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The Queer Ecology of Clouds in Nineteenth-Century British Poetics

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Abstract

Throughout the nineteenth century, British writers were interested in the emergent science of meteorology, and their lyrical writing (their "poetics"), from poetry to creative and scientific prose, often turns to clouds as both meteorological formations and as material metaphors for human-environment interactions. These writers frequently invoke clouds to disrupt or "queer" depictions of human-environment relationships built on human domination of environmental beings. Clouds, in poetic writing, help writers (and readers) instead experience subject-subject relationships of reciprocity—a collaborative, non-hierarchical way of existing with and learning from our ecological relatives.

Dwelling in the confluence of literary studies, queer studies, and ecology, *The Queer Ecology of Clouds in Nineteenth-Century British Poetics* illuminates these reciprocal relationships, focusing on the themes of *wonder, touch*, and *entanglement*. In all chapters, I discuss writers from the working class (e.g., John Clare, Ellen Johnston), women writers (e.g., Mary Maria Colling, Dorothy Wordsworth), and middle- and upperclass writers (e.g., Alfred Tennyson, Gerard Manley Hopkins). In doing so, I queer traditional canons and challenge assumptions of human exceptionalism and independence. This work invites us to acknowledge a multispecies network with whom we are embedded, offering a more inclusive methodology for existing amid environmental crises.

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The Queer Ecology of Clouds
in Nineteenth-Century British Poetics

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by

Lucien Darjeun Meadows

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Throughout the nineteenth century, British writers were interested in the emergent science of meteorology, and their lyrical writing (their "poetics"), from poetry to creative and scientific prose, often turns to clouds as both meteorological formations and as material metaphors for human-environment interactions. These writers frequently invoke clouds to disrupt or "queer" depictions of human-environment relationships built on human domination of environmental beings. Clouds, in poetic writing, help writers (and readers) instead experience subject-subject relationships of reciprocity—a collaborative, non-hierarchical way of existing with and learning from our ecological relatives.

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Introduction: An Invitation

In 1821, comic author-character Simon Shatterbrain writes to *Blackwood's Edinburgh Magazine* in a letter titled "Meteorological Observations Extraordinary," to describe a new mode of cloud science inspired by his combined pursuits of "reading new poetry, and noticing the weather" (267). Published not two decades after British pharmacist and amateur meteorologist Luke Howard's *Essay on the Modifications of Clouds* (1803) helped to spark a passion across western Europe and the United States for documenting and cataloguing the skies, Shatterbrain's observation, however, is far from what Howard or other cloud scientists would recommend. He eagerly watches Mr. Titlepage, his local bookseller, as "one by one, he popt the works of living versifiers into the cauldron, out of which, after a little simmering, they issued in the shape of vapour, and successively overspread the heaven with clouds, which, knowing Mr Howard's theory, I was luckily able to systematize" (267). Assisted by the cloud classification system from Howard's *Essay*, Shatterbrain works "to ascertain, by nubilous analogy, the degree of poetical merit" (268) within the work of numerous writers of the late eighteenth and early nineteenth centuries—a meteorological literary critique, of a sort.

Thus, from burning their works, Shatterbrain discerns that the poems of Robert Southey, England's current Poet Laureate (discussed in Chapter 3), "took the shape of *cumuli*, or *stacken-clouds*, those marble-like masses which shine like temples or cities" (268). Meanwhile, the poems of Percy Shelley, a Romantic writer controversial for his radical politics and unconventional family arrangements (discussed in Chapter 1), "rose into cumulostrati, or twain-clouds, [...] top-heavy and apt to degenerate into nimbi, or

positively rainy clouds," similar to the "*cumulo-stratus*, or *twain-cloud*," with their "fine wild picturesque appearance of troubled atmosphere" (268) generated by Shelley's contemporary, the also-controversial Lord Byron. Shatterbrain finds that *Lyrical Ballads*, the book-length opus of buoyant William Wordsworth (discussed in Chapter 2), generates various clouds: "some crept along in a *stratus*, or *fall-cloud*," while "some 'rose like an exhalation' into a delightful *cirro-stratus*, or *wane-cloud*," leading to brief rain but then "the beauty of the rainbow" (269). In contrast, the melancholy and unsettling poems of Wordsworth's contemporary and sometime friend Samuel Taylor Coleridge (discussed in Chapter 4) generate "something between *cirrostratus* and *cirrocumulus*,—wildest and most ominous," on the verge of "an explosion of something very fearful and mysterious" (269). After watching the burning of the work of these and other writers, and documenting the resulting clouds, Shatterbrain proclaims, "I have more admiration than ever for Mr Howard's classification of the clouds" (270). He urges his readers to believe his analyses—and urges the period's poets to "set to work again, and supply us with a fresh stock" for future meteorological observations (270). In the nineteenth century, clouds move from the skies to the page, and back to the skies again.

