as the human brain can literally be weighed" (21). The third stanza's emphasis on weight, though, does not constitute Dickinson's only insistence on the material relationship between the brain and its thoughts. By involving the sea's material, liquid consistency, Dickinson invites us to image the sensation of sponges filling, going from dry and brittle in our hands to full and plump, noticeably heavier and denser. The same is true for the buckets; the ocean would need countless buckets to hold its contents, and those buckets would be so full that they'd be impossible to carry. Through nature's material expanse, Dickinson conceives of both the brain's metaphorical significance as well as its physical measurements, a material mashup that causes thoughts to expand to the sky's width and the sea's depth.

The brain is now massive, and its thoughts infinite, and yet the one element tethering it to the earth where these natural metaphors originate is the poem itself. Dickinson calls attention to the poem's role in the final stanza when she writes that the brain and God's weight "will differ - if they do - / As Syllable from Sound." Poetic words alone possess the force needed to both provide the brain its expansive features as well as reign it into a readable form of thinking. If it were not for the words expressed in the poem, the thinking the poem enacts would not be comprehensible. She suggests that understanding the difference between "Syllable" and "Sound" supports our ability to think about the differences between the weight of God and the Brain: the weight of thoughts themselves are "just the weight of God." In the brain, God's weight becomes material; he is no longer the immaterial essence of the mind, but he does remain the figment of thought. It is thoughts alone that create him and thoughts that *feel* his weight, his potential for existence, or the burden of his fiction. These lines are Dickinson's reminder that "it is solemn to remember that Vastness - is but the Shadow of the Brain that casts it" (L735).

Dickinson wrote the 1863 poem "The Brain - is wider than the Sky" within a year of writing her first hummingbird poem "Within my Garden, rides a Bird" (Fr 370) in 1862. The expansiveness that she attributes to the brain in the later poem – "The Brain - is wider than the Sky" – appears in the hummingbird poem as "remoter atmospheres" surrounding "the Garden in the Brain," implying that the animals may have actually led to her greater appreciation for nature's expansive, brainy qualities. One of two hummingbird poems, the bird featured in the 1862 poem embodies a "Wheel" constantly turning and moving in much the same way we use the wheel to metaphorically represent

the movement of constant thinking. As with “The Brain - is wider,” the natural world of the garden, a material place just right outside Dickinson’s door, acquires both a mental and bodily materiality conveyed by thinking and the movement of natural elements, which, in this case, is the tiniest of birds on earth. This tiny bird’s movements are so perplexing that they prompt Dickinson’s speaker to turn to her dog, “the best Logician,” for guidance. While the human speaker can articulate the bird’s presence and movements, she admits that her eye is “clumsy.” She must rely on the dog to understand the Garden being born in her brain by the bird, the embodiment of her moving thoughts. In this way, canine and avian intelligence prove superior to human comprehension, and the human speaker, “a trans-corporeal subject” successfully “relinquish[es] mastery as they find themselves inextricably part of the flux and flow of the world that others would presume to master” (Alaimo 17). Her relinquishment to bird and dog pushes the limit of knowledge about material animality and again expands the brain’s thoughts upward and outward into the sky while simultaneously blending the brain powers of bird, dog, and human:

> Within my Garden, rides a Bird
> Upon a single Wheel -
> Whose spokes a dizzy Music make
> As 'twere a travelling Mill -
>
> He never stops, but slackens
> Above the Ripest Rose -
> Partakes without alighting
> And praises as he goes,
>
> Till every spice is tasted -
> And then his Fairy Gig
> Reels in remoter atmospheres -
> And I rejoin my Dog,
>
> And He and I, perplex us
> If positive, 'twere we -
> Or bore the Garden in the Brain

This Curiosity -

But He, the best Logician,
Refers my clumsy eye -
To just vibrating Blossoms!
An Exquisite Reply!

The ruby-throated hummingbird, the only East coast, summer species in North America, is the bird Dickinson describes moving from the outer garden of flowers to the inner garden of the brain's thoughts. Their seasonal appearance up and down the East coast remains a popular occurrence today. The birds are not rare, and Dickinson was not the only one to regard the hummingbird as an intelligent being of extraordinary motion. Robin Peel, for example, makes the connection between this poem and a June 1860 article entitled "The Humming-Bird" in the *Atlantic Monthly*. Peel uses this article to propose Dickinson's investment in science, particularly the "language of close analytic observation" (321). Yet, an even more prominent feature of the article is its repeated comparison of the hummingbird to moving thoughts. Written as a letter from one woman to another (Susan to Estelle), the writer, Susan, details the first hummingbird to arrive in her garden. She first acknowledges the bird's "wise prescience" for knowing precisely when the "very first Japan-pear-bud opened" (659), and from that point forward, nearly every reference to the bird is coupled with a reference to thinking. The pairing of bird and thought repeatedly hinges on the bird's movement: "other birds fly: he darts quick as the glance of the eye,—sudden as thought, he is here, he is there" (659); "how stumbling and heavy is the flight of the 'burly, dozing bumblebee,' beside this quick intelligence" (659); "it is as if the winged thought could be domesticated, could learn to make its nest with us and rear its young" (660). Finally, she admits that humans are "slow in word, slow in thought!," but "look at this quivering flame, kindled by some more passionate glance of

Nature! Next to man? Yes, we might say next above" (660). The writer also criticizes those who say "birds are limited" and asks "who are we that set bounds to this direct knowledge" (660). Indeed, the hummingbird is noted as a very intelligent bird. As Noah Strycker says in *The Thing with Feathers* (a title taken straight from the Dickinson lexicon), hummingbirds "may have the largest brain size, relative to body mass, of any bird in the world" (93). While Dickinson and the anonymous writer of "The Humming-Bird" may or may not have known this fact about the bird's brain, they were both attuned to the expansive impact the bird had on their brain's thinking as they watched the bird in motion.

The verbs that mark the bird's movement occur rapidly throughout the first half of the poem: "rides," "stops," "slackens," "praises," and "reels." As Thomas H. Johnson notes, the poem "is an attempt to suggest motion" (201-2), and each word here conveys the unique, accelerated movement and intelligence of the hummingbird. The bird hovers with rapid, circularly rotating wings that move so quickly the human ear hears "a dizzy Music" made by the bird's wings, as if it were "travelling Mill," and the human eye sees only a blur like the "spokes" of a "single Wheel" in motion. Hummingbirds[71] are incapable of walking or hopping due to such tiny, weak legs and their food sources are often positioned without anywhere to perch, so they rarely "alight" to drink nectar from various flowers. As they "partake" from flowers, they appear to cock their head in "praise as [they] go," but they are likely using their keen vision to detect whether the flower has replenished its nectar yet. In fact, hummingbirds are such careful flower tenders, a trait

[71] With the exception of Sicklebills that will land on flowers, most hummingbirds cannot hop or walk and this is the case for the Ruby-throated hummingbirds Dickinson would have seen on the East Coast of the United States. See Betancourth-Cundar, M., B. Beltran-Arevalo, and P. Torres-Sánchez, "White-tipped Sicklebill, *Neotropical Birds Online* .

that Dickinson would have observed as they visited her summer garden, that they can time when a flower will refill so they can return, like clockwork, and try "every spice" again ("A Hummingbird"). Once they have finished in one garden, as opposed to other birds who might take cover in low lying bushes or trees, they often fly upward into or over trees towards "remoter atmospheres" to the next batch of flowers they are timing. After leaving one garden for another, the movement of "vibrating Blossoms" signals their departure. The bird's movement up into the endless sky's atmosphere, which Dickinson imagines in "The Brain - is wider" as materially endless, ignites the expansive movement of the speaker's thoughts in this poem too. With the bird, her thinking "reels," causing a sensation of thinking so vast, perplexing, and curious that the experience of thought births an entire garden in the speaker's brain. The garden of the outer world is brought inward, trans-corporeally moving from the backyard garden into the garden of the brain and enacting a figurative and literal expansiveness dependent on vegetative growth.

As the hummingbird flies into "remoter atmospheres" the speaker joins the other nonhuman at her side, her dog, and both seem to stand confounded by the bird's movement. Peel claims that "the poem raises the question of whether the bird was there at all, or whether it 'bore the Garden in the Brain'" (321). Doubting the bird's appearance risks reducing Dickinson's familiarity with the animal to a figment of her imagination. However, the other nonhuman of the poem, her dog Carlo, helps her see that the bird was indeed present and that their motion had a profound, expansive impact on her brain. Carlo was known by most of Dickinson's acquaintances as her "Shaggy Ally" (L261). In an 1859 letter to Mary Bowles, Dickinson explains that she speaks of the seasons and their rotation of nonhuman inhabitants – "my garden . . . with faces," "pines [who] sing tunes,"

"how birds fly," and making "a balloon of a Dandelion" – with Carlo when it is bitterly cold outside and all she can do is press her hands to the window panes and envision seasonal residents when "the fields are gone." She says, "I talk of all these things with Carlo, and his eyes grow with meaning, and his shaggy feet keep a slower pace" (L212). This letter speaks to the various elements of analysis I have argued for thus far. First, Dickinson addresses the natural, material life she finds so mentally invigorating outside of her window. She also discusses the mysterious intelligence she sees within other animals and how seasonal movement, which prompts the arrival and departure of various nonhumans (plant and animal), portrays that intelligence. In terms of the hummingbird poem, this letter establishes Carlo as a credible, intelligent source to whom Dickinson looks for comfort and for meaning. When she "rejoin[s] [her] Dog," she naturally looks to him for confirmation of what she is already thinking because "He, the best Logician" can see the motion that her "clumsy eye" may miss. He is "perplex[ed]" by the fantastical movement (or the noise generated by that movement) of the hummingbird and does momentarily wonder if they are "positive" of the bird's sudden appearance and disappearance. In response to the mental sensation of confusion and wonder, the bird "bore the Garden in the Brain," meaning he birthed, through his curious movements, a garden of thoughts within the brain that move and expand as quickly as he does. We might also take "bore" to mean a type of penetrating movement where the bird's own motion both births and penetrates a similar motion in the speaker's brain.

All the verbs prior to "bore" are clear references to how we articulate the hummingbird's movements. We see their smooth movement as a "ride"; their hovering before a flower as "slacken[ing]"; their flight above and away as "reel[ing]." Yet it is the

word “bore” that operates trans-corporeally and expansively by bringing the garden and the moving bird within the brain. “Bore” enacts the same mobility as “trans” by demonstrating the “movement across different sites” (Alaimo 2). “Bore” implies the dynamic, expansive movement Dickinson imagines as a feeling that crosses corporealities from bird to brain. In the brain’s garden, the hummingbird who “rides,” “never stops,” “slackens,” “praises,” and “reels” is the speaker’s thoughts. When her “clumsy eye” is unable to match the bird’s speed, a speed that the anonymous writer in *The Atlantic* describes as “quick as the glance of the eye,—sudden as thought,” her brain’s thoughts must move to keep up (659). These conflicting notions – that the bird and the brain’s thoughts share a sudden, swift movement while the brain still struggles to maintain that movement – births a material sensation in the brain. The fact that the bird’s rapid appearance and disappearance could bear or penetrate a Garden in the brain makes the brain tangible; it makes thinking a felt sensation. The hummingbird’s motion engenders similar moving thoughts within the speaker’s brain. The thought, one that the brain can expand the width of the sky, “rides” like a hummingbird through a garden. The thought does not stop because it moves as quickly as the bird, but it might “slacken” when eyes fail to keep pace with the bird and transmit that sight into thought. A decent thought might receive praise, and it might even lead the brain further into a “reel[ing]” of thoughts that takes place in “remoter atmospheres.” As a trans-corporeal space, nature and its animals are “not located somewhere out there” but are always “the very substance of ourselves” (Alaimo 4). The brain is wider than the sky and the sea, bears a garden within itself, and moves thoughts with the rapid flight of a hummingbird because sky,

sea, garden, and bird are already Dickinson's material thoughts blending, merging, and expanding with the material world.

Elusive Thoughts: The Nameless Animals That Went Up the Immaterial Mind

Dickinson's brain is material to the nth degree, and its materiality permits her to celebrate its bodily nature as one in the same with animal corporeality. Together the brain's thoughts, nature's vast substances, and animal bodies move and expand with one another because they are of the same material essence bequeathed by an intelligent nature. But the nineteenth-century mind is an elusive being and not so easily grounded in materiality; instead, it is seemingly free-floating and detached from the supposedly inferior human body. As noted, Haven said as much when he attributed to the mind a "purely spiritual existence" virtually irreconcilable with "a purely material substance, the external world" (35). Findings by other mental scientists, including Thomas Brown and Thomas Reid, during the early and mid-nineteenth century build towards Haven's late nineteenth-century conclusions. A major proponent of Scottish Common Sense philosophy and a known influence on Dickinson, Reid wrote in his 1810 work *An Inquiry into the Human Mind* that "the fabric of the human mind is curious and wonderful, as well as that of the human body," but "the mind is a nobler work, and of a higher order than the body" (xxi). Forty years later in *Philosophy of the Human Mind* (1851), Brown proclaims that "we do not know all which is to be known of the mind . . . as we know all which can be known of matter," implying that the mind's immateriality imbues it with a distinct elusiveness (14). Taken together, these findings, which Dickinson had access to in the family library, reveal dominant notions of Cartesian mind over matter that lasted the entire nineteenth century: the superior immaterial, mind is fundamentally opposed to

the material brain and the external material world. But the issue of mind over matter was not quite so simple, especially as scientists learned more about the brain. Kearns summarizes this issue saying, "there was true conflict here, between identifying the mind with the brain and . . . treating the mind as divine, immaterial, and unified" (20). Such conflicting notions of mind and matter extended to zoology as well where scientists used the supposed supremacy of humans' immaterial, mind-bound intelligence to further prove their superiority over animal species who they assumed were governed solely by bodily instinct.

For example, "probably the most respected and most well known New England scientist" (Peel 326), Louis Agassiz, explains in "Chapter Fourth: Of Intelligence and Instinct" in his 1857 work *Principles of Zoology* that "besides the material substance of which the body is constructed, there is also an immaterial principle, which, though it *eludes* detection, is none the less real . . . It originates with the body, and is developed with it, while yet it is totally apart from it," and he adds that this principle of mind and body could be used to "elucidate development and rank of animals" (emphasis mine 67). While Agassiz does recognize animals' instinct as a kind of "immaterial principle" of intelligence, he insists that instinct is a "blind impulse" governing the body and "conducted without instruction" (69). To prove this point, Agassiz uses the example of a human and a bee's material construction of a dwelling: "No one will deny that the honey-comb is constructed with more art and care than the huts of many tribes of men. And yet, who would presume to conclude from this that the bee is superior in intelligence? (69). Agassiz, rather contradictorily, explains that "we are not to judge of the artisan by his work. As a work of man, a structure as perfect in all respects as the honey-comb would

indicate very complicated mental operations" (69). Something in Agassiz's equation about bee and human seems to elude him as much the human mind's immaterial principle – how exactly does he make the leap from the bee's perfect honeycomb to the assumption that this is not a sign of the bee's intelligence? He readily admits that if a human built such a structure, then it would "indicate very complicated mental operations" (69). For Agassiz, "instinct plays but a secondary part in man" and is reserved primarily for infancy (72), but instinct is all that guides the bee despite the bee's obviously intelligent creations.

What Agassiz notices in his efforts to distinguish human, immaterial mind from nonhuman, bodily instinct hinges on the same elusive connection Dickinson attributes to Haven, Reid, and Brown's questionable distinctions between mind and brain. For Dickinson, both the human mind's thoughts *and* animal intelligence elude and cannot be named, but they can be felt because both human and animal possess intelligent instincts. Instead of separating mind from body and human from animal, she uses material trans-corporeality to demonstrate how the mind's elusive thinking might generate a material feeling of instinctual motion, and how unnamed animals' material interactions with the world could convey their movements as having a material kinship with the feeling of such instinctual thinking. In Dickinson's 1863 poem "A Thought went up my mind today -" (Fr731) and two of her no-name bird poems – the 1865 poem "His Bill an Auger is" (Fr990) and the 1879 poem "Route of Evanescence" (Fr1489) – the mind, trans-corporeally linked as much as the brain to animal nature, feels the movements of elusive thoughts as the material motion of an unnamed animal instinctually scampering up the mind, the laboring drills of a woodpecker, and the route of a brilliant hummingbird.

The 1863 poem, “A Thought went up my mind today -” (Fr731), demonstrates how Dickinson conceives of the mind’s elusive thinking as a type of felt movement located in the material interactions of a thought that travels instinctually up the mind. Freeman explains, “Dickinson employs metaphors of her natural surroundings to reflect an identification with the unknown,” such as elusive thoughts (60). Sabine Sielke also notes that many of Dickinson’s most well-known poems “provide a habitat for hummingbirds, bees, butterflies, gnats, crickets, flies, and spiders” to highlight her “deep sense of wonder for their organic complexity” (239). Dickinson’s wonder at animals’ mysterious organic complexity parallels the elusiveness she attributes to the mind’s thoughts, suggesting they both function as unknowns with which she seeks to materially identify. Yet, Dickinson does not entirely strip the mind of its immaterial essence in this poem; instead, she exaggerates the elusiveness that mental scientists attribute to the mind because they believe it is immaterial. In this way, the elusive quality of the mind’s thinking hinges on a material sensation that Dickinson can feel in her thoughts but that cannot be named. Though nameless, thoughts materially emerge as an “it” that instinctually scampers up the mind.

A Thought went up my mind today -
That I have had before -
But did not finish - some way back -
I could not fix the Year -

Nor where it went - nor why it came
The second time to me -
Nor definitely, what it was -
Have I the Art to say-

But somewhere in my soul - I know -
I’ve met the Thing before -
It just reminded - ’twas all -
And came my way no more -

The poem's opening stanza establishes the elusive thought's movement as it travels upward in the mind seemingly instinctually. The speaker cannot determine "where it went" the first time or in what "Year" she originally had the thought. Nor can she decide "why it came" back "the second time"; this thought moves without direction. Nevertheless, this slippery thought feels like an "it" that "went up my mind today," as if the thought possesses a material corporeality that allows it to scurry up the material mind like a squirrel up a tree, or, as Sharon Leiter suggests, like "the mouse went up the clock" (50). The thought still rises from somewhere else in the mind though, somewhere presumably immaterial or intangible, which the third stanza's mention of "soul" implies. However, despite the immateriality of the thought's origin, it still feels familiar: she has felt this uprising before. The closing lines of the first stanza propose that the incomplete thought has now returned – it has moved into the mind again – because "some way back" it was left unfinished. Theo Davis examines similar examples of Dickinson's temporal movement: "Dickinson's work is characterized by concepts and linguistic formulations that appear in multiple locations, which gives a particular emphasis . . . to the way concepts and phrases come into the sphere of attention, occupy it for a time, and disappear, sometimes to return" (118). What Davis describes as "concepts and phrases" that emerge, linger, and depart might also be understood as Dickinson's elusive thoughts. Additionally, the thought's indirection – sometimes moving recognizably back into the mind "from some way back," only inhabiting the mind and briefly "remind[ing]," and vanishing and possibly returning a "second time" – all seem to be movements "conducted without instruction" (Agassiz 69). In other words, these temporary and finite movements of an elusive thought cause it to arrive and depart as if directed by instinct, not

intentionally directed reason. This is not a poem of intentional remembrance because the speaker does not say she spent her day trying to remember a thought she'd lost; instead, she simply details that "a Thought went up my mind today -," a remembrance occurring without the mind's conscious effort for recall. The thought's movements are like that of Agassiz's bee following some "blind impulse" that propels it up the mind just as the bee "performs her task" of building a honeycomb "without the consciousness of its utility" (69). In Dickinson's mind, elusive thoughts move instinctually like the bee, uniting mind with animal through material motion.

Because the thought moves by arriving and departing so rapidly, Dickinson's speaker has no words or "Art" to describe exactly what the thought is doing, aside from moving instinctually. But this movement is not immaterial as both zoologists and mental scientists presumed. If it were, then the speaker might give the "it" and "Thing" that the thought becomes a more specific yet formless Dickinsonian label like that of "air," "atmosphere," "wind" or even "ghost." The speaker rather announces the thought's re-emerging movement as something performed by an "it," a pronoun reserved in many respects for embodied things. Kearns posits that Dickinson "understood the mind to be a tangible place" (21), and that she "locates mind in body rather than ignoring or attempting to transcend the physiological basis of sensations, emotions, and thoughts" (24). In this way, Dickinson invites us to imagine this "it" as a material being, an object of matter enacting a rising sensation that "went up" the mind.

If Agassiz's concept of instinct explains *how* Dickinson's human thought-as-an-it moves instinctually or without direction, then Reid's *An Inquiry into the Human Mind* helps clarify *why* she might have conceived of the "it" as an actual elusive animal, a

material being. Reid wrote that "my impressions and ideas . . . are such fleeting transitory beings, that they can have no existence at all, any longer than I am conscious of them" (xvii). Reid's thoughts, or "impressions and ideas," move like Agassiz's bees as "fleeting" and "transitory," seemingly ephemeral and without direction, but to call them "beings" indicates how Dickinson might have responded to Reid and conceived of these "fleeting transitory beings" as exactly that: beings. The sensation of the moving thought, then, is the sensation of a material being, or "it," felt going "up" in the mind, instinctually arriving and departing. The fact that the thought is a familiar one that "I have had before" also reiterates the notion of thinking as sensation: remembering the thought from a previous year suggests remembering the feeling of that thought going "up" the mind. Much like the bee who "more than any other animal, labors in view of the future" because their instinct tells them to make "provision" (Agassiz 70), the mind recalls a similar sensation of thought that provides for it a future, unconsciously summoned remembrance. Davis adds, "it is not only that things themselves are movable, temporary, or finite, but that the same is true for the mind as well" (Davis 118). Though the speaker cannot define or clearly articulate the thought's meaning, she can describe its thoughts as shifting, fleeting, elusive, and moving because *it* is a thought felt in the mind as a being both now and "some way back."