Across the following chapters, I offer *The Queer Ecology of Clouds in Nineteenth-Century British Poetics* as another version of meteorological literary critique—not as the comic satire of Shatterbrain, but as a philosophical model for thinking with clouds as our ecological relatives. I offer a deep description of the queer ecology of clouds in nineteenth-century British poetics—and on what we can learn from *these* cloud poems, closely described in *these* ways, that might afford a more ethical and sustainable approach to life and relation in this time of environmental crisis. Nineteenth-century British writers' invocation and depiction of clouds provide a way of viewing our relations and responsibilities with the ecological world not as fixed, bounded, and exceptional human subjects dominant over a world of environmental objects. Rather, these writers'

cloud poetics—a term I use to describe their lyric writing across poetry and creative and scientific prose that substantively engages clouds through poetic elements such as metaphor, simile, diction, music, form, and more—demonstrate the role of the human as only one species of subjects in relationship with many ecological—animal, plant, topographical, and meteorological—subjects. Through these writers' cloud poetics, we disrupt the human subject/environmental object binary persistent in Eurowestern discourse. We move toward a more collaborative ecological subject—human subject relationship suggested by queer ecology in recent decades and practiced by many Indigenous knowledge-holders for millennia.

Bringing this thinking alongside the material and metaphorical representations of clouds in nineteenth-century British poetry contributes to contemporary scholarship in literary studies, ecology, and queer studies, but also in phenomenology, new materialisms, quantum physics, and Indigenous studies. I study the queer ecology of clouds within poetic writing (most often in individual poems) across the full nineteenth century, in contrast to the few preceding book-length studies that focus on cloud literature either of the Romantic or of Victorian periods. I am not only interested in the presumed distinctions between Romantic visions of clouds and Victorian cloud science. Rather, I follow the spiraling and entangled interplay of the poetic and scientific, the creative and critical, that spans cloud writing across the full century.

In doing so, I strive to form an ecotone, a meeting-place between two ecosystems and a phenomenon discussed at length later in this introduction. This ecotone, here, is an ecological convergence of disciplines, bodies, and voices that mirrors both the reaching, recursive language of poetic and scientific texts but also the reaching, recursive movements of the clouds themselves. The shifting air currents, air and water temperatures, and relationships of the millions of droplets that comprise every cloud (about 350 billion droplets per cubic foot, in a cumulus cloud) are never still. A cloud is

not fixed into a permanent status. Clouds *cloud*—to be a cloud is to be clouding, more verb than noun. Step outside, look to a window, or, simply, look up. Depending on where you are, you likely will see clouds moving overhead—a range of bodies entangled in sensuous modifications across species and varieties, across the sky from the level of your toes up to forty or forty-five thousand feet overhead. Watch them move, here in the queer ecology of clouds.

Scientific and Artistic Clouds in the Nineteenth Century

In this intersection of literary studies, ecology, and queer studies, my dissertation joins scholars across disciplines to discuss how the cloud poetics of nineteenth-century British writers points toward a collaborative, nonhierarchical human-environment relationship. Nineteenth-century writers were interested in the new science of meteorology, evidenced by the increasing rate of *cloud* mentions across poetry, creative prose, and scientific writing. In light of concurrent scientific developments, they turn to clouds in moments of lyricism not only as meteorological formations but also to use that understanding to reframe clouds as material metaphors for human-environment interactions. Creative and critical cloud writing, then, generates multiple meanings, offers alternatives to dominant cultural models, and stresses sensuous relationality with the natural world. Because of the mutability and complexity of clouds, such cloud writing is always multivalent, thus positioned in a different space from many other taxonomic and classification-oriented pursuits of the nineteenth century.

From Aristotle through Descartes, Eurowestern cloud science focused less on the appearances of clouds than on their causes (e.g., intimations of rain), with clouds themselves considered each unique and impossible to group into any consistent framework. However, this long-term perspective on clouds as simply symbolic, unique, and unclassifiable changed in the first years of the nineteenth century with the near-

concurrent publications of Luke Howard and Jean-Baptiste Lamarck. In 1802, Howard delivered in London a public lecture on clouds that was revised and published in the following year as *Essay on the Modifications of Clouds* (1803). In his lecture and *Essay*, Howard offered a framework, similar to the biological taxonomies of eighteenth-century scientist Carl Linnaeus, of three major cloud types (*cirrus*, *cumulus*, and *stratus*) and a total of four intermediate and compound transitions between these major types (e.g., the intermediate transition *cirro-cumulus*). Rather than present a limitless, unknowable range of cloud shapes and patterns, Howard distilled clouds into seven recognizable, knowable types. His cloud taxonomy mirrored the Eurowestern urge across the late eighteenth and early nineteenth centuries to categorize material and cultural phenomena, from fossils to languages.[1]

At the same time, Lamarck published two articles in French meteorology journals that also proposed a cloud classification system: "Sur la Forme des Nuages" ["On the Forms of Clouds"] in 1802, and the expanded version of this article, "Tableau des Divisions de la Région des Météores" ["Table of the Divisions of the Sky Regions"] in 1803. Lamarck's system was largely ignored while Howard's became a leading authority and remains so today (possibly due to geographic, language, formatting, and/or publishing details discussed further in Chapter 1). Yet, Lamarck, like Howard, organized the proliferating sky into distinct and repeating cloud types. Lamarck's system offered eight species, and he used altitude and ground temperature as means to verify these species. For nineteenth-century cloud observers and writers, Lamarck's and Howard's initial classification systems, with the flood of additional systems, refinements, guidebooks, atlases, lectures, and symposia on clouds that followed, inspired an

[1] In this sense, efforts toward comprehensive cloud classification strive to complete a project of scientific description and categorization (and thus conquest of science over nature). Aristotle, for instance, probably would have found these nineteenth-century scientists' attempts to systematize clouds rather scandalous.

unprecedented Eurowestern increase in cloud-inspired art and writing by amateur and professional observers.