By the third stanza, the speaker's knowing "soul" takes the place of the thinking mind, a Dickinsonian exaggeration of the mind's immateriality, but this emphasis on the soul actually solidifies the thought as a material being that, though elusive, can be felt moving up the mind. By exchanging mind for soul in the final stanza, Dickinson separates two entities that were largely synonymous at the time, and this separation

consequently exaggerates the separation of mind and matter. The poem asks readers to question why mind and soul are divided, which, for Dickinson, would also raise the question of why body and mind, human and animal, or material and immaterial should be treated distinctly. The intentional shift from mind to soul recognizes the mind and body's trans-corporeal nature, which the third stanza's promotion of thought from "it" to "Thing" also reinforces. So, while the mention of "soul" could distance the thought's emerging materiality from the speaker's mind, the thought itself finally becomes a "Thing," one step of evolutionary maturity above an "it." The thought's evolution indicates, too, that the soul-mind are equally grounded in the body making the materiality of thoughts in the "tangible place" (Kearns 21) of the mind imaginatively possible. However, Deppman claims this is a moment in the poem when Dickinson's "thought exceeds itself" (78). Another way to understand what the elusive thought does here is to see it not as necessarily exceeding itself, but as eluding total comprehension because it is both animalistically instinctual and material. For thought to exceed itself denies the speaker the sensation of material movement which she attributes to thought. Exceeding also suggests a thought could run past itself into an immaterial existence. Rather, her thoughts run "up" the mind *as* a material being, as a "Thing," without a name but full of instinctual, material motion. Elizabeth Grosz argues, "matter and mind, things and thoughts, are two incompatible orders that, however miraculously, are capable of connection" (16). The interrelation between elusive thinking and animal matter in this 1863 mind poem hinges on the feeling that thinking generates as it moves instinctually, miraculously bringing together mind and matter, animals and thoughts.

Beings move without names in Dickinson's no-name animal poems with the same energy and mystery as thoughts that move up the mind. These unnamed animals perform seemingly instinctual movements in their search for food which indicates a material kinship with the instinctual movement of human thinking. In Dickinson's brief 1865 poem "His Bill an Auger is" (Fr990) and the much later 1879 poem "Route of Evanescence" (Fr1489, the second of Dickinson's two hummingbird poems), her birds' nominal identity eludes her speakers, but their movements express their profound immersion in materiality. Pairing poems separated by over a decade indicates that Dickinson thought about connections between mind, brain, thoughts, and animals for quite some time. In an 1876 letter to Higginson she wrote that "each Mind is itself, like a distinct Bird" (L457). This distinction shared by mind and bird appears repeatedly in a series of poems I call her no-name animal series. Within these poems, Dickinson avoids naming bird species and instead focuses entirely on portraying the bird as a being in motion, materially interacting with nature just as she portrays the instinctual movement of an elusive thought. "She staked her Feathers - Gained and Arc -" (Fr853), for example, describes the moment of flight for a bird who seems to undulate in the sky as she travels to "Circumference." "Out of Sight? What of that?" (Fr733) maintains a similar focus on the bird's movements as the viewer notices the bird and tries to reach her "Curve by Curve - Sweep by Sweep - / Round the Steep Air." "His Bill an Auger is" also avoids fully identifying the bird, allowing his name to remain elusive and emphasizing instead the material power of his movements. The verbs Dickinson uses to describe these avian movements ultimately announce a similar feeling of instinctual motion that she locates in

the mind, linking mind and bird trans-corporeally by elevating the supposed indirection of avian instinct through its relationship to the mind's instinct:

> His Bill an Auger is
> His Head, a Cap and Frill
> He laboreth at every Tree
> A Worm, His utmost Goal - (Fr990)

The mention of "Bill" signals that the poem's subject is a bird, but not just any bird. This bird has a tool for a beak, and her comparison highlights the bird's movement – the tool moves as part of his body interacting with the material world. A nineteenth-century auger was a hand-held drilling device that efficiently drilled holes in the desired surface. The tool was usually screw-like and had to be turned in order to drill the hole. This bird accomplishes the same task as the auger by drilling holes, and he might move in circles, spinning around and around a food source in attempt to exhume it from the best angle. We could treat this poem as Osborne treats another bird poem, "You'll know Her - by Her Foot -" (Fr604), where "the 'Bird' appears over the course of the poem dressed in her identity" because Dickinson "puts the language of identification to work exploring the difficulty, even the farce, of naming nature directly" (65). Osborne suggests the elusive nature of Dickinson's birds who, in many ways, cannot be named directly by language, such as a Linnaean system of classification. Instead, Dickinson uses the no-name poem to locate the bird's instinctual actions in the material world, identifying him as a woodpecker by his unique motion, not by his name. Using an auger bill that extends from capped head to labor repeatedly at a tree for a worm, Dickinson shows that the bird is both elusive yet obviously, materially present because of the laboring sensation she imagines both the tree, worm, bird, and speaker must experience.

Another 1865 no-name poem – "Our little Kinsmen – after Rain" (Fr932) clarifies the relationship between the woodpecker and worm's material kinship with the feeling of the speaker's trans-corporeal thoughts.

> Our little Kinsmen — after Rain
> In plenty may be seen,
> A Pink and Pulpy multitude
> The tepid Ground upon.
>
> A needless life, it seemed to me
> Until a little Bird
> As to a Hospitality
> Advanced and breakfasted.
>
> As I of He, so God of Me
> I pondered, may have judged,
> And left the little Angle Worm
> With Modesties enlarged.

The "little Kinsmen" of this poem are the "Pink and Pulpy" worms that go unnamed until the final stanza. Unlike the worm whom the woodpecker labors so hard for in the later poem, this "Angle Worm" is part of a "multitude" flushed above "Ground" by the "Rain." The speaker, as with "His Bill an Auger is," is again a by-standing viewer of nature. Maurice Lee reiterates what most critics of Dickinson notice – this nature is one that the "romantic subjectivity" of Dickinson's time would not have valued because, as part and parcel of "the material world," nature was marked by humans' "inability to know" it (160). As the previous two poems reveal, the "inability to know nature" (Lee 160) did not prevent Dickinson from, as Deppman says, "trying to think" (37). Because she repeatedly utilizes phrases such as "Our little Kinsmen" or "Nature's People" to suggest an inherent relationship between humans and nonhumans, we know that the human/nonhuman connection contributed to many of her tries at thinking. The relationship between human and worm in this poem – and her attempt to think about them – again depends on an unnamed hungry bird who, through explicit material

interactions and movements, "Advanced and breakfasted" like the instinctual movement of a thought. The process of this bird's quest for sustenance, like the unnamed woodpecker, signals to the speaker that the worm is not "a needless life" but a "Kinsmen" who is as much a part of the speaker as it is of the bird: "As I of He, so God of Me." Because the "He" here also goes unnamed, Dickinson allows the reader to think of the worm and bird interchangeably as "He." The connection shared, though entirely material on the bird and worm's part (i.e. the bird eats and digests the worm[72]), is a presumably immaterial one for the speaker who relates the worm/bird connection to her connection with God. However, as we've seen in both brain and mind poems, Dickinson often exaggerates the mind's assumed immateriality with references to God or to soul. If we make the leap between God and mind here, then the connection she establishes with the phrase "I pondered, may have judged" emphasizes how the bird instinctually ponders and judges the material world in much the same way the supposedly immaterial mind feels the material movement of elusive thinking. This time such thoughts leave the noticeably phallic "Modesties enlarged," meaning the acts of the thinking "I" and the unnamed subject, presumably the bird, who "may have judged" leave the relationship between all "Kinsman" exposed as shared material interactions. These same interactions also trans-corporeally connect the felt verbs of movement "Advanced and breakfasted" with verbs of thought – "pondered" and judged" – and bodily sensation, "enlarged."

The no-name animal series spans many years of Dickinson's career, and a final example in the series comes much later in 1879. "A Route of Evanescence" (Fr1489) is the second of only two hummingbird poems in Dickinson's oeuvre. Through the

[72] For more on the material interactions inherent to digesting food, see Annemarie Mol's "I Eat an Apple. On Theorizing Subjectivies" in *Subjectivity* 22.1, pp.28-37.

sensation generated by the unnamed hummingbird's flight, Dickinson underscores the bird's kinship with the feeling of elusive thinking, both of which fly an elaborate "Route of Evanescence":

> Route of Evanescence,
> With a revolving Wheel -
> A Resonance of Emerald
> A Rush of Cochineal -
> And every Blossom on the Bush
> Adjusts it's tumbled Head -
> The Mail from Tunis - probably,
> An easy Morning's Ride -

Several words appear in this poem that are consistent with her first hummingbird poem "Within my Garden, rides a Bird" (Fr370): "wheel," "blossom," and "ride." Within the context of Dickinson's poetry, these words help us identify the subject of this poem as the male ruby-throated hummingbird. However, without comparison to her first poem, we can still conclude that this animal is a male ruby-throated hummingbird who possesses unrivaled appearance and flight abilities during their spring migration up the East Coast of the United States. And, as with the previous no-name poems, the unnamed bird develops a kinship with elusive thinking through his material interactions with the world, revolving, riding, rushing, and moving with the evanescent route of the mind in instinctual motion.

The poem opens with an act of vanishing much like "A Thought went up," and signals that the unnamed bird's flight allows him to arrive and depart as quickly as the elusive thinking that travels fleetingly up the mind. The bird's route is transient, and he might appear and disappear in mere seconds thanks to his rapidly "revolving Wheel" or wings. According to the National Park Service, "North American hummingbirds average around 53 beats per second in normal flight" (1). In the ephemeral moments of the bird's

instinctual movement, which recalls the "transitory beings" of Reid's "concepts and impressions" (xvii), he flashes his primary tones of emerald green and his throat feathers, or gorget, a bright red or "cochineal." As with Dickinson's reference to the overlapping material connections conveyed by worms, the use of cochineal indirectly references the scale insect by the same name that produces carminic acid, which is transformed into carmine dye of a scarlet red hue in the nineteenth century ("cochineal"). This implicit mention of insects again highlights the material kinship she uses to link mind with animal nature through trans-corporeality. While this brilliant bird passes through her garden, "every Blossom on the Bush" seems to turn at will as it "Adjusts it's tumbled Head" towards the bird's feeding beak, implying that the speaker also turns her head towards the rushing being. Through this act of notice, just as with the first hummingbird poem, the speaker recognizes how all heads connect in the material world. Like the tortoise brahmins of Melville's "The Encantadas," Dickinson's hummingbirds conjoin human and animal through a rushing resonance of elusive thinking.

Despite Dickinson's artful rendition of flight and thinking, critics of the mid twentieth century were not keen on Dickinson's description of the hummingbird in this or her earlier poem.[73] Only one scholar, George Frisbie Whicher, describes the poem's emphasis on movement, and he helps ground this movement as a material sensation:

> the whole sensation of hummingbird: first, a dazzle of sudden sense impressions, movement, motion of wings, color, and whir (in the reiterated r's), all at once; then (the bird's departure taken for granted) the emptiness emphasized by the clear picture of nodding blossoms; and finally the startled mind of the (assumed) spectator regaining its poise with a whimsical comment. (261-62)

[73] See Grover Smith, "Dickinson's 'A Route of Evanescence,'" *The Explicator* vol. 7. no. 4, 1949; Thomas H. Johnson *Emily Dickinson: An Interpretive Biography*, Harvard, 1955, 201-02; Rebecca Patterson "Emily Dickinson's Hummingbird" *The Educational Leader* no. 22, 1958, 12-19; Charles R. Anderson, *Emily Dickinson's Poetry: Stairway of Surprise,* Holt, 1960, 113-17; James E. Miller, Jr. *The Literature of the United States II*, Scott, Foresman, 1953-66, 203-04; Hyatt H. Waggoner *American Poets: From the Puritans to the Present*, Houghton 1968, 197-98.

Whicher's use of "sensation" implies that the speaker, in response to the bird's movements, feels the sensational arousal of their own senses. The "rush" of the bird generates a rushing in the mind of the speaker who strives and fails to keep pace with the bird as he visits each flower, a pace-keeping indicated by the repetitive "a," and, as Whicher notes, "the reiterated r's." In the speaker's attempt to follow the bird, her head mimics the "tumbled Head" of the blossoms, falling aslant as they try to visually grasp the bird in their field of vision. Whicher's mention of "the startled mind" perfectly captures the speaker's mental efforts to keep pace with the bird's movements, movements that interact with the material world far too quickly for the human mind to imitate despite the rapidity of thinking's movements. In other words, thinking that tries to keep pace with the no-name animals eludes the speaker's ability to comprehend. Nevertheless, despite such harsh criticism of her hummingbird poems, critics find that the evidence of sensation could confirm the notion that Dickinson strives to mentally feel something about this bird.

In the poem's final lines, the exotic nature of the bird and his exceptional speed calls for exotic and far flung locales like Tunis, but the speaker's mention of "Mail" in these last lines establish the final trans-corporeal connection between instinctual motion, elusive thoughts, and animal materiality. This bird travels so fast that he might ride the mail all the way from Tunis to this Amherst garden in just one morning. But, Dickinson's explicit mention of "Mail," the method of travel for letters, reiterates how poetic construction makes the material, trans-corporeal blendings of elusive thoughts and moving hummingbird imaginatively possible. An 1869 letter to Higginson, written ten years before Dickinson penned this particular poem, announces that "A Letter always

feels to me like immortality because it is the mind alone without corporeal friend . . . there seems a spectral power in thought that walks alone" (L330). The mention of "Mail from Tunis" indicates that the unnamed bird, though he may not pen letters, carries and delivers letters, which *feel* to Dickinson like a single mind, perhaps even a mind's thoughts, without "corporeal friend." This kind of disembodied thought possesses a ghostly power that "walks alone" because the mind in a letter is divorced from the body of the writer. The disconnect between the mind's thoughts contained in a letter and the body who originally penned the letter indicates that Dickinson *feels* a disconcerting, immortal disembodiment when we she writes letters. In other words, she experiences a sensation of Cartesian separation, but if the letter lacks a "corporeal" friend, then perhaps her other medium of choice – the poem – provides the opposite possibility. Just as poetry can expand the brain beyond its material confines in "The Brain - is wider," it might also allow a tiny bird to connect the mind's thoughts, those that elude like an immortal specter, to the material world and a bodily mind. As the anonymous writer says in the 1860 fictional letter "The Humming-Bird," hummingbirds move "sudden as thought" as if "the winged thought" might "learn to make its nest with us and rear its young" (660). The sensation of the hummingbird, then, is one of instinctual movement that elusive human thinking also possesses. Within the human mind, the "winged thought" of an unnamed hummingbird runs up the mind, not by immortality but by trans-corporeality.

For Dickinson, unlike her contemporary zoologists or mental scientists, it is not anxiety-producing not to know names of birds or of thoughts. Not having a name liberates human thinking from the pressure of exact knowledge and embraces animals and thinking for their shared elusive and instinctual movement. Sielke posits that "not in

spite of, but because of her knowledge of science, Dickinson privileged poetry as the most potently creative medium to ponder and approximate the complexities of life – complexities that, for her, resist scientific and philosophical explanation" (238). As a being capable of trans-corporeal movement, the mind of Dickinson's poems possesses thoughts that might elude as much as knowledge of nature and its animals, but thoughts and animals share the same feeling of instinctual movement in poetry. Instinct evades as much as the immaterial mind, but in the animals and in thoughts such instincts are precisely what allows poems to capture their material kinship as the elusive feeling of thinking.

Creative Thinking: The Spider Who Sews a Cleaving Mind and Splitting Brain

Both Dickinson's mind and brain share a material feeling of thinking that moves expansively and elusively as the flight and instinctual operations of birds. But, the movement of her creative, poetic thinking – the essence of her imagination – gives expansive and elusive modes of thought their imaginative connection to animals. Creativity also poses the most threat to Cartesian problematics of mind/brain, human/animal, and material/immaterial distinctions, for it is creativity that ignites change in knowledge formation. Sielke explains that "writers and scientists alike acknowledge Dickinson's writing as a form of knowledge production and approximate the ways in which the natural sciences and literature make sense of the world" (243). In Dickinson's 1864 poem "I felt a Cleaving in my Mind -" (Fr867) and her series of spider poems that span over a decade – "The Spider holds a Silver Ball" (Fr513), "A Spider sewed at Night" (Fr1163), and "The Spider as an Artist" (Fr1373) – she once again uses mental science, zoology, and literature to explore how the brain and mind's thinking operate

uniformly during acts of creation. When these poems are read together, the spider's material web-spinning clarifies the sewing sensation she feels in the mind and brain during the creative process that unfolds in "I felt a Cleaving in my Mind -." By taking "the Spider as an artist" "by the hand," her mind/brain poem and spider poems address the trans-corporeal eradication of multiple Cartesian dualities that art can enact. As a result, the "Boundaries - forgot" by the spider permeate the material and immaterial mind/brain boundaries Dickinson's thoughts also try to break, allowing, as Susan Squier says in *Liminal Lives*, "material conditions [to] shape and reshape what we can put into words" (57). The brain and mind do not cleave and split because they are distinct; they cleave and split because they are united by the discordant process of articulating creative thoughts. The spider's process, though, does not suffer from this creative incongruity, and if his creativity is brought into the Dickinsonian mind and brain, then creative thoughts achieve a perfected form. In this way, "human corporeality and textuality blend into the more-than-human world" where "word, flesh, and dirt are no longer discrete" (Aliamo14), nor are brain and mind or spider and human. Woven together by the artistic tapestries that are creative thoughts in material motion, Dickinson's brain and mind feel the sensation of sewing shaping her words as adroitly as the spider's "unperceived Hands" sews their web and allowing readers to imagine a trans-corporeal, spiderly ethics.

The duality of the nineteenth-century brain and mind saw some reconciliation as the century progressed, but the majority view of their distinction remained a crucial part of how animals, as material bodies, were viewed. Within this paradigm, the spider was both revered and demonized. While people appreciated the spider's webs for their intricate delicacy, they also regarded the webs as death traps that "entangle the flies

which approach it" (Agassiz 70). Their bodies, especially certain species who possessed venom, were also demonized. So, while, as Barbara Baumgartner explains, "the mind was no longer understood as a separate entity but as an expression of the brain and nervous system," animals often continued to be relegated to second class status; they were still part of human/animal divisions that coincided with the Cartesian logic of mind/matter (63). In 1871, William Alexander Hammond[74] explained a more progressive view of mind/brain coordination:

> the connection between the brain and the mind is clearly made out as any other fact in physiology. The mind differs . . . in being compound; that is, in being made up of several other forces. These are perception, the intellect, the emotions, and the will. All the mental manifestations of which the brain is capable are embraced in one or more of these parts [of the mind]. (327)

Yet, dual descriptions of the spider, which stemmed from both Biblical history and likely from word-of-mouth stories of the damage poisonous spiders can inflict when they bite, continued to permit their seemingly necessary separation from humans and even other animals. Rather than being seen as one among the many "compound" "forces" of nature that might be embraced as the brain was beginning to be, spiders were of an even lesser order than the other animals who appear in Dickinson's work. Vincent Dussol, for example, credits both Edward Taylor and Jonathan Edwards, both of whom would have been prominent New Englanders in Dickinson's thinking, for elaborating upon the spider's few biblical portrayals as "unambiguously negative" (2). Dussol specifically references Taylor's "Upon a Spider Catching a Fly," claiming he portrays the spider as

[74] Though it is unknown whether or not Dickinson had direct access to Hammond's work, his ideas were certainly circulating in New England during the Civil War and beyond. Hammond served as surgeon general of the United States Army during the war (Blustein 1). He also spent a brief time writing articles for the weekly magazine *Nation* (Blustein 9). Perhaps one of his greatest contributions to medicine was his central role in founding the American Neurological Association (Blustein 11).

"hell's creature" who spins a web with the intent of entangling "Adam's race" (Taylor qtd. in Dussol). Dussol also calls attention to how familiar Dickinson would have been with Jonathan Edwards's writing and "thinking either directly or indirectly" (2). While Edwards's descriptions of the spider in works like "Of Insects and Spiders" involve some questionable tactics about how the spider finds their web (he intentionally shakes spiders and destroys their webs trying to see how they recover), his description of their web-building highlights spiders' creative, even mesmerizing movements. He notes how he saw in the woods "multitudes of shinning webs and glistening strings of great length, and at such a height as that one would think they were tacked to the sky by one end, were it not that they were moving and floating. And there often appears at the end of these webs a spider floating and sailing in the air with them." Dickinson uses her creative thinking to merge the spider's material talents – expressed by Edwards as unique movements and sensations of "shinning," "glistening," "floating," and "sailing" – with her own, bringing them together to illuminate the spider's intelligent art by way of her poetry.

While humans continue to view the spider, even now, as somewhat villainous, their artistry has also often been linked to the process of writing poetry as an artistic endeavor, and Dickinson's reliance on the spider's art depends on their ability to "rear supreme," as she says in "The spider holds a Silver Ball." But Randy Malamud warns in *Poetic Animals and Animal Souls* that animal poetry can be "one more narcissistic avenue by which our culture celebrates ourselves, because "animal representation" functions "as merely adjunct to human thought" (57). On the contrary, Dickinson positions the spider's and the poet's art equilaterally where her creative thinking strives to move with the spider's creative body, trans-corporeally connecting beings through their mental and

physical movements. Deppman notes that "Dickinson often thought of writing *as* thought" (emphasis mine 39). Yet, at the same time, he emphasizes that "Dickinson almost never describes or explains her writing in terms of her formal or stylistic choices, ... This silence is one reason why critics have had difficulty pinpointing her ideas about her poetic composition" (39). If we are to consider her thinking as inherently linked to the ways animals move because those movements travel across both the body of the animal and the human mind/brain, then her poetic animals actually provide some access to her composing process, which she expresses clearly in "I felt a Cleaving in my Mind -." The spider's movement is particularly suited for rendering the material motion of creative thinking because they quite literally spin their material art from their body. This equal relationship between spider and poet thus gives us some notion of Dickinson's poetic composition: art begins with moving thoughts, and thoughts that move like and with animals in the material world express the type of creative thinking needed for successful composition and perhaps even for a trans-corporeal ethics.

The 1864 poem "I felt a Cleaving in my Mind -" (Fr867) enacts a material movement of sewing that brings together a cleaving mind and a splitting brain, allowing them to operate uniformly in acts of artistic creation much like the spider's movements coordinate during their web-building. This reading contrasts with the majority of critical responses to "I felt a Cleaving." For example, some critics interpret this poem as one about the crisis involved in writing poetry, an expression of madness or trauma, and, as Deppman notes, a poem that exposes "a problem of how to negotiate the irreconcilable vocabularies of 'Mind' and 'Brain'" (79). Nowhere in these alternative vocabularies and readings does thought function as a moving, material intermediary between brain and

mind; instead thinking acts as an abstract fracturing process. However, because the brain and mind, ironically through their cleaving and splitting, join together in this poem, their felt movement elucidates the webbed network of Dickinson's creative thinking:

> I felt a Cleaving in my Mind -
> As if my Brain had split -
> I tried to match it - Seam by Seam -
> But could not make them fit -
>
> The thought behind, I strove to join
> Unto the thought before -
> But Sequence ravelled out of Sound -
> Like Balls - upon a Floor - (F867)

Like the poem, "A thought went up my mind today," there is a self who possess the mind, and this self similarly struggles with the functions of the mind's temporal movements, especially the sequence of thoughts. In "A thought went up," Dickinson portrays temporality as a problem of when and where the thoughts originated in the mind, but in this poem the problem manifests as "Sequence" – how to "join" the thoughts together in an implied arrangement. The issue of "Sequence" arises from a "Cleaving in my Mind" and a splitting in "my Brain"; that is to say that the poem's central feelings of movement arise from a material sensation of cleaving and splitting.

In "I Felt a Cleaving" the mind/brain separation announces the initial phase of innovative creativity that will eventually lead to cohesive thoughts in the mind *and* the brain. As most writers and artists in any genre can attest, there is nothing more frustrating than an underrealized creative thought, but most would also agree that that feeling – one that might make an artist on the brink of epiphany feel like their brain or mind is fracturing as they strive for a way to make their ideas fit – is part of the process. Nevertheless, critics, such as Claudia Yukman, say "a 'Cleaving' happens" in this poem during "the act of representation," or poetic production and "narrative form," that "is an

altogether annihilating event" and "an attempt to represent crisis" (80). More in keeping with my understanding of the creative process, Baumgartner understands the splitting to be a necessary response to creativity, claiming "the powerful struggle of thoughts that is compared to the splitting of the brain describes a creative process that is physically intense and emanates from the brain" (68). Her reading depends on nineteenth century views of the "central nervous system," expressed above by Hammond, which "concretizes such intangible entities as thought, consciousness, and selfhood within the recess of the brain" (68). Yet this emphasizes the brain's materiality alone, removes the mind from the material, and erases the movement of thinking. Similar to Yukman, Deppman attributes the divorced brain and mind to the fact that the brain is experiencing the trauma of two different thoughts at the same time, causing us to "watch the failure of our own thought" (81). Though he believes Dickinson disagrees with her contemporaries, Upham and Thomas Brown, who both claim two mental states cannot occur at once in the mind, he maintains that this poem foregrounds a mental trauma resulting from thinking. An extension of Upham and Brown's argument would be that the mind and brain cannot perform the same actions of thinking at once, but the opening two lines suggest otherwise. And, these simultaneous acts of thinking are importantly driven by the materiality of their movements: mind and brain are not separated by their seemingly Cartesian cleaving and splitting but brought together because *both* simultaneously feel the material intensity of an underrealized creative thought.

The material feeling of movement in the brain and mind of "I felt a Cleaving" are similar, which allows an interpretation to proceed from shared qualities of mind and brain, not their distinctions. Their method of cleaving and splitting only differs by slight

variations that Dickinson retains from Cartesian problematics, again an intentional exaggeration. *In* the mind there is a cleaving, but the brain simply splits. The mind's experience is *felt* as specifically interior, a hint at immateriality, while the brain's experience is general and ambiguous but certainly corporeal. Readers are not sure if the brain splits from within or without, whether a force inside breaks the brain open or a force from the outside slices it apart. But what occurs in the brain also occurs in the mind through synonymous acts of cleaving and splitting, suggesting the mind takes on a similar material corporeality as the brain, a shared corporeality highlighted by the sewing "Seam by Seam." Through this trans-corporal, shared movement mind and brain are materially linked and as a result feel similar sensations. By the second two lines of the first stanza, the speaker solidifies the union: the mind and brain are one "it" united by a patchwork seaming, a creative webbing, that strives to put the cleaving mind and splitting brain's thoughts together. But, they don't yet fit; the shared creative thinking occurring in both the mind and brain – the "them" of the last line – remains underrealized.

The second stanza complicates the first by emphasizing the thoughts, or "them," that have now become detached from one another in the unified mind/brain "it." Though the mind and brain are unified by the simultaneously felt separation, the thoughts within "it" continue to tear. If the sewing metaphor continues into the second stanza, then the image is something like ripping fabric – the implied thoughts of the first stanza possess seams that do not fit, and in the second stanza the thoughts are now named as such but they still will not "join." The thoughts pull apart from one another like the carefully intertwined threads of fabric, leaving jagged and uneven threads exposed. Thus, "the thought behind" cannot be joined to "the thought before." The sequence of the thoughts

unravels like the thread on a dropped spool, wildly and loosely unspooling across a surface, even re-spooling by hand never repairs the effects of such unraveling. The verb unravelling itself ravels "out of Sound" through the emphasis on the incorrect spelling of "ravelled." Through the thought's unraveling even the articulation of that act escapes sequence with the construction of "ravelled" suggesting a simultaneous unwinding and winding, an act that only a spider can actually perform. But, not as creative as the spider who can simultaneously dispense and direct thread with the back end of its body while sewing previously dispensed thread with its front legs, underrealized creative thoughts and the poem itself are now in disarray and free fall "Like Balls - upon a Floor."

Though Dickinson's poems about spiders are not nearly as plentiful as her bird poems, they hold a prominent place in the critical history of her work. The series has, for some critics such as Hyatt H. Waggoner, endowed her with an influential position equivalent to Whitman's. Waggoner suggests, her "centrality could be discovered inductively from a study of her several spider poems which would place them side by side with the spider poems of Taylor, Whitman and Frost" (630-31). Her notion that a spider is a "Neglected Son of Genius" particularly pervades her poems about them. In the spider's movements, especially their web-spinning, they express an intelligent creativity that propels her creative thinking into a similar webbing motion, generating her wish to "take thee by the hand" in trans-corporeal union (Fr1373).

The spider, of all creatures, possesses a mode of locomotion unlike any other because they move by way of an internal hydraulic system. According to Christian Kropf,

> spiders can be seen from a functional viewpoint as semi-hydraulic machines (Manton 1958). Just to name a few functions of a spider's hydraulic system, walking, running, climbing and jumping, grasping of prey, moulting, leg-autotomy, extrusion of silk or expanding the male palpal organ are performed under locally increased pressure of body fluid (hemolymph)" (43).

In layman's terms,[75] spiders' hearts pump a blood-like fluid (hemolymph) throughout various parts of their body, and this allows their legs to move; it has long been known by modern zoologists that "spiders lack extensor muscles in the main joints of their walking legs," so they use pressure to move (Kropf 43). Mark A. Townley and Edward K. Tullinghast also provide a contemporary explanation for the science behind spider webs: "most spiders have multiple types of spinneret-associated silk glands used for different purposes" and they go on to categorize various spiders and their web-types. Despite her knowledge of anatomy and zoology, Dickinson likely did not know how the spider's internal systems functioned, but she only needed to observe them to know the spider moves quite unlike any of the other animals in her poems, especially those who fly. From a literary perspective, the spider's spinneret glands serve as the object of material production as if they are Nature's poets. Not only do Dickinson's spiders move in a manner unlike any of her mammals or reptiles, but they also build a structure that results entirely from that movement much like a poem results in a verbally specific, material structure generated by the movement of thinking.[76]

The mechanistic motion of current scientific description is entirely absent from Dickinson's poems. In its place, Dickinson details the spider's web-building process with intimate delicacy as if her thoughts and her words strive to describe the spider with the

[75] In scientific terms, Kropf describes the spider's locomotion as "made possible by the open circulatory system of spiders where hemolymph leaves the arteries and flows back to the lungs between the internal organs (Foelix 2011, with references therein). Increased hemolymph pressure is generated by activity of the heart in the opisthosoma, and by certain muscles, situated both in the prosoma and in the opisthosoma. While the heart, being able to pump hemolymph both towards anterior and posterior (Paul et al. 1989), is mainly responsible for the "normal" circulation of hemolymph (see Wirkner and Huckstorf 2013), prosomal and opisthosomal muscles generate locally increased hemolymph pressure enabling the spider to perform various hydraulic movements in different body parts" (43).

[76] Birds also arguably build structures, specifically nests, that we could perform a similar analysis upon.

same “unperceived hands” (Fr513) that the spider uses to construct their web. Such a description of the spider mirrors the felt thinking taking place within her mind and brain, as if her thoughts strive to build upon one another in a web-like process like “The thought behind, I strove to join / unto the thought before - .” Yet, unlike when she writes of human creativity, when she writes of the spider’s the thoughts themselves become a silk-like material in her mind, moving smoothly and without “Boundaries” (Fr513) aside from those the spider latches on to (such as leaves, twigs, etc.). In this way, the spider’s movements possess the potential for moving underrealized creative thoughts into the realm of realization because thinking travels across their bodies and into the human mind/brain and eventually onto the page.

All of Dickinson’s spider poems – the 1863 poem “The Spider holds a Silver Ball” (Fr513), 1869 poem “A Spider sewed at Night” (Fr1163), and 1875 poem “The Spider as an Artist” (1373) – portray the spider’s artistry. Most readings of Dickinson’s spider poems focus on “A Spider sewed at Night” (Fr 1163), but if we read her poetry chronologically, the 1863 poem “The Spider holds a Silver Ball” (Fr513) begins her focus on the spider’s work and its relationship to poetic construction. This poem also importantly appears within a year of her brain/mind poem “I felt a Cleaving.”

> The spider holds a Silver Ball
> In unperceived Hands -
> And dancing softly to Himself
> His Yarn of Pearl - unwinds -
>
> He plies from nought to nought -
> In unsubstantial Trade -
> Supplants our Tapestries with His -
> In half the period -
>
> An Hour to rear supreme
> His Continents of Light -
> Then dangle from the Housewife's Broom -
> His Boundaries - forgot -

Like most of her animal poems, this one also begins with the animal's movement as the spider is seen "dancing softly to Himself" while he holds the unwinding "Silver Ball" that generates his web. Leiter claims this poem is "tragicomic" because it "stresses both the magic and insubstantiality of his art" (49). She adds that the poem's conclusion where the spider "dangle[s] from the Housewife's Broom" demonstrates the "pathetic fate of the spider's art" (49). For her, the mockery of the spider repeats in "The Spider as an Artist" (Fr1373) because he is portrayed as a "Neglected Son of Genius" who "Has never been employed" (49). But, if we take the spider to serve as the metaphorical replacement for the artist, then his movements, which mimics the artist's thinking (or vise versa), should be the primary focus of analysis, not the success or failure of the final piece of art, for material art is always subject to critical destruction. Creative thinking, on the other hand, can continue to move, and, in this case, spin and dance along the trajectories of the material webs themselves "from nought to nought."

The spider's creative movements rest on the verbs of dance in each stanza. This animal, like the thoughts of an artistic thinker, dances across the mind forming a sort of mental "Tapestr[y]" that, for him, peacefully "unwinds." But, unlike the thoughts Dickinson "strove to join" in "I felt a Cleaving," the human's creative thoughts sporadically "ravelled." Nevertheless, equipped with his "Yarn of Pearl" – perhaps a predecessor to the image of "Seam by Seam" in "I felt a Cleaving" – the spider begins his act of "dancing" in the first stanza, but it is the second and third stanza that so subtly reiterate this material dance that they are easily overlooked. While the standardized versions of the poem print the word "plies," Dickinson's manuscript places a small dot over the "e" in the word, making it possible for us to interpret the word as the French

"plié." This word is a ballet term, specifically the past participle form of "plier" meaning "to fold"; in ballet the term denotes a specific kind of movement: "A movement in which the dancer bends the knees outwards from a standing position, in line with the out-turned feet" (*OED*). This movement resembles the angular bend of a spider's leg as he manipulates silk. If the ambiguity of the dot in Dickinson's manuscript makes this interpretation unconvincing (because the dot could also be for the "i"), then the singular form of "plies" proves equally if not more persuasive. The verb "ply" also stems from the French "plier" (to fold), and means "to bend, bow; to fold or double (cloth, etc.); to mould or shape" (*OED*). As this spider dances, he bends his legs in such a way that he generates and shapes a web-work from "Nought to Nought," either a play on night or "naught," meaning "nothing". If the play is on "nothing," then the spider indicates how the poet spins their thoughts into words from the unseen movements in the mind/brain. The play on night would also suggest the Romantic poet up at night working on words that may result in nothing. The spider's work, though, is far superior to the human's because he creates it in half the time seemingly without the hindrance of thoughts that won't "match" or "ft" "Seam by Seam."

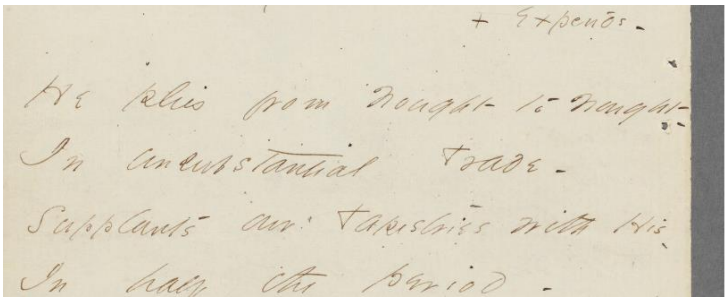

Figure 3.1 Dickinson's manuscript of "The Spider holds a Silver Ball" (Fr513).[77]

[77] Image curtesy of Houghton Library, Harvard University, Cambridge, MA.Dickinson, Emily, 1830-1886. Poems: Loose sheets. Various poems. MS Am 1118.3 (383). Houghton Library, Harvard University, Cambridge, Mass.

Within the one hour the spider is allowed to move and create, he can "rear supreme," which conjures the animalistic motion of a horse (or other animal) standing on their hind legs. The phrase also indicates the spider's supremacy is based upon movement. The final stanza could indicate that this supremacy is met with a tragic end because the spider finds himself on the "Housewife's Broom," but Dickinson does not implicitly or explicitly state that this is an ending for the spider. Instead, the spider moves across the material world he has created with his web and into the human realm of domesticity, a place where corner-dwelling webs are neither appealing nor wanted. If "His Boundaries - forgot -" then he has physically crossed the interior space of the human home where he is unwelcome. Alternatively, he has dangled in the mind/brain of the human speaker, who, like he, has spun their own web of words from the tapestry of their thinking. The spider, thus, unwinds his web just as the human brain/mind unfurls in the act of creation.

But the threat to the spider should not go unnoticed or merely be considered "tragicomic" as Leiter suggests, because as humans, or "Housewives," view his trade "unsubstantial," they permit themselves to determine his fate when "His Boundaries – forgot." The opposite may be true of the human thinker – if humans forget their material boundaries and welcome the spider into their home, their mind, and their brain, then their environmental fate may not prove to be so dire. This is how Dickinson's trans-corporeal thinking achieves ethical force. By engaging the spider as a creative genius who models

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Houghton Library - (383d) - The Spider holds a Silver Ball. J605, Fr513. Publication History: BM (1945), 74-75, from a transcript of A (a tr219), with the alternatives for lines 10 and 12 adopted. Poems (1955), 464; CP (1960), 297. MB (1981), 542, in facsimile. (J605). Franklin Variorum 1998 (F513A). - History from Franklin Variorum 1998
Emily Dickinson Archive: http://www.edickinson.org

the web-like thinking humans need for creative production, so that their thoughts won't unravel on the floor, she suggests a sustainable, creative trans-corporeality for the future. As Alaimo argues, "trans-corporeality often ruptures ordinary knowledge practices" (17). In Dickinson's case, she ruptures ordinary knowledge with creativity by suggesting we have much to learn from what we perceive to be a nuisance spider.

If the spider of this poem and of the later poem "A Spider sewed at Night" (Fr1163) embody "the Neglected Son Genius," and if they are truly engaged as Dickinson engages them, then their creations, which are produced "Without a Light" and unbeknownst to humans, do not have to remain products that only "Himself himself inform -." As previously mentioned, most critical focus dismisses the first ("The Spider holds" Fr513) and last spider poem ("The Spider as an Artist" Fr1373) for the seemingly more complex rendering of the spider and immortality in "A Spider sewed at Night" (Fr1163):

> A Spider sewed at Night
> Without a Light
> Upon an Arc of White -
>
> If Ruff it was of Dame
> Or Shroud of Gnome,
> Himself himself inform -
>
> Of Immortality
> His strategy
> Was physiognomy –

The complexity of this poem receives even more force when considered in light of trans-corporeal ethics. In terms of movement, the spider's presentation is much more simplistic; he simply "sewed" "Without a Light" "Upon an Arc of White," which suggests the conditions under which he moved rather than the movements themselves. Indeed, this poem does seem to emphasize the act of creation over the movements

engaged during creation. But, "His strategy / Was physiognomy," meaning "the general appearance or external features of a material object; esp. the contour or configuration of a location, landscape, etc." (*OED*). In this sense, the literal material generated by the spider's movements are not lost. However, Davis argues that too many critics align this poem with the "material historicity" (98) of women's work, a point that also arguably applies to the previous poem through mention of the housewife's broom. But if "His strategy" is indeed "physiognomy," then we might read the material conditions of this poem as inherently connected to the environment, our very own landscape. And, within this landscape, the poems themselves are material, "cultural artifacts" that, when viewed "trans-corporeally" necessitate "a rather disconcerting sense of being immersed within incalculable, interconnected material agencies that erode even our most sophisticated modes of understanding" (Alaimo 17).

If spider, speaker, mind, and brain are seen as trans-corporeal subjects, then the spider's "hour" when he weaves "Upon an Arc of White" might quite literally provide "continents of Light" for humans willing to see their own reflection in the "Light" refracted by his web. The tapestry of his creation serves as an enlightening, fully realized, fully felt, creative thought, one that moves with the hummingbirds of expansive thinking and the birds of elusive, instinctual thoughts. Dickinson, as a poetic spider, shows that thinking is never one type or kind or entirely human. Thinking's movement travels the mind's and brain's various trajectories, and those pathways can be imaginatively felt as they fly, labor, and elude because they materially move with and like the animals in the mindscape of the natural world and in the nature-scape of thinking.

CHAPTER 4

THOREAU'S ANIMAL TRACKS AND THE PHENOLOGICAL MOVEMENT OF THINKING

Figure 4.1 Fox prints in the snow; a personal drawing from Thoreau's *Journal*, Feb. 5, 1854.[78]

"The fox that invaded the farmer's poultry-yard last night came from a great distance. I followed on this trail so long that my thoughts grew foxy" (*J* 6:101), writes Thoreau in his journal entry dated February 5, 1854.[79] On this evening he sets out "To walk. Begins to snow," and in that snow he encounters a "fox's track," one that he replicates, as he often does, in his writing (*J* 6:97). The hand drawn reproductions of paw prints, hooves, and bird trails as well as the dotted and lined drawings of animal tracks accompanied by measurements of width, diameter, length, and stride distance mark many of Thoreau's journal entries.[80] From muskrats, to otters, to minks, foxes, small birds,

[78] Image curtesy of *The Walden Woods Project* digital collection of *The Writings of Henry David Thoreau*, Houghton Mifflin and Company, 1906. This image is reproduced from the collection's digitalized *Journal*, Volume 6 (December 1853 – August 1854), Chapter III (February 1854), pp. 97.

[79] This entry became Thoreau's source material for the fox hunt scene in *Walden's* "Winter Animals."

[80] The paw prints of the first fox Thoreau tracks in this journal entry, which appear as the opening image to this chapter, measure "about two inches long, or a little less, by one and a half wide, shaped thus where the snow was only half an inch deep on ice : generally from nine to fifteen inches apart longitudinally and three to four inches apart transversely" (*J* 6:97). For more on Thoreau's affinity for measurements, see Maurice Lee's "Roughly Thoreau" in *Uncertain Chances*. Lee explains that Thoreau's "naturalist tendencies are marked by an obsession with measurement" (121).

moose, and even mice, Thoreau might be viewed as a precursor to modern day advancements in animal tracking.[81] But Thoreau was not equipped with GPS tracking collars or satellite imaging technology or infrared binoculars. He tracked with his seasonally adapted mind and body that both followed so adroitly in the animal's tracks his "thoughts grew foxy."

By adhering to the notion that "the seasons and all their changes are in me" (*J* 10:127), Thoreau follows and records the correspondence between animal life, his life, and seasonal change, generating a phenology of thinking that synthesizes his scientific and literary practices and coordinates his mind and body with animal movements. Because Thoreau believes "the surface of the earth is soft and impressionable by the feet of men; and so with the paths which the mind travels," his thinking is intimately bound to the earth by the *impressed* tracks he leaves with his body (*W* 351). Like the animals who move throughout the landscape, Thoreau's mind/body tracks become even more pronounced with seasonal and diurnal change, but he does not ascertain these human and animal tracks through mere contemplation and observation or as a traditional tracker on the hunt. Instead, he develops a sympathetic tracking method that celebrates animal life as pivotal in the phenological movement of his thinking. In one of his earliest published works, "Natural History of Massachusetts" (1842), he tracks the autumn fox and begins developing his sympathetic tracking – a mode of relational connectivity and intellectual synthesis between nature, her animals, his body, and his thinking. Over the course of his

[81] For current findings in global animal tracking see *Where the Animals Go: Tracking Wildlife with Technology in 50 Maps and Graphics* by James Cheshire and Oliver Uberti, W.W. Norton, 2017. This work is the first to use big data to map the movements and behavior of animals all over the world. Using satellites, drones, camera traps, cellphone networks, apps and accelerometers, Cheshire, Uberti, and the many contributors are at the forefront of an animal-tracking revolution.

career, each animal he follows contributes to his sympathetic tracking's evolution and leads to an increasingly precise phenology of thinking. In *The Maine Woods* (1848) and *Walden* (1854) his phenological precision evolves from foxy to 'moosey' and even 'owly' as he tracks his thoughts with his own body, bounding through the forest with the summer moose to discover that human and nonhuman thinking makes contact with the earth and launching into the night with the winter owl to explore how instinct is the animal imagination.

Thoreau's tracking encompasses his thinking's aesthetic movement just as Melville's looping conundrums and Dickinson's material feeling convey their thinking's aesthetic movement. And, much like Melville and Dickinson, the notion that animals can think and that human thinking moves with and as animals spans Thoreau's career. While Melville encounters thinking animals at sea and Dickinson in the garden, Thoreau meets animals in the woods, fields, and water sources he walks to and from. During these moments of contact, he witnesses animals' unique intelligence emitting from their bodily movements and the trails they leave behind in the wake of those movements. But, as the writer most often regarded as what Robert Thorson refers to as a "field scientist" ("Physical Science" 248),[82] Thoreau differs from Melville and Dickinson because his thinking's aesthetic movement, or tracking, also stipulates a thinking method that he puts into scientific practice. Maurice Lee posits in *Uncertain Chances* that "the full force of [Thoreau's] literary achievements cannot be felt without attending to his scientific work"

[82] In *Walden's Shore*, Thorson also notes Thoreau's role as a land surveyor which allowed him to be even more fully engaged as a field scientist. He explains, "land surveying for legal property description was Thoreau's primary vocation during the Walden years" (411).

(121).[83] But, at the same time, Thorson notes that Thoreau did not label himself a "scientist," and often referred to "men of science" with "disparagement" because they practiced science institutionally ("Physical Science" 248). This chapter, as a result of Thoreau's own conflicting views of science, extends the current critical conversation about Thoreau's role as literary figure *and* scientist by showing how he merges these genres not only in his phenological writing and scientific practices but in his phenology of thinking, too. Rather than demonstrate how Thoreau responds to a specific aspect or branch of science, as I do with Melville's revision of zoology's taxonomic classification and Dickinson's adaptation of mental science's and zoology's Cartesianism, I focus instead on how Thoreau contributes to the development of animals' roles in what we now call phenology, or the study of seasonal change.

While Thoreau's nature and his phenology are relatively frequent objects of study, especially with increasing critical focus on climate change, how Thoreau specifically connects his thinking to seasonal animal movements, not merely nature, has received little critical attention. Similarly, despite consistent scholarly notice of Thoreau's avid devotion to walking, especially as a type of physical thinking grounded in vital materialism,[84] Thoreau's tracking often only receives mention in passing. As I argue, sympathetic tracking – using the body to unite the paths of thought with the paths of animals – is, for Thoreau, both corporeal and mental. Critics have made claims for Thoreau's corporeal thinking, but they too often tip the scales towards a bodiless mind or

[83] Twenty-first century critics now place Thoreau's works in context of a variety of scientific and environmental fields, including natural history, racial science, physical science, phenology, animal science, and evolution. For more on Thoreau's engagement with these branches of science, see *Henry David Thoreau in Context*, ed. James S. Finley, Cambridge UP, 2017.
[84] See Branka Arsić's *Bird Relics*, "Thinking with the Body: Walking."

a mindless body by demonstrating how Thoreau eradicates the mind for the body or vice versa, or how he makes thinking an object in itself or nothing at all.[85] Instead, I suggest that Thoreau's thought and body cannot be separated because they are both animalistic, and animals think with their minds *and* their bodies. His physical practice of tracking thus leads his body down the paths of the animals which generates a style of mobile thinking entirely dependent on his and their physical movements at specific times of the year. In this way, Thoreau's thinking operates in sympathetic unity with his body, leaving tracks as it soars, hops, leaps, bounds, launches, and winds along with the moving bodies of animals and his own walking, tracking body. Within this paradigm, the seasons, which he also tracks based on the appearance of certain flora, fauna, and temperature change, mark the arrival of his thought's tracks and the animals' physical tracks. Seasons operate as the great enabler of movement for Thoreau and the animals, instigating migration, hibernation, foraging, nesting, and burrowing. If the winter's harsh conditions drive the fox to the farmer's poultry yard, then Thoreau's physical tracking of that fox *in* the winter snow will generate a path along which his thoughts grow "foxy" in their movements.

To elucidate Thoreau's intersecting seasonal, corporeal, epistemological, and animal paths, this chapter, like previous chapters, performs close readings of Thoreau's animalistic thinking through a multifaced analysis. As I track the evolution of Thoreau's

[85] Both posthumanists and new materialists have argued for how Thoreau's thinking revises personhood by either canceling out his body or his mind, or both, making his mind and body more like an object in nature. This, of course, includes discussion about Thoreau's blending of subject and object (see H. Daniel Peck's *Thoreau's Morning Work*, Yale UP, 1990). In *The Senses of Walden*, Stanley Cavell argues that Thoreau desires an "impersonality" beyond "self-consciousness," Chicago UP, 1972, 102. Lawrence Buell similarly suggests in *The Environmental Imagination* that Thoreau seeks to perform "radical relinquishment" to cancel both mental and bodily humanness (146). Sharon Cameron posits in *Writing Nature: Henry Thoreau's Journal* that Thoreau wants thinking to be external and "detached from the mind" (39). Building upon these claims, Arsić posits that Thoreau adopts a "materialist epistemology" where the self "is successfully suspended" and he can approach "things as they are without meditation by the mind" (252).

phenology of thinking from autumn fox, to summer moose, and winter owl, I work my way through his three texts – "Natural History," "Ktaddn" and the *Walden* chapters "The Village" and "Former Inhabitants and Winter Visitors" – in chronological order. Moving chronologically with Thoreau shows how he tracks different animals in each season to complicate different aspects of his phenology: the sympathetic contact between scientific and literary discourse and man and fox; the binding, sympathetic contact moose and thoughts make with the earth; and, the sympathetic sensory relationship that establishes human's animal imagination as owl instinct. In each section, I historically situate Thoreau among his phenological sources, specifically William Howitt's 1831 *Book of the Seasons, Or, The Calendar of Nature*, and illuminate his contemporary relevance with British anthropologist Tim Ingold's theory of lineology. While Howitt's *Book of the Seasons* serves as one of Thoreau's narrative models for constructing his phenology of thinking (i.e. format, observational modes, walking methods, and appendix style), Ingold's theory from *The Life of Lines* (2015) elucidates how the earth and the air function as zones full of bodily and mental cross-currents that unfold as extending lines from human and nonhuman as they move throughout their shared environment. Crucial in Ingold's theory is the notion that lines intertwine through sympathetic correspondence, which helps clarify how Thoreau defines tracking and thinking as sympathetic practices of body and mind. As with previous chapters, the culmination of Thoreau's historically specific aesthetics and his twenty-first century relevancy calls for explorations of his prescience as a student of animal behavior, intelligence, and movement ecology. By demonstrating how Thoreau predicts current conservation assessments that track the fox and moose through a combination of modern technology and the on-foot methods he used, I show

that Thoreau's phenology of thinking, just as Melville's challenge to classification and Dickinson's vision of trans-corporeal subjects, can be put into modern day practice to transform the way we think about animals and our relationships with them.

As a lineologist, Thoreau moves, writes, thinks, and even breathes along lines that emit from his body, and, though animals cannot write in the traditional sense, their tracks make them lineologists as well. According to Ingold, all of life casts out a line as they move: "lifelines fan out into the milieu of earth and air, where they tangle with the lines of all the other living things that, in their habitation of the earth, deposit their own trails in the form of roots and runners, paths and tracks" (155). These lifelines are not merely strait, rigid "components" in a system but independent and always interacting "movements" (Ingold 7). As Thoreau physically tracks an animal – their lifeline – he also casts his own thinking's line into the earth with his feet to sympathetically tangle with the animals' lines. Ingold's snail provides a useful example of how these lines intertwine. He says, "in movement every snail, having unwound itself from the interiority of is whorl-shell, has become a line, and in leaving its slime-trace on the ground, it has tangled with the lines of each and every other of its kind so as to form a visible meshwork" (59). In tracking seasonal animals by their prints, Thoreau's own walked path becomes a line. Like Ingold's snail, Thoreau leaves a "slime trace" or footprinted path that tangles with the lines of all the animals' paths he crosses.

Thoreau's thinking participates in this tangling too. Ingold claims that "minds and lives are not closed-in entities that can be enumerated and added up," but "open-ended processes whose most outstanding characteristic is that they *carry on* . . . they wrap around one another, like the many strands of a rope . . . in which everything is articulated

or 'joined up'" (emphasis in original 11). Tracking, in keeping with Ingold's notion that minds and lives are always open and intertwining along lines, permits Thoreau's thoughts and body to "join up" with foxes, moose, and owls. Thoreau's tracks and the animal tracks are physical lines that intertwine but, because the minds in those bodies are not "closed-in entities" much like the way our invisible breath mixes with air as we inhale and exhale, they too can crisscross and wind around the lines drawn by feet, paws, hooves, and even wings. Thoreau says as much in *A Week*: "I perceive in the common train of my thoughts a natural and uninterrupted sequence, each implying the next" (313). This "natural uninterrupted sequence" of thinking describes the nature of not only Thoreau's seasons but his style: they all continuously unfold and imply the arrival of the next season, the next thought, and the next word on the page.

Though Ingold does not apply his lineology to seasonal progression,[86] the fact that lineology deals with life's movements in the air and the earth suggests that those movements would also develop along Thoreau's phenological lines. Critics almost unanimously point to the 1850s as the time when Thoreau's interest in phenology deepens even though the term "phenology" wouldn't be coined until it appeared in an 1884 issue of *Nature: A Weekly Illustrated Journal of Science*.[87] Though "phenology" first appeared in a journal of science, the definition came with relatively loose

[86] Ingold does indicate the weather and the atmosphere's pivotal importance in his lineology, but he focuses more on isolated weather events, such as thunder storms, tornadoes, and whirl winds, rather than on seasonal shifts in weather patterns.

[87] In Kristen Case's essay "Knowing as Neighboring: Approaching Thoreau's Kalendar," she explains that "in 1860 [Thoreau] began mining the Journal for seasonal observations across the years, beginning with the Journal of 1850– 51, the year his observations of the natural world famously intensified" (109). Sarah Dimick also posits in her essay "Disordered Environmental Time: Phenology, Climate Changes, and Seasonal form in the Work of Henry David Thoreau and Aldo Leopold" that Thoreau's "craving for natural phenomena solidified into a recognizable phenological practice by mid-November of 1850, when Thoreau began consistently dating the field notes in his Journal" (702).

parameters, characterizing phenology not scientifically but more as a daily endeavor: "the observation of the first flowering and fruiting of plants, the foliation and defoliation of trees, the arrival, nesting, and departure of birds" (*OED*).[88] Laura Dassow Walls explains in *Seeing New Worlds* that early phenology encouraged "relational rather than objective" (147) modes of interaction and observation, which allowed Thoreau to "enhance connectivity" with the natural world instead of "reduce" it (152). Stephanie Le Menager adds that the seasons function for Thoreau as "figures or even stories of ecological relationship" that show when and where "human and nonhuman lives might habitually touch one another" (396). Because nineteenth-century phenology was in its infancy during Thoreau's most productive years, the phenological stories he tells "requir[e] no formal training" (Buell 220). This informality also permits him to perform his thought's movements between genres by "toggling back and forth between poetic and scientific modes" (Thorson 250), treating science and literature as "related modes of discourse" (Leach 227) rather than "rigorously separate[ing] the two" (Case, "Knowing" 123). During Thoreau's lifetime, then, phenology did not use systematic or rigid methodologies that sought to prove nature's laws but prioritized the environment's and human and nonhuman's inherent connections, which supported his desire to sympathetically unify body and mind through the union of scientific and literary practices.[89]

[88] Today we define the term with more professionalized and methodological focus as "the field of science concerned with cyclic and seasonal natural phenomena, especially in relation to climate and plant and animal life" (OED).

[89] Due to the shiftability of its seasonal topics, phenology also promotes Thoreau's desire to be Humboldtian poet-hero who, as Laura Dassow Walls explains, "saw his task to be the joining of poetry, philosophy, and science into a harmonized whole" (4). Again, the notion of "harmonized whole" also reiterates Thoreau's understanding of mind and body as sympathetically unified in their animal nature.

Howitt's *Book of the Seasons*, a book Thoreau reviewed (Case, "Knowing" 107), proves especially useful in understanding how Thoreau adapts phenology's aesthetic and structural requirements to his phenology of thinking.[90] Lawrence Buell argues in *Environmental Imagination* that the seasons are "infinitely elastic" stylistically because they can be "short as a stanza" or "long as a volume" (232). Sarah Dimick adds that Thoreau's interest in phenology "produced an aesthetic proclivity for seasonally-driven narratives" (709), allowing "environmental rhythms to underpin structure" (714). In Howett's opening "Advertisement to the First Edition," he lists a book of the seasons' key structural and aesthetic features and how to achieve them. He says one must have "general acquaintance with Nature," provide some treatment of "the aspects and progress of the Seasons," present all the season's "poetic and picturesque features," and demonstrate an intent to "lay before" readers "all the objects and appearances which the month would present in the garden, the fields, and the waters" (v-vi). These descriptions, Howitt advises, should be "drawn entirely from [one's] own regular observations through *many* seasons" (emphasis mine vi). Among his observations, Howitt includes a "table of the Migrations of the Birds; a copious list of Garden Plants which come to flower in the month; a Botanical Calendar," and "an Entomological Catalogue" (vi). While it would be an oversimplification to attribute all of Thoreau's phenological development to Howitt, Howitt's features of a book of the seasons – especially the variation in bird migrations, the appearance of flowers, and insect behavior over many seasons – appear repeatedly in

[90] Narrative models appeared in several other potential phenological sources Thoreau consulted, such as John Evelyn's *Kalendarium Hortense or Gardener's* Almanack (1664), which Thoreau read in 1852 (Case, "Knowing" 107). Sarah Dimick also points to phenological trends occurring around the time of Thoreau's writing, such as the Smithsonian Institution's circular entitled "Registry Periodical of Phenomena" which they distributed in 1851, inviting readers to "observe and report" seasonal phenomena (704).

nearly everything Thoreau writes, suggesting how crucial animal's phenological movements are to his thinking.

Howitt also emphasizes walking, another of Thoreau's frequently invoked methods and motifs, especially on footpaths, to induce the poet's phenological imagination. Although Thoreau establishes a similar relationship between tracking and seasonal thoughts, his narratives insist that the mind isn't induced by the body, but both are induced simultaneously by the seasons, especially seasonal tracks in the earth. Howett, in his "November" chapter on the "Influence of the seasons on different minds," asks, "to the poet, what is more affluent of imaginative stimulus and precious suggestions than strolls through wood-walks, mountain-glens, and along wild sea-coasts, at this *season*? The universal stillness is felt through the whole soul. Every object is exaggerated, and yet recommended to the eye through the media of gloom and mist" (emphasis mine 289). Then, in his July chapter, Howitt explores footpaths' inspiring imaginative effect: "the smooth, dry track, winding away in easy curves . . . is to me an object of certain inspiration" because paths "beckon the imagination on" (189-90). Howitt directly connects walking (i.e. corporeal movement) and poetic imagining, both of which occur during November "wood-walks" and/or on a "smooth," "winding," "dry track" of July. In each case, the walking body moves across paths to ignite the mind's seasonal imagination. Thoreau recalls in his *Journal* from July 21, 1851, a similar footpath on a "dusty road" where he finds the "track of a bare human foot" whose "toes and muscles [are] all faithfully imprinted" (*J* 2:328). The print is "so rare"' it surprises him, but it is as "pleasant" to him as seeing "the tracks of cows and deer and birds" because he is "brought so much nearer to the tracker" and to the "sole of [his] own foot"

in seeing the track of another (*J* 2:328). He concludes he will tell those he meets on the path to "make tracks," too (*J* 2:328). Seven years later in 1858, while walking in the January rain, Thoreau echoes Howitt's position on "the universal stillness" of November mist when he says, "you feel the fertilizing influence of the rain in your mind" as it engenders "serene, contented thought" (*J* 10:262). But, as Thoreau walks in the rain, he finds himself and "you" "sinking at each step deep into the thawing earth, gladly breaking through the gray rotting ice. . . You leave your tracks" (*J* 10:262). Thoreau's walking alone doesn't induce thinking as it does for Howitt. Instead, in discovering tracks along the "dusty road" of July and in leaving tracks in the "thawing earth" of January, Thoreau realizes that the seasons impact how the body *and* mind leave the tracks of thought along paths.[91]

Just as Howitt limits seasonal walking's influence on thinking to a bodily induction of the imagination, he also restricts animal movements in his *Book of the Seasons* to bird migrations. Thoreau's phenology, on the other hand, overflows with the movements of animals. But, as many critics have shown, Thoreau's animals often lead to debates over who he prioritizes – human or nonhuman – and what we should read as mere motif, literal subject, or applicable practice. As Jane Bennett posits in *Thoreau's Nature*, literal animals "jolt him out of the trenches of his usual thoughts" (58). But, more often than not, recent readings in literary posthumanism, new materialism,[92] and

[91] Kristen Case and Branka Arsić have both discussed the connection Thoreau makes between body and mind. Case, in her recent analysis of Thoreau's Kalendar, suggests his connection to "the material world of nature" is "an active, physical one" ("Knowing" 116). Branka Arsić elucidates this point in *Bird Relics* when she explains how Thoreau believes that "our body determines our thoughts," as opposed to the traditional philosophical rendering where "walking is performed by the mind; the body can't walk, it is instead taken for a walk" (281-83). In each case, Thoreau connects to the material world and to thinking through physical movement.

[92] For more on Thoreau's materialism see Jane Bennett's *Thoreau's Nature: Ethics, Politics, and the Wild* (Rowman and Littlefield Publishers, 1994), Branka Arsić's *Bird Relics: Grief and Vitalism in Thoreau*

animal studies tend to evaluate Thoreau's animals less as individuals in their own right and more as symbolic figures who trouble personhood. Michelle Neely, for instance, explains that Thoreau takes great "pleasure in boundary confusion" ("Reading"), as he repeatedly "acknowledges the animal within the human" ("Animals" 270).[93] While Thoreau enjoys muddling the boundary between himself and his animal counterparts, his animals also certainly function as symbolic *of* the movement of thinking. For example, the hen-haws of Walden are "the embodiment of my own thoughts" (*W* 173), the well-prepared thoughts in conversation are like "the fishes of thought" who do not scatter (*W* 293), and the dying pigeons in "Walking" (1861) are like "the wings of some thought" that used to "flit across the landscape of the mind . . . in its vernal or autumnal migration" (132). William Rossi claims that in examples like these Thoreau demonstrates "a near complete lack of interest in animals unhitched to the emblematic" (88). Walls also posits that Thoreau "sees a flower or other object, and it is beautiful or affecting to him because it is a symbol of his thought" (155). But in most of Thoreau's examples of animal symbolism, it is not clear how he arrived at selecting an animal to symbolize his thoughts, returning us to Neely's emphasis on boundary confusion. What came first? Was the fish a thinker and therefore suited for symbolizing human thought or was human thought moving *like* a fish who, in a school, "form and dissolve" or *like* a hen-hawk who

(Harvard University Press, 2016), and Laura Dassow Walls's *Seeing New Worlds: Henry David Thoreau and Nineteenth-Century Natural Science* (The University of Wisconsin Press, 1995)

[93] Thoreau's ambiguous boundaries occur in Walden when he sees himself as "the human insect" who, like the "insect crawling amid the pine needles on the forest floor" "hide[s] its head" and its "humble thoughts" (W 360). Or, he's a human animal whose "head is hands and feet" and "an organ for burrowing, as some creatures use their snout and fore-paws" (W 105). In these scenarios, he is both posthuman insect and animal but also a material body intimately connected to the bodies of others. Present in these examples, too, is his emphasis on animal movement – "crawling," "hiding," and "burrowing" – as well as thinking: "humble thoughts" and the burrowing, thinking organ in the head.

can be seen "circling," "soaring," "descending," "approaching" and "leaving" (*W* 173), or *like* a dying pigeon only infrequently flitting wing-like thoughts across the mind?

An alternative reading of Thoreau's animals emerges if we consider his evidence for an animal thinker who might inspire metaphor *because* they think. Neely reiterates this feature of Thoreau's animals and explains that he has "a sense of curiosity about non-human cognition" ("Animals" 274). In an 1858 Journal entry, for instance, he rejoices in the discovery of a new fish in the town pond, and his excitement at having a new "contemporary and neighbor" who is similar "yet so different from me!" leads him to the conclusion that "I can only poise my thought there by its side and try to think like a bream for a moment" (358-9). Here his use of "like" does not suggest the bream represents his thought, but that he must think *like* the bream himself to imagine how it arrived in the pond. And, in perhaps the most often cited passage on animal cognition, Thoreau's Walden loon leads Thoreau around the chilling, fall pond. In their game of chase, the loon "made up his mind" quickly and put a plan of strategic evasion into "execution," and Thoreau notes "while he was thinking one thing in his brain, I was endeavoring to divine his thought in mine" (*W* 256). These are but a few of Thoreau's varying animal examples that shift, one might say like the seasons, from metaphor to literal while Thoreau, too, undergoes metamorphosis into human and animal and sometimes both at once. These human/animal, symbolic/literal transformations do not reveal a shortcoming in Thoreau's animal imaginings but astute thinking that moves with profound and ever-shifting seasonality as it tracks the brilliant complexity of animal lives and minds.

Sympathy with the Sun: Fall-owing the Wending Paths of the Fox in "Natural History of Massachusetts"

To begin tracking Thoreau's phenology of thinking we must look to one of the animals he tracked year-round and across the body of his work: the fox. Whether they are barking "a vulpine curse" at him or fleeing from hunters and hounds in *Walden* (296), running "a small arc of [their] course" across the cape in *Cape Cod* (952), "stepping about over dead leaves, and brushing the dewy grass" outside of his tent in *A Week* (34), or laying paths before him "along by the river, and then the brook, and then the meadow and the woodside" in "Walking" (100), foxes' and Thoreau's wending paths intersect frequently. One of Thoreau's earliest published works, "The Natural History of Massachusetts," which appears in the *Dial* on July 2, 1842, establishes his early insight into a phenology of thinking and elucidates how his thoughts indeed grow "foxy" in their tracks (*J* 6:101). As Thoreau treads his course through an ambiguous fall/winter, he tracks the fox's "graceful curvatures" (NH 25) that seem to him to be not only "coincident with the fluctuations of some mind" but in "visible sympathy" with the sun (NH 15). From the fox's tracks Thoreau ascertains a model for how to sympathetically engage his tracking body with his thinking's animal movements as both a budding scientist and an essayist, relationally placing his totality – his body and mind and his aesthetic and scientific practices – in the midst of nature's seasonal continuity.

Critics then and now regard Thoreau's "Natural History" and the *Dial* as thoroughly Transcendental in theme, suggesting that the essay should be interpreted along the lines of Transcendentalism's ideals. But this approach does not consider the varying movements of Thoreau's thinking, particularly how those movements relate to his animals and his tracking. Thorson, for example, indicates that Thoreau's career

between 1837-1844 could be called his "Emersonian, neoclassical phase" where he searched for the "higher laws" of Transcendentalism (248). In light of these higher laws' correspondence to animals, Rossi claims that Thoreau portrays animals as solely instinctual in the Transcendental sense of the term where instinct metaphorically functions as "a privileged mode of intuitive access to a higher human nature: that is to say, to everything 'the animal' was not" (84). Neely adds that Thoreau's tracking in the essay also prioritizes human nature by adhering to the "narrowly conventional anthropocentrism" of the hunter with his neutral and even romantic descriptions of "fishing, trapping, and shooting creatures" ("Animals" 273). While Thoreau's Transcendental overtones in this work are undeniable, particularly his belief that "society is always diseased" and nature is the most "restorative" place for social illness (NH 3), these Transcendental and anthropocentric readings do not allow for the varying movements or the "graceful curvatures" of Thoreau's foxy thoughts. Nor do they take note of how Thoreau's sympathetic tracking contrasts with the hunter and trapper's anthropocentric tracking. As Case suggests, Thoreau's "writing demands that we engage not only individual works but also the whole lived process of their generation" ("Knowing" 124). If we acknowledge the lived process of his writing, then we also become a lineologist where we, like Thoreau, are Ingold's wanderer: "to wander is to follow a course that is sinuous instead of straight" (59). And, as we wander through Thoreau's works, we take note of the seasonal shifts of his moving thoughts. For instance, what he foregrounds in the "Natural History" as thoughts that move in sympathy with the fox and the sun are later refined in "Walking": "the highest that we can attain to is not Knowledge, but Sympathy with Intelligence. . . . It is the lighting up of

the mist by the sun" (128). As readers, we must track Thoreau's tracks, too, particularly because their "graceful curvatures," one might say, wend as sinuously as the fox and provide ample ground for alternative readings of even his earliest, seemingly most Transcendental works.

By creating his own seasonal structure and dabbling in the variety of animals the landscape offers in the "Natural History," the aesthetic wandering of Thoreau's thoughts is brought into relief against the bodily and mental movements of seasonal animals. Organized without clear titular or seasonal distinctions, fall blends into spring, summer into fall, then back to spring, forward into fall and winter, and then winter runs back into spring and then winter again. In *Bird Relics*, Branka Arsić describes such movements as indicative of Thoreau's desire to be "in the midst of relations" (212). This Thoreauvian propensity for placing himself in the middle of relations not only characterizes the sympathetic, relational continuity Thoreau establishes between thinking and the body, himself and the seasonal fox, but it also indicates how Thoreau conceives of seasons as complementary to moving thoughts in their wending, wandering aesthetic form. For example, the only signals of seasonal change that Thoreau provides readers are the phrases "in the autumn days" (6), "as the spring advances" (7), during "the summer's eternity," (9) "in the Fall" (14), "in May" (22), or "in the winter" (24). These seasons also appear within each other – "with the autumn begins in some measure a new spring" (10). Thoreau tracks these happenings throughout the essay, giving us the sense that his body perpetually walks through achronological seasonal changes as the "solitary rambler" of May and June (10), the "late walker" of "October evenings" (11), "the musing night-walker" of spring (20), or "the silent navigator" of "a warm still evening" (20). Howitt's

Book of the Seasons also attests to the pleasure of walking, especially in "frosty weather," because it "invigorates the frame" and allows the "mind" to be "held in pleasing attention to phenomena and features of the season" (10). The seasonal and animal "motions" to which Thoreau is "attracted" (21) similarly "invigorat[e] his frame" and his mind by motivating his walks. For example, he could find the muskrats constructing their "hunting lodges in the fall" (14), or the snapping turtle who peeps his head above water in May while fishermen hunt him and the skunks rob the female's eggs (22), or the "nuthatch and chickadee flitting in company through dells of the wood" in winter (6). Thoreau's season's chronological irregularity highlights the varying, asymmetrical nature of his aesthetically conceived, seasonal thinking, which he importantly detects in the seasonal movements of animals.

From such aesthetic variations, Thoreau's sense of sympathy with the fox's tracks emerges as threefold in the "Natural History" essay, and each point of sympathetic contact importantly flows from the fox to Thoreau. The fox's mind beckons Thoreau's thinking along the "graceful curvatures . . . coincident with the fluctuations" of his mind (NH 15), and the fox's physical tracks invite Thoreau's body to sympathetically move with the fox along his trodden path. These sympathetic unions impart to Thoreau a scientific thinking practice based not in "inference and deduction and the application of mathematics to philosophy," as he says in the conclusion of the essay, but in "direct sympathy and intercourse" (29). Prior to this conclusion, about midway through the essay, the fox emerges in the ambiguous time between fall and winter, leaving curving, wending tracks in the snow, with which Thoreau's thoughts follow and intertwine:

> Perhaps of all our untamed quadrupeds, the fox has obtained the wildest and most familiar reputation, from the time of Pilpay and AEsop to the present day. His recent tracks still give variety to a winter's walk. I tread in the steps of the fox that has gone

> before me by some hours, or which perhaps I have started, with such a tiptoe of expectation, as if I were on the trail of the Spirit itself which resides in the wood, and expected soon to catch it in its lair. I am curious to know what has determined its graceful curvatures, and how surely they were coincident with the fluctuations of some mind. I know which way a mind wended, what horizon it faced, by the setting of these tracks, and whether it moved slowly or rapidly, by their greater or less intervals and distinctness; for the swiftest step leaves yet a lasting trace. Sometimes you will see the trails of many together, and where they have gambolled and gone through a hundred evolutions, which testify to a singular listlessness and leisure in nature.
>
> When I see a fox run across the pond on the snow, with the carelessness of freedom, or at intervals trace his course in the sunshine along the ridge of a hill, I give up to him sun and earth as to their true proprietor. He does not go in the sun, but it seems to follow him, and there is a visible sympathy between him and it. Sometimes, when the snow lies light, and but five or six inches deep, you may give chase and come up with one on foot. In such a case he will show a remarkable presence of mind, choosing only the safest direction, though he may lose ground by it. Notwithstanding his fright, he will take no step which is not beautiful. His pace is a sort of leopard canter, as if he were in no wise impeded by the snow, but were husbanding his strength all the while. When the ground is uneven, the course is a series of graceful curves, conforming to the shape of the surface. He runs as though there were not a bone in his back, occasionally dropping his muzzle to the ground for a rod or two, and then tossing his head aloft, when satisfied of his course. When he comes to a declivity, he will put his fore feet together, and slide swiftly down it, shoving the snow before him. He treads so softly that you would hardly hear it from any nearness, and yet with such expression, that it would not be quite inaudible at any distance. (15-16)

Thoreau's fox encounter begins with an emphasis on how the fox's "recent tracks still give variety to a winter's walk," which he ascertains as he follows or "tread[s] in the steps of the fox that has gone before me" (15). The mention of tracks and variety denote not only the pleasure of following a fox, but also implicate the range Thoreau attributes to the most sympathetic of thoughts whose lines intersect with the fox's fluctuating mind. While the relationship he establishes between the fox and the "trail of the Spirit" initially suggests a passage of Transcendental reflection, Thoreau merely mentions the "Spirit" in passing as he reaches the more poignant elocution of the moving fox – the "true proprietor" of the "sun and earth" (15). We might take this shift as indicative of what Bennett regards as Thoreau's "passion for the nonhuman" that is not "unrelated to some conceptions of the divine" (223). But, more in keeping with a phenology of thinking dependent on seasonal animals' movements, Neely indicates Thoreau's fox tracking

shows how "animals not only exceed, they perhaps anticipate the human" because the fox "has gone before" Thoreau ("Animals 274). Though he seems to follow the "Spirit itself," Thoreau almost immediately transitions his thinking to the literal animal, demonstrating that the fox not only anticipates the Spirit and Thoreau's approach, but he also anticipates Thoreau's tracking thoughts which propel him down the fox's path.

This fox functions as a precursor to the Walden loon who, in anticipating Thoreau's movements and thoughts, "maneuvered so cunningly" as he swiftly "made up his mind" and "chose his course" ahead of Thoreau's boat (*W* 256). The loon is so quick and "so long-winded" and "unweariable" that "no wit could divine where in the deep pond, beneath the smooth surface, he might be speeding his way like a fish" (*W* 256). The fox of "Natural History" possesses a similar "remarkable presence of mind, choosing only the safest direction" as if the snow is no impediment but a source that allows him to be "husbanding his strength all the while" (NH 15). The fox – equally "unweariable" as the loon (*W* 256) – "curves, conforming to the shape of the surface" (NH 16) just as the loon dives beneath the pond's "smooth surface" (*W* 256). In coming before human and spirit, the fox, like the loon, models *for* the human and even the Spirit that thinking moves in "graceful curvatures" and "fluctuations" along a surface to which they are uniquely adapted (NH 15). Thoreau finds himself so "curious to know" how this mind moves in these curves, these "sinuous instead of straight" lines (Ingold 59), that he begins to follow the mind's tracks with his own feet, wishing to adapt his thoughts held within his moving body to the same surface. Just as he does in his *Journal* where he reproduces track dimensions, Thoreau determines the precision of the fox's movements, which he credits to the fox's intelligence: "I know which way a mind wended, what horizon it

faced, by the setting of these tracks, and whether it moved slowly or rapidly, by their greater or less intervals and distinctness; for the swiftest step leaves yet a lasting trace" (NH 15). Thoreau implies that these traces last in his own mind, too, for how many seasons we do not know, but, to make a Thoreauvian comparison, the traces seem to *crystalize* much later in his career as the realization that **"**the highest that we can attain to is not Knowledge, but Sympathy with Intelligence" ("Walking" 128). By tracing the fox's course, he tracks the "evolutions" of his own thoughts, taking from the fox's "remarkable presence of mind" a method for "conforming" his thinking "to the shape of the surface" the earth presents, so that he may, too, "go in the sun" in "visible sympathy" with the fox.

The same phrases Thoreau uses to describe his thinking's sympathy with the fox's fluctuating mind also detail his desire to conform his body to the fox's course, further suggesting the relational continuity between bodies and minds that Thoreau imparts to a phenology of thinking. Thoreau traces the fox's "course in the sunshine," and realizes the fox "does not go in the sun, but it seems to follow him, and there is visible sympathy between him and it" (15). He praises the fox because the fox moves his body "as if he were in no wise impeded by the snow," moving in "curves" and "conforming to the shape of the surface" even in the face of "a declivity" where he brings "his forefeet together . . . shoving the snow before him" (16). This is the bodily sympathy with seasonal patterns that Thoreau desires for himself and detects between the fox and the sun. In the autumn/winter the sun follows the fox, and the fox apprehends from the earth the course his body should take – season, sun, and animal physically align. But this alignment relates, always, to the "way a mind wended" (15). Indeed, even contemporary fox

tracking reports continued use of the type of mental and physical tracking Thoreau records in "Natural History of Massachusetts" and his journal. For example, in a Conservation Assessment of the Sierra Nevada Red Fox (*Vulpes vulpes necator*), John D. Perrine reports that "seasonal movements" in winter, especially, detect a higher number of foxes based on the tracks they leave in the snow (33). They also note that red foxes are "intelligent and adaptable" and use "open areas less and forest cover more . . . At clearings, the foxes tended to follow the forest side of the edge as opposed to moving straight into the openings. They also . . . wal[k] in ski and snowshoe tracks. . . . foxes may select areas where packed snow facilitates travel" (19). In other words, even modern-day tracking continues to generate data pertaining to fox movements based on how they intelligently adapt their body's movements to the seasonal landscape – or, how they move their minds in sympathy with their bodies during a particular season – which scientists perceive by following fox tracks in the snow.

Thoreau states in his November 9, 1851 Journal entry that "facts which the mind perceived, thoughts which the body thought, – with these I deal" (*J* 3:99). For Thoreau, like the fox, the body engages in thinking as much as the mind, and he specifically engages the body by walking. Malcom Clemens Young says, "by walking, one comes to sympathize" (221), and Arsić adds, "the walk is designed to open what Thoreau calls the 'inner door' of the mind, a door into the body as the mind's most immediate exteriority" (284). Walking is therefore the key to physical sympathy with thinking. And, as Buell posits, "Thoreau remains keenly interested in phenological data, in reading seasonal signs at the *physical* level" (emphasis mine 231), but Thoreau appreciates the fox's tracks for the "variety" they give to his walks, so physicality cannot solely mean what the earth

itself presents or what thoughts he garners by walking. The variety the fox's tracks provide show how the body and the mind operate in sympathy for *both* the fox and Thoreau, but only if Thoreau can learn to track the phenological movements or "data" (Buell 231) that correspond to his own body's movements. F.O. Matthiessen relates this back to Thoreau's aesthetics, saying "in the act of expression" Thoreau understands that "a man's whole being" must "function organically together" (175). In Thoreau's phenology, expression's organic functioning replicates the functions of his mind and body working in sympathy with each other. We have already seen how Thoreau employs organic or sympathetic functioning between his and the fox's mind, but Case extends this organic functioning to Thoreau's seasonal, bodily practices: "the charts of general phenomena include Thoreau's own activities and seasonally determined behaviors ('Begin to wear one coat commonly,' 'Sit below without fire commonly,' '1st am that I sit with open window,' and 'weather for half thick coat') alongside phenomena such as wind, rainfall, and the opening of Walden Pond" (110-11). Missing from these practices are Thoreau's footprints and his path-making habits – the actual bodily movements that operate in sympathy with the seasons as the fox operates with the sun and snow. As a wandering lineologist, then, Thoreau's own footprints or tracks "register emplaced movement" in "a surface that is soft, pliable or absorbent" (Ingold 63), and as a path-maker, like the fox, he "weaves another strand of movement *into* the ground" (Ingold 61). So, as Thoreau "paces a line with his feet" (Ingold 60) over the lines that the fox has already established with his own tracks, he engages his body in the intersection of season, animal, mind, *and* body. If it is snowing, he adapts his habits – such as his coat and snow shoes – and his body's movements to the deep snow. As he says in his Journal entry from

September 2, 1851, "the body, the senses, must conspire with the mind" (*J* 2:441). The walking body that inscribes its own tracks in the snow thus conspires with the mind's thoughts – both function in relational continuity and sympathy as they cross the paths already inscribed by the fox's tracks.

By the end of the essay, the sympathy Thoreau establishes between his and the fox's mental and physical tracks constitutes a "finer organization" in the *scientist's* body and mind. For Thoreau, a "true man of science" will "smell, taste, see, hear, feel, better than other men" (NH 29). Scientifically speaking, the lineology Thoreau evokes in these intertwining sympathetic unions might be framed by Ingold as a knot or a joint, which "establish relations . . . of *sympathy*" (emphasis mine 23). Because jointed and knotted lines are "bound in sympathy," the whole of the knot or joint "is a correspondence, not an assemblage" (Ingold 23). An assemblage implies a corresponding relationship based in associations made by the words "and . . . and . . . and" – a kind of accumulation that follows a procession – instead of the sympathetic relationship established by "with . . . with . . . with," which implies all movements happen simultaneously (Ingold 23). In Thoreau's phenonlogy of thinking, it isn't the mind *and* the body *and* the seasons *and* the fox, but the movements of the mind *with* the body *with* the seasons *with* the fox. Ingold cites the design theorist Lars Spuybroek to clarify sympathy's jointed, knotted nature, saying "sympathy is a 'living with' rather than a 'looking at' (23-4). While Thoreau seems to count himself as one among the scientists he cites in the essay – Linnaeus, Audubon, Goldsmith, Nuttall, and Bigelow – he bases his science both in the literary portrayal of his encounters and in the notion that "wisdom does not inspect, but behold" (NH 29). Thoreau's notion of beholding predicts his point in *Walden* that "the surface of

the earth is soft and *impressionable* by the feet of men; and so with the paths which the mind travels" (emphasis mine 351). The impressions made by the animals and seasonal curiosities he beholds in both "the surface of the earth" and "the paths which the mind travels" intersect based on a sympathetic "living with" (qtd. in Ingold 23-4). In his Journal, he says the scientist's cool "attention" does not enact a "living with":

> I think that the man of science makes this mistake, and the mass of mankind along with him: that you should coolly give your chief attention to the phenomenon which excites you as something independent on [sic] you, and not as it is related to you. With regard to such objects, I find that it is not they themselves (with which the men of science deal) that concern me; the point of interest is somewhere between me and them. (*J* 10:164-5)

Here, Thoreau casts the scientist as one who does not recognize the sympathetic movements between himself and the "phenomenon which excites you" (*J* 10:165). For Thoreau, the "point of interest" is always a sympathetic "with" – a relation of continuity between "me and them" (*J* 10:165). The scientist who embraces Thoreau's phenology of thinking should see in the earth's exciting phenomenon the trail and lines disclosed by the seasons, or the snow – "a great revealer not only of tracks made in itself, but even in the earth before it fell . . . for it reprints [tracks], as it were, in clear white type, alto-relievo" (*J* 6:124-5). In reference to this February 1854 Journal entry in which Thoreau reports how the "slight snow" reveals a "clear white line" and "tracks made in itself," Buell remarks that, for Thoreau, "winter [brings] clarity and acuity of vision" (247). The lucidity and awareness that winter brings permits Thoreau to see a scientific practice produced *by* sympathy and impressed within the trails and lines of snow as "the points of interest between . . . me and them" (*J* 10:165) like a three dimensional "alto-relievo" sculpture (*J* 6:124). This practice entails specific bodily interaction, or "intercourse" (NH 29), with the natural world, and such sympathetic interaction produces trackable patterns of thought or "wisdom" that does not "inspect" but "behold[s]" (Thoreau, NH 29). In this

way, Thoreau tracks the autumn fox's wending mind into winter just as the sun seems to orbit around him, leading to a type of thinking and semi-scientific practice that moves with human and animal bodies, within the seasons, and throughout the literary works he creates over the next twenty years of his life.

Summer of the Moose: The Bounding Thoughts of "Ktaadn's" Trackless Forest

Unlike the fox who Thoreau tracked frequently in his Massachusetts home, the moose of the Maine Woods evaded Thoreau both physically and mentally during his first trip to the area, compelling him to reconsider how sympathetic contact with an animal functions when tracks are all he can find. In fact, "Moose" was one of the last words Thoreau uttered before his death on May 6, 1862, according to his longtime friend, Ellery Channing, which suggests that the moose, perhaps more than any animal, preoccupied his thoughts throughout his career.[94] Over the course of eleven years, Thoreau took three trips to the Maine woods in 1846, 1853, and 1857,[95] and the three essays his visits generated became what we now regard as the essay collection *The Maine Woods* (1864).[96] While each location and the inhabitants, including the Native Americans, Thoreau encountered there have received over a century of treatment, the moose remains as elusive to critics as they remained in the narratives themselves, especially "Ktaadn." Instead of evaluating the moose as a pivotal character in Thoreau's philosophy of mind, most criticism of the first essay – the central focus of this section – concentrates on the

[94] According to Channing, in addition to "moose," Thoreau's last word was "Indian."

[95] Organized around three geographical sites in the backwoods of Maine, the collection consists of the 1846 visit to Mount Katahdin in the essay "Ktaadn," the 1853 trip to Chesuncook Lake – the largest lake on the West Branch of the Penobscot River – described in "Chesuncook," and the final 1857 venture to the Allagash River headwaters and the East Branch of the Penobscot River recorded in the essay "The Allagash and East Branch."

[96] Thoreau spent a total of sixteen years working on his Maine woods essays (1846-1862). For a detailed discussion of the publication history of these individual pieces see Joseph J. Moldenhauer's "The Maine Woods" in *The Cambridge Companion to Henry David Thoreau* (Cambridge UP, 1995)

great “Contact!” episode as representative of a variety of Thoreauvian concepts: fear, the wild, materiality, transcendence, grief, and ecology. I also focus on this passage, but I suggest we must *move* upwards a few paragraphs in the essay to those challenging passages that Dana Phillips claims Transcendentalists are too “apt to leapfrog over” (233). In these paragraphs, we move with Thoreau as he ascends and descends portions of Mount Katahdin in the late summer of 1846, and immediately prior to the “Contact!” scene we walk with Thoreau in the moose’s “trail” of “fresh tracks” (*MW* 644). If contact with the wending tracks of the fall/winter fox assists Thoreau in outlining his practice of sympathetic tracking in a phenology of thinking, then the moose in “Ktaadn” embodies an intriguing example of how he challenges his own conception of contact with the very tracking method he creates.

As Thoreau moves his body through the Maine woods – walking, “climbing, stooping, and, winding” (635), his physical tracking maneuvers are constantly in contact with the earth’s surface. Such contact prompts him to repeatedly toy with the various forms of the word *bound* – also a term often used to describe the way a moose moves through its environment – frequently invoking “bounded,” “boundaries,” and “boundless.” Leaving tracks together on the earth’s surface, moose and Thoreau enact “motional thought” as they are “thinking in movement” (Ingold 49), and this thinking knows no bounds despite the boundary that bodies themselves seem to pose as inherent to all beings. The summer moose thus aids Thoreau in refining though not perfecting, as his final words imply, a thinking method equivalent with bodily movement across and in contact with the earth. In following the moose’s tracks, Thoreau discovers that his

thinking is bound to the earth and by the earth and contact with that earth is contact with thinking – "the *common sense!*" of all creatures (646).

In terms of Thoreau's phenology, unlike the "Natural History" and even the essays in *The Maine Woods* that follow "Ktaadn,"[97] Thoreau's 1846 piece about Mount Katahdin loosely adheres to summertime shifts in a day and night marked by phrases like "the forenoon" (630), "by six o'clock" (634), "about four o'clock" (647), and so forth. While the shifts in day and night function in some ways like the achronological seasonal shifts in "Natural History" because they seem to appear at the head of paragraph as a simplified marker of change, Thoreau specifies that his visit takes place during late summer when the "myriads of black flies, mosquitos, and midges, or, as the Indians call them, 'no-see-ems'" who "make travelling in the woods almost impossible" have dissipated (*MW* 593). Thoreau's adventure specifically begins on September 1st, which, according to movement ecologists Navinder J. Singh, et al. who track moose movements for conservation and management, suggests that Thoreau enters the woods during the beginning of the moose's autumn migration "when they are in their summer range (August to November)" (10). As moose move during migrations, they, according to Bram Van Moorter et al., make "decisions about visiting a new location . . . based on expected environmental conditions through perception or memory," which implies that moose possess a form of spatial intelligence that permits them to navigate and select a particular environment (22). Though Thoreau never encounters an actual moose in the narrative, he continuously tracks his own course in the tracks of perception and memory they leave behind, gaining a sense of how a being's contact with the earth expresses the movement

[97] "Chesuncook" and "Allegash" both contain dated entries, or specific dates as references points.

of their thinking. Like the autumn fox, the summer moose anticipates Thoreau and represents a style of thinking that, in many ways, is pre-human but innate in the human-animal's tracks. Thoreau first detects a moose's presence when he finds "flattened places in the grass" where "moose had laid down the night before," and one of his guides, Tom Fowler, explains that "there were thousands in these meadows" (*MW* 613). From this point onward, Thoreau seems to feel and detect the moose everywhere as if they were "silently watching" him (*MW* 613). While the watching is one-sided, the tracking is not; and from signs of the moose's presence left in the earth, Thoreau begins to generate an image of a moose's intelligent perception based on their bodily movements through the woods, and this image predicts his own thinking's movement in the earth.

Stylistically, *The Maine Woods* often reads like a guidebook to the area and even to tracking the moose, but within the passages that initially seem to list facts about moose, Thoreau infuses his language with a sympathetic form of tracking in keeping with the practice he outlines in the "Natural History" essay. In "Ktaadn" his sympathetic tracking emphasizes contact with the earth in order to achieve thinking that moves without boundaries through the woods with the moose. Twentieth-century readings of the signs of human and nonhuman presence left on the mountain, such as Ronald Wesley Hoag's interpretation of the "marks" Thoreau encounters, equate signs and marks with "man's destructive impulses" in the natural world (40). While this may be true particularly for the loggers and hunters, twenty-first century readings find more vitality in these signs, even in signs of destruction. Phillips, for example, posits that many of the traces that seem to beckon Thoreau throughout the narrative are "literally traces, or tracks, trails, and piles of trash" that, like the woods themselves, seem to withdraw from

full conceptualization and therefore pose "an intellectual challenge that he gladly accepts" (229-30). More in keeping with Phillips, I find the challenge traces pose for Thoreau lend towards his aesthetic deferment to a travel guide mode of writing, or even a guide to tracking moose, accompanied by natural history descriptions of the flora and fauna he encounters. For example, his party lands "on a small isle" to "consult about [their] further course," he discovers "the recent track of a moose, a large, roundish hole, in the soft wet ground, evincing the great size and weight of the animal that made it" (630). He also explains here that moose are "fond of the water, and visit all the island-meadows, swimming as easily from island to island as they make their way through the thickets on land" (630). Later in the narrative he describes moose tracks in more detail:

> The track of a full-grown moose is like that of a cow, or larger, and of the young, like that of a calf. Sometimes we found ourselves traveling in faint paths, which they had made, like cow-paths in the woods, only far more indistinct, being rather openings, affording imperfect vistas through the dense underwood, than trodden paths; and everywhere the twigs had been browsed by them, clipped as smoothly as if by a knife. The bark of trees was stripped up by them to the height of eight or nine feet, in long, narrow strips, an inch wide, still showing the distinct marks of their teeth. We expected nothing less than to meet a herd of them every moment. . . . The largest are nearly as large as a horse, and weigh sometimes one thousand pounds; and it is said that they can step over a five-foot gate in their ordinary walk. They are described as exceedingly awkward-looking animals, with their long legs and short bodies, making a ludicrous figure when in full run, but making great headway, nevertheless. It seemed a mystery to us how they could thread these woods, which it required all our suppleness to accomplish,—climbing, stooping, and winding, alternately. They are said to drop their long and branching horns, which usually spread five or six feet, on their backs, and make their way easily by the weight of their bodies (635-36).

While these details provide a guide to tracking the moose, Thoreau importantly, and rather ironically, functions as a sympathetic tracker unlike his intended Native American guide, Louis Neptune, who meant to guide Thoreau as he went "up to Chesuncook to hunt moose" (*MW* 598). The men who end up leading Thoreau through the woods are his Uncle George McCauslin, a timber merchant, and Tom Fowler. In each case, his guides' tracking indicates a more sinister method of acquisition for profit. But, Thoreau, like

modern day movement ecologists, tracks moose's movements as if the movements were themselves the main way to profit from the animal. Like the fox, they model for him a thinking method perfectly adapted to their environment through movement, leaving "flattened grass," "large roundish hole[s]," "trodden paths," "clipped" twigs, and "stripped" bark in their wake, while he has to climb, stoop, and wind through the woods as if he, not they, were the "exceedingly awkward-looking" animal. What Thoreau encounters in these tracks are not boundaries between him and the moose that, like Katahdin, seems encased by a "blue barrier" of "naked rock rising abruptly from the forest" (635), but prints "anciently bounded" to the earth (635). Though he is "the oldest mountain-climber" in his party – one who presumably is also "anciently bounded" by the earth – he must stand "scanning the woody side of the mountain" for a "course that would lead [them] parallel to a dark seem in the forest," which marks water to seek (634). The moose, in this way, models "thinking in movement" where the "complex surface of the ground is inextricably caught up in the very process of thinking," (Ingold 49) complicating Thoreau's method of contact with tracks by suggesting his thinking could indeed eradicate boundaries and make contact with the earth.

For Thoreau's thoughts to make contact with the earth and leave thinking tacks as the moose, his bodily movements must also function in sympathy with his thinking and transgress typical physical and mental boundaries. To see this happen in real-time, we must make our own deliberate way through the paragraphs leading up to the "Contact!" scene. Beginning as Thoreau does, with his upward climb of Katahdin, the closest he will get to its summit, we find his most evocative description of the boundarylessness that the Mount affords. Here he functions, again, as Ingold's lineologist who can eradicate the

boundaries between thinking and bodily motion. As he moves across the surfaces of the earth, he employs the "extended mind of the walker" who can "infiltrate the ground along the myriad . . . pathways" to "tangle with the minds of fellow inhabitants" (Ingold 49). The ground thus operates as a "domain" that allows "the lives and minds of its human and non-human inhabitants" to function as "comprehensively knotted with one another" as they make tracks (Ingold 49). What Ingold understands as "the walker" I define as the tracker, and what he portrays as the mind in its totality, I interpret as thinking – a *part* of the mind, specifically the part that moves – and this thinking is precisely what Thoreau allows to make contact or knot with the trails of other beings as he tracks a trail up the mountain.

"In a deep and narrow ravine, sloping up to the clouds . . . and hemmed in by walls of rock" Thoreau moves up and into the bare portion of the mountain "almost continuously draped in clouds" by "walking a level rod or two in the thin stream" as if he were ascending "a giant's stairway" (637). At times he finds himself "scrambling on all fours over the tops of ancient black spruce-trees" that fan out into a flat surface on the top until he can stand and walk "some good rods erect upon the tops of these trees" (638). Other times, from the vantage point of a spruce top, he "slumping through" can look down "into a dark and cavernous region" or holes that appear to be "bears' dens" in a "garden" that he "made his way *over*" (emphasis in original 638). He sees no "path *through*" the garden as it is "certainly the most treacherous and porous country I ever travelled" (emphasis in original 638). Thorson, in his argument for Thoreau's obsession with "rock reality," claims these bear dens are merely "jagged blocks with interstices *resembling* 'bear's dens,'" not actual bear dens because this dangerous place is "not yet

claimed by life" (emphasis mine 312). Phillips adds that in moments like these Thoreau portrays "Ktaadn" as a record of "absences" rather than the presence of life (229). Whether or not the bear is present in an actual den beneath Thoreau, he acknowledges just one paragraph later that "even at this height we met with frequent traces of moose, as well as of bears," indicating that bears are still all around the mountain (639). While Richard W. Judd, in *Finding Thoreau*, claims that Thoreau feels "separation and isolation" in the "driving mist atop the mountain," he also acknowledges that "the corrective for alienation was not confrontation with primitive nature" – like the rock reality that Thorson invokes – but "a deeper sense of immersion in it" (151-53). So, when Thoreau encounters these bear's dens because he is *moving*, walking, and climbing over them, he literally immerses himself in nature by transgressing the earth's physical boundaries for bipedal humans who cannot climb like, for example, their bear counterparts. He, walking, as he says, "*over*" trees, evokes the traveler of Milton's *Paradise Lost* who "fares" on, "treading the crude consistence, half on foot, / Half flying" (*MW* 638). That is to say, he moves forward and across the boundary between ground and sky – half on the ground and half in the air. The "holes" he sees recall, perhaps a rock, but also a much earlier passage about the moose's tracks: "Sometimes we found ourselves traveling in faint paths, which . . . being *rather openings, affording imperfect vistas through the dense underwood, than trodden paths*" (emphasis mine 635). These "openings" – bear dens and moose vistas – are entryways in the earth's surface not only for bodies but for thoughts. They are one way Milton's traveler, Ingold's walker, and Thoreau's tracker penetrate the earth's surface and entangle with the thoughts of other creatures on the ground and even in the air. Thoreau concludes this foray into this

"scraggy country" after having "slumped, scrambled, rolled, bounced, and walked" through and over it (638), and he marks the end of this trek by "the skirt of a cloud" which "bounded [his] walk that night" (638). That is to say, he contained his walk with a cloud, a boundaryless entity, and sees below that even the ground is now "waving, flowing, and rippling" as if it, like the body and thinking, no longer shares boundaries with water only entryways for thinking to move into and out of (638).

The next morning Thoreau climbs up the waterfall side of the mountain again, and the emergence of his thinking's contact with earth, and even air, begins to move towards the animal "common sense" in which he will participate in the "Contact!" passage. On this climb, he notes the "vast aggregation of loose rocks" as if they were the "raw materials of planet earth" that are always "in the process of formation" (639-40). Jane Bennett points to this phrasing as an example of how Mount Katahdin "bears no trace of the human" or even the "familiar ground below" (50). Of course, Thoreau is the human here, and he is living the process of making a "trace," but Bennett is correct in one sense – the rocks are not human-like. The day before, Thoreau notes that the rocks are akin to "gray" and "silent" animals or "flocks and herds that pastured" here, "chewing a rocky cud at sunset. They looked at me with hard gray eyes, without a bleat or a low" (638). These rocks might be animal-like creatures indifferent to Thoreau because this is no place for the human. But their silence recalls the moose in the woods at the outset of Thoreau's venture who he feels "silently watching" him (*MW* 620). And he compares the sounds the silent rocks do not make to the "bleat" and "low" of, presumably, herding, pasturing animals – cows, goats, and sheep. The early comparison of the moose's movements to the cow's should not be lost here on a careful reader. Nor should his description of moose

sounds in "Chesuncook": "it was a loud sort of bellowing sound, clearer and more sonorous than the lowing of cattle, the caribou's a sort of snort, and the small deer's like that of a lamb" (*MW* 670). Though the moose is solitary throughout most of the year, the female moves in family units – "flocks and herds" (*MW* 638) – until "natal dispersal" in the summer, which indicates that this rock herd's "low" and "bleat" might also be the sounds of moose Thoreau hears in the summer woods (Singh et al. 5). These rock herds seem to cross the boundary between animal and mineral, and because Thoreau treads over them as he did the trees, he too transgresses boundaries, mingling his thoughts with the rock animals in their process of continuous formation.

As with the previous day, Thoreau also discovers more holes or "crag[s]" – physical portals for his thinking to move into and over – and they remind him of "the creations of the old epic and dramatic poets," such as Æschylus's *Prometheus Bound* [98] where Prometheus is bound to a rock in the Caucasus; the rock being a force of animated life as Thoreau implies with his rock herd (640). Though bound, or imprisoned, Prometheus is bound *to* a piece of the earth. But Judd finds this shift from rocks to "mythology's prehumans" as a failure on Thoreau's part to find "higher truths through analogy and correspondence" because the mountain neglects to produce the "rich human metaphors and associations that animated his Concord woods" (148). Instead, Judd believes Thoreau simply "felt empty" on his second journey up the mountain side (148). Quite the opposite, Arsić's reading of Prometheus stipulates that the mythical figure functions for Thoreau as "a vital force that restores life" and "revives an earth devitalized by the gods" (117). She also posits that Thoreau, as a "mythologist" believes that "beings

[98] Arsić traces Thoreau's interest in this play in particular to his translation of it between the years 1839-1842, and his publication of the translation in *The Dial* in January 1843 (117).

and minds are found to fuse and switch, substances mix, and everything is on the move, *in becoming*, as if substances were itinerant and everything mixed in a zone of process" (emphasis in original 36). Sure that Æschylus visited a similar site as Mount Katahdin, Thoreau links his moving thoughts to a poetic tradition inspired by the earth's natural fusion of beings, such as Prometheus *bound* to a rock, not by philosophical reason that "thinks of beings as stable entities" (Arsić 36). When he mentions the "beholder" of such scenes who "as he ascends" feels "some vital part . . . escape through the loose grating of his ribs" (640), he also recalls his "Natural History" where he states that "wisdom does not inspect, but behold" (29). The "Natural History" beholder was Thoreau's scientist[99] who beholds by practicing sympathetic, relational continuity in order to produce trackable patterns of thought from bodily interaction with the earth (29). Thoreau's "vital

[99] While Thoreau does not wax eloquent about his science in "Ktaadn," his views are still present in the collection. In one of the only mentions of science in the entire text of *The Maine Woods*, Thoreau reports in "Allegash" that he awoke one night to a ring of light in the fire – a phenomena the Native Americans called *artoosoqu'* (731). When he asks one of the natives about the light he saw the previous night, he says he "let science slide, and rejoiced in that light as if it had been a fellow creature" (731). And, when they tell him that the light originates in a kind of flying fire that makes noise as it soars above the trees, he concludes that the native people are "abroad at all hours and seasons in scenes so unfrequented by white men" that "a scientific explanation, as it is called, would have been altogether out of place there" (731). This suggests his treatment of science throughout; it is always in this thoughts but it is not the main mode of thinking he represents in the essays themselves. His later appendix is actually one of the best places to see his science at work. As Moldenhaur notes, the appendix consists of "concentrated ecological inventories of plants and trees that Thoreau drew up from his Journal in 1857," and he sees these "inventories" as "expressions and evidences of a copious, multiform, and dynamic world" not the "shallow, classificatory science . . . uninformed by respect for the spirit of life" (137). Moldenhaur adds that this is especially at issue in "Allegash" (137). But the appendix also connects Thoreau back to Howitt's book of the seasons where he generates and appendix. When compared, Thoreau and Howitt's appendices are very similar:

> Peas, beans, the Anthoxanthum odoratum, or sweet-scented vernal grass, now diffuse their fragrance. The common jay now frequents our gardens, and makes havoc in the bean-rows: the fox-glove and the wild red poppy beautify our fields and wastes : the fern-owl may be seen about the middle of the month, in the evening, pursuing the fern-chaffer, its favourite prey : mackerel is taken in abundance: the elder-tree is in flower, and the grasshopper is heard. (Howitt 156)

> V. QUADRUPEDS: A bat on West Branch; beaver skull at Grand Lake; Mr. Thatcher ate beaver with moose on the Caucomgomoc. A muskrat on the last stream; the red squirrel is common in the depths of the woods; a dead porcupine on Chamberlain road; a cow moose and tracks of calf; skin of a bear, just killed (Thoreau, *MW* 839).

part" escaping him as he ascends the earth seems to be the beholder's reason, his human thinking and his powers of inspection, all captured in an exhale. Unlike "plains where men inhabit," the sympathetic tracker – "the beholder" – possesses "less of a substantial thought" because his "reason is dispersed and shadowy, more thin and subtile [sic], like the air" (640). Though nature, here, does repeatedly present as "vast, Titanic" and inhuman, and it takes from Thoreau "his divine faculty" – his reason, the basis of humanhood – and says to him "This ground is not prepared for you," Thoreau is not empty (640-41). He is full of the beholder's wisdom, not "Knowledge, but Sympathy with Intelligence" ("Walking" 128).

If the ground is not yet ready for Thoreau, or if he is not yet able to fully articulate how his thinking, *not* his reason, makes contact with the earth, then he implicates that the air he breaths when he exhales his reason more closely resembles his thinking's tracks. Ingold notes that "the track or path is as much an aerial phenomenon as a terrestrial one" because the beings who walk "must perforce breathe the air" as they move leaving their track "impressed in the earth" and "suspended in the currents of wind and weather" (64). In this way, much like Arsić's theory for Thoreau's becoming, "the path passes through a world of substances and medium in constant interchange" (Ingold 65). Thinking tracks, then, rely on creaturely movements in contact with the earth, ground, and air. So, when Thoreau shifts from Prometheus to the Penobscot[100] storm god "Pomola" (also spelled Pamola) who "is always angry with those who climb to the summit of Ktaadn" (*MW* 641), he refers to a human-animal hybrid who moves on land *and* in the air. According to Steven Pinkham, Pamola has "an enormous head of a man topped with great moose

[100] Thoreau makes clear throughout *The Maine Woods* that the Native Americans with whom he interacts in Maine are from the Penobscot tribal nation.

antlers" and the "body and claws . . . of a huge eagle and his wings were so large they caused lightening wherever they struck or dragged along the ground." This god is human, moose, and bird all at once – a being that moves in the air and across the land without boundaries of species or terrain, leaving paths of lightening that connect the earth with the air along lines of light and energy, a very different "vital force" that now seems to fill Thoreau. When he again evokes *Paradise Lost* to seemingly justify his presence in this nonhuman realm, he suggests that his "way / Lies through your spacious empire up to light" (*MW* 641). He implies again that his path – his thoughts, "thin and subtile, like the air" (*MW* 640) – must trek through earth and air to "try [the gods] effect on our humanity" (*MW* 641). Like the rock herds and the moose's silent watching, Thoreau becomes the "beholder" of something unnamed here at the "unfinished part of the globe" (*MW* 641) – something that will become "the *common sense*!" in the "Contact!" passage. This unnamed essence is thinking, but not fully human thinking; it's the kind of thinking that takes the shape of life's movement. A Prometheus-like vital force that, like Pamola, fuses human with moose and eagle, through movement across aerial and terrestrial paths in constant formation.

We have now made our way as high up Mount Katahdin as Thoreau will take us, and during his descent he walks, first, through facts that detail the limitlessness of the forest, and then through his own tracks again, and finally to the moose tracks that leads him to his epiphany about thinking's contact with the earth. Immediately following his mention of "Pomola," Thoreau shifts to facts and guidebook descriptions – now a common movement of thinking in the narrative – that tell of the mountain's altitude and his panoramic view of Maine (*MW* 641-42). Phillips notes that this tendency towards

facts “has been seen as grounds for complaint” by readers who find “Ktaadn” too “bottom-heavy, and much too stolid a text” (224). But these factual accounts are equally as important to the ways in which Thoreau’s thinking moves in “Ktaadn”; the facts he generates give literal rise to his more eloquent passages about thinking’s contact with the earth. Just as he is “compelled to descend” the mountain before reaching its summit, he is compelled to provide facts before reaching the summit, or articulation, of his thoughts. Like the “boundless forest” (*MW* 641) he believes to be “immeasurable” (*MW* 642), the variety of his thinking knows no bounds. Thus, he shifts fluidly from striking descriptions of silently starting rock-herds, to evoking mythology and Penobscot lore, to referencing “the Gazetteer” on the “boundary question” of Maine (*MW* 642). And, following his Gazetteer reference he explains that “we are concerned now, however, about natural, not political limits” (*MW* 642) reminding us that his true concern in boundaries is not based in reasoning but in natural modes of thinking that mirror the boundaries he seeks to transgress, not establish or support. So, we move on to the next paragraph where we find him again on the move, challenging his own natural limits as he tracks a path:

> continually crossing and recrossing [the torrent], leaping from rock to rock, and jumping with the stream down falls of seven or eight feet, or sometimes sliding down on our backs in a thin sheet of water . . . We travelled thus very rapidly with a downward impetus, and grew remarkably expert at leaping from rock to rock, for leap we must, and leap we did, whether there was any rock at the right distance or not (*MW* 643).

Amid all of this jumping and leaping, Thoreau encounters “the fresh print of a man’s foot” which “startled” him (*MW* 643) just as it will startle him in his 1851 Journal entry when he describes the “track of a bare human foot” that is “so rare” it shocks him and brings him “much nearer to the tracker” (*J* 2:328). Thoreau realizes the footprint he discovers on his descent in “a little sandy shelf by the side of the stream” was actually impressed by one of the men in his party, maybe even himself, on their way up the

mountain (*MW* 643). The shock of seeing the print seems to emerge from a recognition that he, like the moose, and the wolves, and the deer, and other creatures of Maine, leaves his own tracks in these woods, too. He is now one who moves among them. As Ingold posits, "footprints register emplaced movement" (63), and the tracker who walks across the ground casts out the lines of their mind – their thoughts – into pathways already trekked by other human and nonhuman inhabitants, allowing minds and thoughts to tangle in the domain of the ground and the air (Ingold 49). Upon discovering the print, Thoreau moves closer and closer to his realization that contact with the earth *is* contact with thinking – his own and the animals'. But he and his party soon discover they are lost, and they send Tom up a tree to try to see "the burnt lands" so they can orient themselves (*MW* 644). But all he can see is a "little meadow and pond" which they decide to "steer for" (*MW* 644), and in forging their way they make contact with moose tracks, leading Thoreau to his ultimate epiphany:

> On reaching this secluded meadow, we found fresh tracks of moose on the shore of the pond, and the water was still unsettled as if they had fled before us. A little farther, in a dense thicket, we seemed to be still on their trail. It was a small meadow, of a few acres, on the mountain-side, concealed by the forest, and perhaps never seen by a white man before, where one would think that the moose might browse and bathe, and rest in peace. Pursuing this course, we soon reached the open land, which went sloping down some miles toward the Penobscot.
>
> Perhaps I most fully realized that this was primeval, untamed, and forever untamable Nature, or whatever else men call it, while coming down this part of the mountain. We were passing over "Burnt Lands," burnt by lightning, perchance, though they showed no recent marks of fire, hardly so much as a charred stump, but looked rather like a natural pasture for the moose and deer, exceedingly wild and desolate, with occasional strips of timber crossing them, and low poplars springing up, and patches of blueberries here and there. I found myself traversing them familiarly, like some pasture run to waste, or partially reclaimed by man; but when I reflected what man, what brother or sister or kinsman of our race made it and claimed it, I expected the proprietor to rise up and dispute my passage. It is difficult to conceive of a region uninhabited by man. We habitually presume his presence and influence everywhere. And yet we have not seen pure Nature, unless we have seen her thus vast and drear and inhuman, though in the midst of cities. Nature was here something savage and awful, though beautiful. I looked with awe at the ground I trod on, to see what the Powers had made there, the form and

> fashion and material of their work. This was that Earth of which we have heard, made out of Chaos and Old Night. Here was no man's garden, but the unhandseled globe. It was not lawn, nor pasture, nor mead, nor woodland, nor lea, nor arable, nor waste land. It was the fresh and natural surface of the planet Earth, as it was made forever and ever,—to be the dwelling of man, we say,—so Nature made it, and man may use it if he can. Man was not to be associated with it. It was Matter, vast, terrific,—not his Mother Earth that we have heard of, not for him to tread on, or be buried in,—no, it were being too familiar even to let his bones lie there,—the home, this, of Necessity and Fate. There was clearly felt the presence of a force not bound to be kind to man. It was a place for heathenism and superstitious rites,—to be inhabited by men nearer of kin to the rocks and to wild animals than we. We walked over it with a certain awe, stopping, from time to time, to pick the blueberries which grew there, and had a smart and spicy taste. Perchance where *our* wild pines stand, and leaves lie on their forest floor, in Concord, there were once reapers, and husbandmen planted grain; but here not even the surface had been scarred by man, but it was a specimen of what God saw fit to make this world. What is it to be admitted to a museum, to see a myriad of particular things, compared with being shown some star's surface, some hard matter in its home! I stand in awe of my body, this matter to which I am bound has become so strange to me. I fear not spirits, ghosts, of which I am one,—*that* my body might,—but I fear bodies, I tremble to meet them. What is this Titan that has possession of me? Talk of mysteries! Think of our life in nature,—daily to be shown matter, to come in contact with it,—rocks, trees, wind on our cheeks! the *solid* earth! the *actual* world! the *common sense! Contact! Contact! Who* are we? *where* are we?
>
> Erelong we recognized some rocks and other features in the landscape which we had purposely impressed on our memories, and, quickening our pace, by two o'clock we reached the batteau. (emphasis in original, *MW* 644-46)

Critical interpretation of this passage contains almost as many twists and turns and leaps as Thoreau makes on his descent. Often beginning from the belief that the Maine woods represent a vast nature wholly indifferent to humans, critics like Joseph J. Moldenhauer describe the region as "physically the most primitive and uninhabited" place Thoreau ever confronted (124), generating the "alienating effect of primeval nature" (136).[101] Judd echoes Moldenhauer and describes the area as Thoreau's "only encounter with a truly wild place," and that even "casual" readers would notice that the locale strikes Thoreau as "vast and dreary" (147). From this perspective of the region's emotional register, some theorize that the mountain itself provoked terror in Thoreau. Greg Garrard, for example,

[101] See also Frederick Garber's *Thoreau's Fable of Inscribing*, Princeton UP, 1991.

interprets Thoreau's fears from his proclamation "I fear bodies" (646), indicating that Thoreau believes the human body to be anxiety producing as "that other wildness" that he cannot comprehend in the ways he seeks to understand the natural world (74). During the twentieth century, many interpreted the work as a record of Thoreau's psychological, even traumatic, experience at Katahdin portraying said trauma as a result of Thoreau's discovery that the human spirit is actually incompatible with, not analogous to, organic nature.[102] On the other hand, some see the essay, especially the "Contact!" experience, as indicative of a transcendental vision of the sublime[103] where "the mountain is the preeminent sacred space" (Moldenhauer 139). Twenty-first century readings, especially those concerned with Thoreau's materialism, largely drop the transcendental angle, agreeing with Phillips that readers too often "revealed a preference for the transcendental much more decided than was Thoreau's own" (225). Indeed, Thorson posits that Thoreau's portrayal of wild nature is "stripped of all romanticism," but he also extends Thoreau's fears to his failure to summit the peak in "Ktaadn" due to a "recurrent nightmare" that portrayed him dying once he reached the top (313). Material concerns also have not completely forgotten an interpretation from the perspective of Thoreau's fear either. Bennett notes that the notion of matter that Thoreau confronts in "Ktaadn" is "frighteningly inexplicable" because it represents nature at its "Wildest" (49). Neely adds that the climb leads Thoreau "into an experience of materiality so intense that it produces a kind of non-identity" in which his own body becomes strange and foreign (274). With

[102] See John G. Blair and Augustus Townbridge's "Thoreau on Katahdin," American Quarterly 12 (1960).
[103] See James McIntosh's *Thoreau as Romantic Naturalist* (Ithaca: Cornell University Press, 1974), Frederick Garber's *Thoreau's Redemptive Imagination* (New York: New York University Press, 1977), and Ronald Wesley Hoag's "The Mark on the Wilderness: Thoreau's Contact with Ktaadn," *Texas Studies in Literature and Language* 24 (1982).

the exception of Walls's position that Thoreau pushes his knowledge into "the material realm" by "fusing language and things, thoughts and facts, into a mythology of the material" (153) and Arsić's claims for contemplative matter in *Bird Relics* (310), almost no one considers Thoreau's explorations in the Maine woods as exemplary of thinking.[104] If we view Thoreau's mobile thinking as I have attempted to portray thus far, then these critiques are indicative of how Thoreau's movement endorses the incorporation of many discourses simultaneously, a kind of sympathetic contact between perspectives that also knows no bounds.

Also absent from almost every single reading of the "Contact!" passage is Thoreau's moose as if the moose's evasiveness makes them nonessential in the preeminent portion of the narrative, a mere motif that stands adjacent to the supposedly more powerful image of the mountain. But Thoreau finds his way to the other side of the meadow and "dense thicket" to the torrent they have been searching for – the exact location where "Contact!" occurs – because they pursued in the moose's course. Once they reached the meadow, they "found fresh tracks of moose" around a rippling pond still moving as if the moose had just retreated. Following these tracks, they find another meadow "perhaps never seen by a white man before" and here Thoreau "most fully realized that this was primeval, untamed, and forever untamable Nature" – this is untouched ground on which thinking can move. Unlike Thoreau's previous descriptions of his struggles to move about the woods, he now finds himself "traversing" the area with "familiarity" because he has learned how to walk and leave tracks here. Though he declares that "Nature was here something savage and awful" – a phrase many repeat

[104] For fear of misrepresenting these critics, it is important to note that Arsić and Walls do not explore matter and mind specifically in the context of "Ktaadn."

without attention to the closing phrase "though beautiful" – he gives nature her due credit for being awe-inspiringly magnificent. That beauty and awe is especially evident for Thoreau in "the *ground* I *trod* on" (emphasis mine). This ground is a surface unscarred by man – the loggers, the hunters, and even the natives whom Thoreau believes are losing touch with their old ways – it is a "star's surface" and "hard matter." But materials, for Thoreau are not hard in the sense that they are impenetrable; to believe that they are here is to ignore everything in the narrative up until this point. Hard matter consists of rock herds always in the process of transformation, and moose track holes in the earth, and bear dens in the trees, and porous treetops on which Thoreau walks. And his body is not terrifying, not matter to which he is bound in the sense of confinement, but a piece of the earth's surface through which he attaches to and infiltrates the ground and the air. His body is a Titan just as Prometheus is a Titan, a being that is not entirely human because there is something else innate in that form – an animal, a Pamola. His own hybridity as a reasoning human *and* an animal thinker in motion constitutes why he, and we, must "*Think* of our life in nature" (emphasis mine). Through the tracking he enacts during the narrative, he has already "come in contact" with matter – "rocks, trees, wind on our cheeks! the *solid* earth" (emphasis in original) – and his body which bounds him always to those very pieces of matter on which he walks. "Talk of mysteries!" he cries, and speak of bodies he trembles to meet; those same bodies that "seemed a mystery" because they so adroitly "thread these woods" are moose (*MW* 635-36). He tracked them here to this very spot in nature, this very surface of matter, and here he makes contact with "the *common sense*," the thoughts that he commands us to experience when he says, "think of our life in nature." The common sense *is* contact with the earth because in that earth lies

who we are and where we are. In the earth thinking renews and impresses itself in the continuous movement of formation as boundaryless matter. Thus, "erelong we recognized some rocks and other features in the landscape which we had purposely impressed on our memories": Thoreau, in finding the batteau post-epiphany, becomes the moose, an animal who chooses to move based on "perception or memory" of the impressions made by previous tracks of thinking (Van Moorter 22).

The Twilight of Imagination: Launching into the Night with Walden's *Winter Owl*

Because Thoreau never saw a moose, only moose tracks, on his first trip to Maine, the animal causes him to a revise his phenology of thinking's methods, especially vision's role when coming into sympathetic contact with an unseen animal. As a result, Thoreau returns to Walden Pond[105] ready to challenge his bodily contact with the earth without relying on vision at all during one of his favorite phenological times: the winter night in Concord. In Thoreau's phenology of thinking, the phases of night between twilight and total darkness typify times when "thoughts take root and unfold themselves" (*W* 143). At night, unusual, imaginative thoughts are "best conceived" because he must point his vision "upward for inspiration" to find "thoughts that blot out the earth" as if mortality ceases and the movement of life never ends (*J* 3:158). He portrays a similar image of winter, a time when he says, "we love to think," because the season promotes "deep and serene thoughts, insensible to surrounding circumstances" (*Week* 80). Winter nights, he admits, make not just his thoughts but his body unaware of surroundings as if he is "not where my body is" but "out of my senses" to which he returns, not as a human, but as a "bird or beast" (*J* 2:110). Winter nights compel him to move in an almost

[105] Thoreau's first excursion to the Maine woods occurred during his second summer at Walden Pond (Moldenhauer 124).

dreamlike state where the mind, "unconstrained by habit" (*Week* 48), turns over not to the *instinct* of bird or beast but to an animal *imagination* governed by "ancient forest habits" (*J* 2:184). As Ingold posits, "the propensity of the imagination is to roam, to cast about for a way ahead or to improvise a passage" (140). Ingold's theory for the roaming, feeling imagination is reminiscent of how Thoreau's imaginative thinking moves at night, and of one of his cold, Concord night mainstays: the owl, the "wise midnight hags" of the woods (*J* 1:379). Unlike the fox and the moose, owls move primarily by flight, and their tracks are therefore not seen in the ground by day but are heard in the air by night, igniting "flights of the imagination" (*J* 3:144). As "mourning women" singing an "ancient ululul" (*J* 1:379), guardians of the Concord "citadel" reprimanding invasive geese with a "boo-hoo!" *(W* 296), melodious pronouncers of the Walden "lingua vernacula" calling on him with a "hoo, hooer, hoo" and a "how der do" (*W* 295), owls are often the only life interrupting the night's cold stillness with a "throttled cry" which Thoreau presumes to imaginatively interpret (*Week* 34). In the two passages I consider from *Walden* – Thoreau's winter walk in "The Village" where he heads from town to the woods to "launch myself into the night" (184), and the moment from "Former Inhabitants and Winter Visitors" when the owl "launched himself off" and flies "feeling his twilight way" (289) – Thoreau engages imaginative thinking that he tracks, not by sight over the ground, but with his feeling hands and feet, following the owl whom he cannot see but he can hear throughout the forest.

As Thoreau's fox in the "Natural History" depicts, the transition from fall to winter and then the long unfolding of winter itself are to him a time when he feels "singularly refreshed" (NH 2), and a period in which the owl emerges as "my owl" and

"my old acquaintance" calling to him with a "hoo hoo hoo hoo" (*J* 3:273-4). Yet this notion of an invigorating winter contrasts with Thoreau's phenological models, especially Howitt's *Book of the Seasons*. For Howitt, winter embodies a season when "Nature is stripped of all her summer drapery" and she fills the sky with "clouds and gloom," and makes the earth "spongey with wet, rigid with frost, or buried in snows," and even the winds "hiss like serpents and howl like wild beasts of the desert; cold, piercing, and cruel" (315). Howitt also portrays the actual winter animals, not just their wind counterparts, as equally beastly creatures. The night owl he hears "shrieking horribly with crooked bill from her cavern" and the wild geese fly overhead "with screaming cries" that carry through the otherwise "silent night," and in the early morning hours the "cranes" emerge to "pierc[e] the air" as "prognosticating tempests" and the kites perch outside his window where they "cried lamentably" (Howitt 315). Howitt adds to his winter effect in his "December" chapter by including a poem by Mary Howitt entitled "Winter," and she describes the owl with less demonic features but more pitiable circumstances as he "sits huddling by himself, / The cold has pierced his body thorough" (310). In these examples, Howitt's winter functions as Buell believes Thoreau's winter at Walden does: "winter had to be coped with and not merely endured" (248). Buell adds that because Thoreau spends so much of his winter section "logging exterior detail" rather than the happenings of "a more inward life" his winter chapters are often "the least admired, least taught major section of *Walden*" (247-48). Yet the variety that winter affords Thoreau throughout his career, and especially during the years in which his journal entries correspond to *Walden* passages (I reference entries dated to 1846-1852), grant quite a

different perspective of the inward life of thinking that winter, and especially the owl, facilitates.

Thoreau's winter imbues his thinking phenology not with a stark, frigidity but with an invigorating liveliness, and the nightly hooting of Concord's resident owls especially enhance that liveliness of thought. In November of 1850, Thoreau writes that "very few plants have now their spring. But thoughts still spring in a man's brain" (*J* 2:86). And these thoughts are "not less active" because of winter's hibernating influence but perhaps even more active (*J* 3:189), coming to the mind as "brave and hardy and most native" (*J* 3:233). As he walks through the winter landscape, he rejoices that his mind remains ever active despite winter's harsh conditions:

> I see but few traces of the perennial spring. Now is there nothing, not even the cold beauty of ice crystals and snowy architecture, nothing but the echo of your steps over the frozen ground, no voice of birds nor frogs. You are dry as a farrow cow. The earth will not admit a spade. All fields lie fallow. *Shall not your mind*? True, the freezing ground is being prepared for immeasurable snows, but there are *brave thoughts* within you that shall remain to rustle the winter through like white oak leaves upon your boughs, or like scrub oaks that remind the traveller of a fire upon the hillsides; or *evergreen thoughts*, cold even in midsummer, by their nature shall contrast the more fairly with the snow. Some warm springs shall still tinkle and fume, and send their column of vapor to the skies. (emphasis mine *J* 3:111)

The winter mind does not "lie fallow" like the winter fields; instead its thoughts become more "brave," and perhaps more daring, even imaginative, so that even the cold, "evergreen thoughts" that occupy his mind at all times take on a more pleasant tint against a snowy backdrop. Despite the cold, the winter inspires unfailing warmth in the mind.

Much like the mental liveliness winter imparts in Thoreau's phenology of thinking, nights generate an equally invigorating effect in Thoreau's mind, but that effect is distinctly strange, and unerringly imaginative when compared to the warmth Thoreau

finds in the winter landscape. For him, the mind's chambers resemble the chambers to which the sun rises in the morning and the moon emerges in the evening (*J* 2:184); with each celestial appearance comes different modes of thinking and walking compressed into the periods of darkness and light in the diurnal cycle. The night thus functions in much the same way as the day does in H. Daniel Peck's interpretation of *A Week,* a text in which Thoreau discovered that the "'day' might be used creatively as a synthetic unit of thought" (43). For the "pensive walker" like Thoreau, "hardly two nights are alike" (*J* 2:240), allowing them to provoke a unique imaginative season each time he walks into the dark woods. As Thoreau says in his posthumously published essay "Night and Moonlight" (1863), one attentive "to the suggestions which the moon makes" will find "another side of nature" influenced by the night's "weird teachings" (NM 3). The weirdness of the night emerges, in one sense, from the notion that the earth's terrain, when cast in moonlight and darkness, takes shape in a new, foreign form that few humans feel inclined to explore: "many men walk by day; few walk by night. It is a very different season" (NM 8). Those, like Thoreau, who do launch into the night realize a different "tide" or motion to thinking distinct from, even unwelcoming to, thoughts had during the day (NM 3). Part of this difference also depends upon the walker's night senses, especially their lack of vision as the eyes "partly closed" tend to "retire into the head" and allow for other senses, like smelling and hearing, to take the lead (NM 11). When the night arouses these senses, walkers who move with Thoreau find that "our primeval instincts are aroused, and we steal forth from our lairs, like the inhabitants of the jungle, in search of those silent and brooding thoughts which are the natural prey of the intellect" (NM 17). The night, then, through its natural influence on Thoreau's senses, brings forth

an instinctual part of the "silent and brooding" intellect unseen by day: the animal imagination.[106]

On winter nights, then, Thoreau's thinking is already primed for "flights of the imagination" (*J* 3:144), but because he can hear – not see – the owl, their serenades offer him an opportunity to develop a method for tracking the movements of his imagination as they launch and soar under the cover of winter darkness.[107] In the case of the fox and moose, the animal's contribution to Thoreau's phenology of thinking depends primarily

[106] In what follows, I resist emphasizing the often-surmised implication of Thoreau's use of instinct as a basis for differentiating between higher human thinking and lower animal impulse and even between mind and body. Indeed, instinct is secondary to the Thoreau's animal imagination for which I argue, but instinct is present nevertheless and cannot be totally ignored here or even in previous sections. With that in mind, I embrace the view put forth by Neely that Thoreau's writing about animals is "most modern" in its "ability to sit with contradictions and paradoxes" ("Animals" 275). Yet, the case for Thoreau's view of animal instinct versus human thought has been made many times over, especially in light of passages like those that appear in Walden's "Higher Laws" where Thoreau contrasts the "strange thrill of savage delight" he feels at the thought of devouring raw the woodchuck who he witnesses "stealing across my path" with his conclusion several paragraphs later that "he is blessed who is assured that the animal is dying out in him day by day, and the divine being established" (W 240). Rossi classifies this moment as one among Thoreau's "extremely limited" perspectives of "human-animal kinship versus the superiority and privileged separation of human from nonhuman nature" (82). Buell also lists the episode as a contribution to the "confusing performance" the chapter develops, but he concludes that Thoreau seeks to show not a "spiritual state" where the "body is left behind" but a "homemade ascetism" bent on purifying the body (392). The paradox that "Higher Laws" presents when contrasted with the passages I consider from "The Village" and "Former Inhabitants and Winter Visitors," is one in which Thoreau portrays instinct as a bodily nature to be purified versus instinct as the home of an animal imagination that is best accessed on winter nights with the feeling, sensing body. Perhaps in terms of economy, as Buell suggests (392), we might view the former as an instance of purification, but, even if paradoxically, we can view the latter as indicative of Thoreau's belief that the imagination emits from bodily movements guided by animal instinct.

[107]During winter nights, the owl is a familiar acquaintance to Thoreau because they rarely migrate from their home range. Rather than migrate from a winter to a summer range and vice versa, most owls remain in a home range unless driven elsewhere by food shortages. According to Noah Strycker, author of *The Thing with Feathers: The Surprising Lives of Birds and What They Reveal about Being Human*, Riverhead Books, 2014, owls move in "irruptions," especially during winter when the food supply decreases. Snowy owls are particularly famous for winter irruptions that drive them to extend their range southward. Irruptions occur among many bird species, including but not limited to "redpolls, grosbeaks, crossbills, nuthatches, chickadees, and waxwings" (Strycker 78). Each species has in common a habitat "in the far north or high mountains. And every few winters, large numbers of them show up in lower, more southern areas, outside their normal range" (Strycker 78). While Thoreau never seems to have witnessed an irruption, he is attentive to the owl as a yearlong Concord resident, not one who acts as a harbinger of a season other than the night.

upon the life cast by visual lines, or tracks, in the seasonal earth. But as Ingold notes, sound also "breathes life into the line" (111). He explains that sound emerges from a collision between the "corporeal and celestial poles of hearing" that "much as in a dream" generates the feeling that "we are simultaneously at home in our bodies and at large in the cosmos" (108). In other words, sound that travels through the cosmos-like atmosphere and enters our body through our ears, making us at once exposed to a phenomenon outside and inside of us. Therefore, if Thoreau intends to track the owl, his thinking must be in sympathy with both his body *and* the cosmos – or, more aptly, the winter night sky – so that he may track the owl by the lines of sound they, as flying creatures, emit into the air or "the cosmos." Typically, the owls Thoreau hears are not solitary in their singing but seem to "echo" each other in a "succession," which gives the impression that they are near Thoreau and at "a greater distance" away from him (*J* 3:124). If we combine Ingold's view that sounds invigorate the line with life with his belief that "the propensity of the imagination is to roam" (140), then Thoreau's owl emerges as particularly suited for tracking Thoreau's imaginative thinking because they are roaming bodies emitting sounds that "echo" or roam sonically as he, too, roams the night woods in a heightened imaginative state. In *Walden*'s "Sounds," Thoreau demonstrates where the owl's sounds take his imagination as he envisions what the owls must be saying and how those sayings relate to his own thoughts:

> They are the spirits, the low spirits and melancholy forebodings, of fallen souls that once in human shape night-walked the earth and did the deeds of darkness, now expiating their sins with their wailing hymns or threnodies in the scenery of their transgressions. They give me a new sense of the variety and capacity of that nature which is our common dwelling. Oh-o-o-o-o that I never had been bor-r-r-r-n! sighs one on this side of the pond, and circles with the restlessness of despair to some new perch on the gray oaks. Then—that I never had been bor-r-r-r-n! echoes another on the farther side with tremulous sincerity, and—bor-r-r-r-n! comes faintly from far in the Lincoln woods.

> I was also serenaded by a hooting owl. Near at hand you could fancy it the most melancholy sound in Nature, as if she meant by this to stereotype and make permanent in her choir the dying moans of a human being,—some poor weak relic of mortality who has left hope behind, and howls like an animal, yet with human sobs, on entering the dark valley, made more awful by a certain gurgling melodiousness,—I find myself beginning with the letters gl when I try to imitate it,—expressive of a mind which has reached the gelatinous mildewy stage in the mortification of all healthy and courageous thought. It reminded me of ghouls and idiots and insane howlings. But now one answers from far woods in a strain made really melodious by distance,—Hoo hoo hoo, hoorer hoo; and indeed for the most part it suggested only pleasing associations, whether heard by day or night, summer or winter.
>
> I rejoice that there are owls. Let them do the idiotic and maniacal hooting for men. It is a sound admirably suited to swamps and twilight woods which no day illustrates, suggesting a vast and undeveloped nature which men have not recognized. They represent the stark twilight and unsatisfied thoughts which all have. All day the sun has shone on the surface of some savage swamp, where the single spruce stands hung with usnea lichens, and small hawks circulate above, and the chickadee lisps amid the evergreens, and the partridge and rabbit skulk beneath; but now a more dismal and fitting day dawns, and a different race of creatures awakes to express the meaning of Nature there. (134-5)

The owl's songs remind Thoreau that they are both part of nature, specifically the phenology of night: "our common dwelling." And, in this common dwelling, he repeatedly detects how the owls' sounds convey human-animal blendings that seem at once cosmic and corporeal as if they are the stuff of dreams here on living earth or, as he says in *A Week*, as if they are beings who seem to populate "a nature behind the common, unexplored by science or by literature" (*Week* 47). The owl flies at night as neither human nor bird, but a member of that "undeveloped nature which men have not recognized": the animal imagination. "The stark twilight and unsatisfied thoughts which all have," inhabit this portion of the imagination along with the owl who, like a spirit, was once in "human shape" and "night-walked the earth" but now circles restlessly among the oaks speaking in a voice that "howls like an animal" but is punctuated "with human sobs." When Thoreau tries to imitate the sound his awareness of his imaginative thinking grows, and he tracks its "gurgling melodiousness" to the conclusion that the sound is "expressive of a mind which has reached the gelatinous mildewy stage in the

mortification of all healthy and courageous thought" (*W* 134-5). Yet at the same time, these thoughts like the sounds themselves are "pleasing." The owl, screaming "*Oh-o-o-o-o that I never had been bor-r-r-r-n!*" and crying "*Hoo hoo hoo, hoorer hoo*" actually "breathes life into the line" (Ingold 111) of both Thoreau's thoughts and the path he roams as he tracks these sounds. And that line of thought is perpetually various – "gelatinous," "mildewy," "melodious," "idiotic and maniacal" "savage" and even "pleasing" – because its takes on the undulating oddities of the owl in the roaming imagination. Not only does Thoreau try to replicate the owl's voice perhaps more than any other animal, but, "much as in a dream" (Ingold 108), he desires to collide with that voice to spurn a "different race of creature" in his thoughts.

In the *Walden* chapter "Former Habitants and Winter Visitors," Thoreau sees a barred owl during winter twilight and experiences an interesting role reversal where the owl, slumbering in the last few hours of daylight, hears Thoreau approach but cannot see him. While hearing the owl in darkness insinuates a roaming imagination, this rare visual sighting of the owl's movements demonstrates to Thoreau how to translate the tracking of owl sounds into a physical tracking that permits him to follow his own imaginative thoughts. Thoreau ultimately disturbs the owl and provokes him to fly away, and Thoreau *sees* the owl move *soundlessly*, "feeling his twilight way with his sensitive pinions" (289). This uncommon moment where Thoreau can visually track the owl in flight illuminates an earlier scene in *Walden*'s "The Village," to which I will soon turn, where Thoreau discovers he can track his imaginative thoughts by moving as the owl moves through the woods "feeling his twilight way" (*W* 289). As Maurice Lee concludes, Thoreau's "thinking becomes an action that occurs in the messy object world" (127). But,

first, the owl must teach him to transition his own deliberate tracking to that of a tracker of the imagination, a different kind of sympathetic tracker who must *launch* his thoughts into the winter night where they can feel their way bodily:

> In the deepest snows, the path which I used from the highway to my house, about half a mile long, might have been represented by a meandering dotted line, with wide intervals between the dots. For a week of even weather I took exactly the same number of steps, and of the same length, coming and going, stepping deliberately and with the precision of a pair of dividers in my own deep tracks,—to such routine the winter reduces us,—yet often they were filled with heaven's own blue. But no weather interfered fatally with my walks, or rather my going abroad, for I frequently tramped eight or ten miles through the deepest snow to keep an appointment with a beech-tree, or a yellow-birch, or an old acquaintance among the pines; when the ice and snow causing their limbs to droop, and so sharpening their tops, had changed the pines into fir-trees; wading to the tops of the highest hills when the snow was nearly two feet deep on a level, and shaking down another snow-storm on my head at every step; or sometimes creeping and floundering thither on my hands and knees, when the hunters had gone into winter quarters. One afternoon I amused myself by watching a barred owl (Strix nebulosa) sitting on one of the lower dead limbs of a white-pine, close to the trunk, in broad daylight, I standing within a rod of him. He could hear me when I moved and cronched the snow with my feet, but could not plainly see me. When I made most noise he would stretch out his neck, and erect his neck feathers, and open his eyes wide; but their lids soon fell again, and he began to nod. I too felt a slumberous influence after watching him half an hour, as he sat thus with his eyes half open, like a cat, winged brother of the cat. There was only a narrow slit left between their lids, by which he preserved a peninsular relation to me; thus, with half-shut eyes, looking out from the land of dreams, and endeavoring to realize me, vague object or mote that interrupted his visions. At length, on some louder noise or my nearer approach, he would grow uneasy and sluggishly turn about on his perch, as if impatient at having his dreams disturbed; and when he launched himself off and flapped through the pines, spreading his wings to unexpected breadth, I could not hear the slightest sound from them. Thus, guided amid the pine boughs rather by a delicate sense of their neighborhood than by sight, feeling his twilight way as it were with his sensitive pinions, he found a new perch, where he might in peace await the dawning of his day. (288-89)

At the outset, Thoreau describes his own tracks in the same manner he represents the tracks of other animals by recording distance, shape, and length: "about half a mile long . . . represented by a meandering dotted line, with wide intervals between the dots" (288). This method of tracking is well-suited for daytime excursions during any season as both the fox and the moose demonstrate, but Thoreau also announces the risk of such a method when he applies it to himself – it is precise, deliberate, routine, and reductive. There is no

imagination in tracking himself, no sympathetic bodily and mental contact with the animals or with thinking. But, he finds that if he moves more like an animal – tramping for miles and evading hunters by "creeping and floundering thither on hands and knees" – in search of other natural beings, such as "a beech-tree, or a yellow-birch, or an old-acquaintance among the pines," then he can feel his way across the landscape not simply to walk but to go "abroad." While abroad – perhaps not merely a reference to a physical locale but to a cosmic, imaginative place where trees are acquaintances and he is the hunted – he discovers a slumbering owl "in broad daylight."

Thoreau and owl function in this daylight meeting as the opposite of the night walker who hears an owl but does not see the owl, for the owl can hear but not see Thoreau as he "cronched the snow." The jarring movements of Thoreau's chronching feet prompt the owl to adjust his perception to the noise by stretching his neck, erecting his feathers, and opening his eyes wide. But, soon, like the night walker in "Night and Moonlight" who walks with their eyes "partly closed" as they, and vision, "retire into the head" (11), the owl's "lids soon fell again" (*W* 289). Thoreau, here, depicts the owl not as the vocal midnight hag, maniacal idiot,[108] guardian of the citadel, mourning woman, or learned lecturer[109] emitting sonorous and throttled cries into the night, but as a silent dreamer with important visions that Thoreau is rudely interrupting. Rossi explains this scene as one where Thoreau "assumes the owl's point of few, thus granting this creature a mysterious subjectivity" as "an ancient figure of an even more ancient wisdom" (95).

[108] Thoreau notes in an entry from November 18, 1851, an entry that he borrows from for Walden's "Sounds," that the owls provide him "music each evening" as they hoot like "an idiot or a maniac broke loose" (124). In *Walden*, he modifies the phrasing, saying "let them do the idiotic and maniacal hooting for men" (135).

[109] In both his journal and his preparatory notes for his Concord Lyceum lecture in 1846, Thoreau says he's "heard an owl lecture with a perverse show of learning upon the solar microscope" (*J* 1:485).

The owl looks out at Thoreau as if "from the land of dreams" and sees Thoreau as a "vague object or mote," the tiniest and most insignificant of creatures when compared to the "ancient wisdom" of what he must be dreaming and envisioning (Rossi 95). While I argue that Thoreau imaginatively assumes the owl's point of view in "The Village" more so than he does here, the ancient wisdom Rossi attributes to the owl emerges as the cosmic quality that Ingold attributes to sound. The owl's soundless listening as much as his provoking cries evokes the corporeal and celestial collision "as in a dream," which allows the owl to be both in his body and in the cosmos. The owl is now both the hearer *and* the dreamer who is at large in the cosmos and here on this perch and in his body. He is the imaginer of the cosmos in which Thoreau is merely a mote and, therefore, the model of "ancient forest habits" (*J* 2:184). But because the owl is not a dream but *the dreamer* his literal movements model the bodily contact required of Thoreau for tracking his imaginative thinking – his own "ancient forest habits" (*J* 2:184). The owl conveys this through his own soundless movements as he "launched himself off and flapped through the pines, spreading his wings to unexpected breadth." As he flies he's not guided by sight but by a "delicate *sense*" of his surroundings which enables him to "feel his twilight way" with his "sensitive pinions," the tender outer part of his wings where his flight feathers are also located. He, thus, lands on a new perch to "await the dawning of his day," which is of course the night.

As Thoreau's emphasis on the sound of his "cronching" feet imply, his tracking approach to the owl is not yet effective because his movements disturb the owl. For his thinking to tap into the "ancient forest habits" (*J* 2:184) of the imagination where he, too, moves as the corporeal and celestial owl "feeling his twilight way," his body must submit

to the animal imagination – the "land of dreams" (*W* 289). In doing so, his body can lead his thinking according to the night's "weird teachings," and produce a phenological effect of imagination (NM 3). On more than one occasion Thoreau documents the sensation of his body leading his mind into an imaginative state during night walks in the woods. An often-referenced passage of this nature, occurs on November 25, 1850, a time when Thoreau was hard at work on *Walden*, which, as Dimick notes, began increasing "in phenological precision" between 1846 and the 1854 publication (709):

> I feel a little alarmed when it happens that I have walked a mile into the woods bodily, without getting there in spirit. I would fain forget all my morning's occupation, my obligations to society. But sometimes it happens that I cannot easily shake off the village; the thought of some work, some surveying, will run in my head, and I am not where my body is, I am out of my senses. In my walks I would return to my senses like a bird or a beast. What business have I in the woods, if I am thinking of something out of the woods? (*J* 2:110)

Interpretations of this portion of the Journal entry often take precedence over the succeeding paragraphs that highlight the phenological phenomena that prompt and clarify the meaning of Thoreau's seemingly mindless movements: cold, evening, and muskrat. Sharon Cameron, for example, argues in *Writing Nature* that the above passage implies the dual directions of Thoreau's thoughts: one moving toward the town where transactional business is "severed from significance" and one out towards the woods "where a deeper passive business might engage man's attention, not incidentally *connecting the mind and the body*" (emphasis mine 69). She adds that "the woods offer a model for the desired reconciliations" between body and mind where "being in one's senses 'like bird or beast'" means the senses take on an animal "obliviousness" marked by "the convergence of concentration and unconsciousness" (69). In other words, the human/animal and mind/body divide enacted by the liminal space between town and woods are healed not by the active dismissal of town-thoughts for woods-thoughts but by

a lower animal mindset lacking in fine-tuned perception, which she phrases as "obliviousness" and "unconsciousness" (69). Alternatively, Arsić interprets the passage as one where walking serves not as an opportunity for "the mind to remember or to reflect on personal or communal aspects of daily life" but as a method of thinking that allows perception to be "fashioned by the body" not "conditioned by the mind" (281-83). And, if the mind remembers its town doings then it has failed so astronomically that it becomes alarmed, as Thoreau is when he notices his body has made it to the woods (Arsić 283).

While Cameron notes an animal presence in the movement of thinking and Arsić credits the body with a manner of thinking, absent from each interpretation is the pivotal phenological context of Thoreau's walk from the town to the woods: early evening, bitter cold, and the muskrat whom Thoreau encounters once in the woods. The town does initially keep Thoreau's mind out of his senses so that his body arrives in the woods *despite* his mind's preoccupation. But his walking – the movement of traveling to the woods from the town – brings his mind back into his body that has been devising a way forward, making a track, while the mind remains preoccupied with the town. This does not suggest an unconscious, animal obliviousness or a bodily perception totally devoid of the mind's influence. Instead, it shows how the body – eager to return to its ancient forest habit of imagination – moves forward in its imaginings more quickly than the mind, which is still dominated by the "thought of some work" still "run[ning] in my head." The body is already "feeling his twilight way" but the mind is still out of its senses, and for the mind to catch up to the body it must employ the animal imagination: senses of "a bird or a beast." As Thoreau says in a journal from September 20, 1851, "let him perambulate

the bounds of the imagination's provinces, the realms of the faery, and not the insignificant boundaries of towns. The excursions of the imagination are so boundless, the limits of towns are so petty" (5). The town divests the mind *and* body of imaginative thinking and permits the human to move unaware of the imagination's corporeal and celestial connections; the imagination does not roam, but thoughts of work "run" senselessly when influenced by the town's petty limits. The balance of the imaginative dreamer moves off kilter when in the town, but the body and mind are never totally without or completely ignorant of each other in a phenology of thinking. As Ingold posits,

> rather than a commanding mind that already knows its will trailing a subservient body in its wake, out in front is an aspirant imagination that feels its way forward, improvising a passage through an as yet unformed world, while bringing up the rear is a prehensive perception already accustomed to the ways of the world and skilled in observing and responding to its affordances. (140)

When Thoreau finds himself in the woods, he asks "what business have I in the woods, if I am thinking of something out of the woods?" In the next paragraph, he seems to answer his own question by detailing the wood's phenological business: the afternoon is "late and cold," "the air is indescribably clear and exhilarating," and, several paragraphs later, "I saw a muskrat come out of a hole in the ice. . . . While I am looking at him, I am thinking what he is thinking of me" (110-11). The muskrat is "a cold-blooded fellow!" having and inspiring "thoughts at a low temperature" (111). Over the course of the entry, as Thoreau makes his track into the woods, thoughts of work that "run in my head" (110) give way to Ingold's "aspirant imagination." This mode of thinking is not led by a "commanding mind . . . trailing a subservient body" or vice versa, as Cameron and Arsić imply, but by an improvisatory body with a "prehensive perception" that can respond to phenological movements and bring thinking back into the imaginative senses of "a bird

or a beast." And, upon encountering the muskrat on this cold, early evening, perhaps preparing for bed as the owl begins preparations for the dawning of his day, Thoreau's thinking finally returns to the already imagining body. Thoreau looks at the muskrat and thinks what the muskrat is thinking of him. Thoreau is not divining the muskrat's thought like he does with the loon but "thinking what he is thinking of me" – I am thinking about myself and imagining myself through what the muskrat thinks of me, not I am thinking *like* a muskrat but thinking *through* the muskrat. To do this, Thoreau's imagination applies a "prehensive perception," one that emits from body and mind. Ingold may not even be aware of the animal presence of his own thoughts: while prehensive suggests a perception that has memory of things previously perceived, prehensive also describes the ability of animals to grasp or hold objects by wrapping, usually theirs tails, around an object. In going out into the woods on a cold, winter afternoon, Thoreau prehensively feels his twilight way with a body and mind that find each other when they submit equally to the ancient forest habits of the imagination, allowing him to think *through* the muskrat as he ultimately thinks through the owl.

In "The Village" Thoreau portrays his most successful instance of launching into the imaginative thoughts of winter nights. Unlike his experience of alarm when his body moves forward into the imagination ahead of his mind, his experience in "The Village" portrays him as tracker who mirrors the owl exactly "feeling his twilight way" with his own sensitive feet and hands, leading a "merry crew of thoughts" that are both "genial" and "dreaming and absent-minded." He thinks through the owl just as he thinks through the muskrat, and he becomes lost in his own thoughts where he discovers how the

imagination harnesses the "vastness and strangeness" of nature and uncovers the "infinite extent of our relations" (*W* 187):

> It was very pleasant, when I stayed late in town, to launch myself into the night, especially if it was dark and tempestuous, and set sail from some bright village parlor or lecture room, with a bag of rye or Indian meal upon my shoulder, for my snug harbor in the woods, having made all tight without and withdrawn under hatches with a merry crew of thoughts, leaving only my outer man at the helm , or even tying up the helm when it was plain sailing. I had many a genial thought by the cabin fire "as I sailed." I was never cast away nor distressed in any weather, though I encountered some severe storms. It is darker in the woods, even in common nights, than most suppose. I frequently had to look up at the opening between the trees above the path in order to learn my route, and, where there was no cart-path, to feel with my feet the faint track which I had worn, or steer by the known relation of particular trees which I felt with my hands, passing between two pines for instance, not more than eighteen inches apart, in the midst of the woods, invariably, in the darkest night. Sometimes, after coming home thus late in a dark and muggy night, when my feet felt the path which my eyes could not see, dreaming and absent-minded all the way, until I was aroused by having to raise my hand to lift the latch, I have not been able to recall a single step of my walk, and I have thought that perhaps my body would find its way home if its master should forsake it, as the hand finds its way to the mouth without assistance. . . . Often in a snow storm , even by day, one will come out upon a well-known road and yet find it impossible to tell which way leads to the village. Though he knows that he has travelled it a thousand times, he cannot recognize a feature in it, but it is as strange to him as if it were a road in Siberia. By night, of course, the perplexity is infinitely greater. In our most trivial walks, we are constantly, though unconsciously, steering like pilots by certain well-known beacons and headlands, and if we go beyond our usual course we still carry in our minds the bearing of some neighboring cape; and not till we are completely lost, or turned round,—for a man needs only to be turned round once with his eyes shut in this world to be lost,—do we appreciate the vastness and strangeness of Nature. Every man has to learn the points of compass again as often as he awakes, whether from sleep or any abstraction. Not till we are lost, in other words not till we have lost the world, do we begin to find ourselves, and realize where we are and the infinite extent of our relations. (184-87)

This walk begins already more successfully than the alarming walk because Thoreau sets out with the intent to "launch myself into the night" after leaving town; there are no town-thoughts running through his head this time. He says these launchings are all the better if the night is "dark and tempestuous," meaning if it ignites within him conflicting feelings and thoughts. The desire for the variety the night heralds recalls the owl of "Sounds" whose voice circles restlessly in the sky and wavers from "gelatinous," "mildewy," "melodious," "idiotic and maniacal" "savage" and "pleasing" (*W* 134-5), and

the owl of "Former Inhabitants and Winter Visitors" who models the sensitive movement required to track imaginative thinking. As Thoreau walks on this night, he moves with "a merry crew of thoughts" and leaves "only my outer man at the helm" so that he may "sail," which again predicts the owl of "Former Inhabitants" who "flapped through the pines, spreading his wings to unexpected breath" (*W* 289). Yet Rossi interprets Thoreau's reference to his "outer man" as an indication that he does not "consider that the body might carry some intelligence apart from its 'master'" (89), a view that contrasts with Arisć who believes the body determines thinking and Cameron who offers the woods as the place where Thoreau's body and mind reconcile. Rossi points to a journal entry in which Thoreau explains that "the complete subjugation of the body to the mind prophesies the sovereignty of the latter over the whole of nature" (*J* 1:487). And when Thoreau, in the very next sentence of this entry, proclaims that "the instincts are to a certain extent a sort of independent nobility, of equal date with the mind, or crown, ancient dukes and princes of the regal blood. They are perhaps the mind of our ancestors subsided in us, the experience of the race" (*J* 1:487), Rossi concludes that "the 'ancestors' Thoreau has on his mind are not animal ancestors" but human royalty (89). Yet Rossi's argument emerges from the very passage where Thoreau's animal instincts, especially those instincts of the imagination, seem to be most clearly linked to an animal – the owl. Indeed, Rossi believes this scene and the one from "Former Inhabitants" are "precisely mirrored," but his opinion remains the same: animal instinct is not the great ancestor. Richard J. Schneider also has trouble with the ways in which Thoreau portrays animals and posits that they are usually either very realistic "without any obvious symbolic meaning," especially in winter when "the starkness" of the season "stripped

[Thoreau's] observations down to clear, simple fact," or they are rife with symbolism and take on "spiritual meaning" (100). In both cases though, as with Rossi's interpretation, we must consider where these ancestors, symbols, and spiritual meanings originate – the imagination.

So, when Thoreau leaves his outer man at the helm, he does not intend to move only his body or only his mind, but he extends his own sensitive pinions – his hands and feet – into both a cosmic and corporeal realm untied by imaginative thinking. His outer man *is* his imagination. He is now the owl dreamer who moves "dreaming and absent-minded" based on the "ancient forest habits" of their shared animal ancestors (*J* 2:184). As if calling to the flights of the imagination that come from above, Thoreau "frequently had to look up at the opening between the trees above the path" to see with his feet by feeling "the faint track which I had worn" and to "steer" with his hands "by the known relation of particular trees." Here, he has acquired the sensing sensitivity of the owl's pinions which move with a "delicate sense of their neighborhood" (289) just as he moves now with "the bearing of some neighborhood cape." He describes this movement in both real time and in the past, evoking his "prehensive perception" (Ingold 140) of phenological shifts all the while. When he beings the night is "muggy," but as he progresses, he recalls similar walks in "a snow storm" when the road appears new and foreign again. These shifts align with the weird movements of the imagination that "feels its way forward, improvising a passage through an as yet unformed world" (Ingold 140).

The world is not the world as we know it, but the owl's world, "a nature behind the common, unexplored by science or by literature" because neither discourse considers human imagination as animal instinct (*Week* 47). Indeed, as Thoreau remarks in a Journal

entry from Christmas day 1851 when he describes the fascinating movements of the snow blown in the wind, "if there is not something mystical in your explanation, something unexplainable to the understanding, some elements of mystery, it is quite insufficient. If there is nothing which speaks to my imagination, what boots it? What sort of science is that which enriches the understanding, but robs the imagination?" (*J* 3:158). He concludes this entry with "thoughts that blot out the earth are best conceived in the night, when darkness has already blotted it out from sight" (158). Sightlessness unfolds in the woods with the "infinitely greater" perplexity of the winter night which suggests the most imaginative thinking prompts us to get "completely lost, or turned around" so that we might "appreciate the vastness and strangeness of Nature" (*W* 187). This phrase is a near exact replica of the phrase Thoreau uses in the his journal entry from which he garnered the material for the owls in "Sounds": "*They* [the owls] give me a new sense of the vastness and mystery of nature which is the common dwelling of us both" (*J* 1:379). With the imagination at the helm, the body tracks its thoughts by "the faint track which I had worn" (*W* 185) and learns that "not till we are lost, in other words not till we have lost the world, do we begin to find ourselves, and realize where we are in the infinite extent of our relations" (*W* 187). That is to say not until we lose ourselves in our imaginations can we see, feel, hear, and come to fully sense our infinite relation to both this world and the owl world "behind the common" (*Week* 47) where thinking moves by that instinct common to us all: the animal imagination.

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