Even as England occupied a center of cloud research and writing, numerous artists and writers across western Europe and the United States turned to clouds for inspiration and connection. German writer and scientist Johann Wolfgang van Goethe wrote "Howards Ehrengedächtnis" ["In Honor of Howard"] (1821), a poem in honor of Howard's cloud research that was included and retitled as "Poem on the Clouds" at the beginning of subsequent editions of Howard's *Essay*. Goethe also published numerous critical essays on the atmosphere, including "Wolken-gestalt nach Howard" ["Cloud-Forms According to Howard"] (1820) and "Die Witterungslehre" ["The Meteorology"] (1825), and he recommended Howard's *Essay* to numerous artists and thinkers who then pursued cloud studies and art-making, including German artist Friedrich Preller, Norwegian painter Johann Christian Dahl, and Carl Gustav Carus, a German physician, philosopher, and artist, discussed further in subsequent chapters. Carus read Goethe's work on clouds, discussed it with him, and theorized on the artistic and scientific importance of clouds in his nine letters on *Erdleben-Bildkunst* [*Earth-life Painting*] (1815-24) and elsewhere. In addition, Austrian writer Adalbert Stifter often described clouds in vivid, precise detail in his prose. In his linked novella collection *Bunte Steine* [*Motley Stones*] (1853), Stifter writes of many clouds, including the gentle "little white cloud" of cumulus in "Granite" (28); the "dull shroud veiling the sky" of altostratus in "Limestone" (48); and the momentous progression of cumulus into cumulonimbus in "Cat-Silver":

> But the clouds grew more and more distinct, and their upper edges were lit by the sun, and gleamed as though molten silver were spilling from them. […] They formed a dark wall, and at the foot of this wall light whitish flakes were drifting. Already lightning flashed in the clouds, but the claps of thunder that followed were distant as though beyond the mountains. […] Little by little the clouds had swallowed the sun. […] They were greenish, luminous almost to whiteness, but despite that light there was a darkness on the hills below them like nightfall. (186-9)

In France, Gustave Flaubert invoked clouds and Howard's nomenclature specifically, writing in *Bouvard and Pécuchet*, his unfinished final novel published posthumously in 1881:

> To familiarize themselves with weather signs, they studied the clouds, following Luke Howard's classifications. They contemplated the ones that stretched out like plumes, the ones that looked like islands, and the ones you could mistake for snowcapped mountains; endeavored to distinguish nimbus from cirrus, stratus from cumulus. The shapes changed before they could remember the names. (30)

In the United States, Alvan Fisher was regularly painting clouds of the northeast by 1816, as was Thomas Cole (who visited London and witnessed the cloud studies of John Constable and Joseph Mallord William Turner) by 1825; and Martin Johnson Heade's southeastern paintings, including *Sunset on Long Beach* (c. 1867), often depict the cumulus lenticularis (see fig. I-1).

Figure I-1. *Sunset on Long Beach*, Martin Johnson Heade, c. 1867, Museum of Fine Arts, Boston.

While the United States participated in the development of weather maps and data collection—with Joseph Henry, of the Smithsonian, sharing daily weather maps by 1849 and coordinating, by 1860, about five hundred weather stations reporting data to the Smithsonian—cloud science, and poetry, remained centered in western Europe and, particularly, in England. Howard's international popularity was assisted by several

British scientists: Thomas Ignatius Maria Forster, whose *Researches About Atmospheric Phaenomena* (1813) made Howard's rubric more accessible for wider audiences; George Mackenzie, who expanded cloud science into weather science in *The System of the Weather of the British Islands* (1821) and encouraged all readers to document clouds and weather; and Ralph Abercromby, an influential member of the new Royal Meteorological Society (founded in 1850) who lectured and published in the 1880s, sometimes with his collaborator Hugo Hildebrand Hildebrandsson, on the importance of consistent cloud naming (discussed in Chapter 3). Meanwhile, in 1872, fifty-two meteorologists met in Germany to plan a cooperative international meteorological organization, leading to the debut of the International Meteorological Congress (IMC) in 1873. The IMC developed into the International Meteorological Organization in 1879, then into the World Meteorological Association (WMO) in 1950, and the WMO remains to this day the dominant international authority on cloud science, whose regularly updated *International Cloud Atlas* continues to draw from the early work of British and Eurowestern scientists.

Alongside these scientists, many nineteenth-century British writers embraced cloud observation, living and writing in a charged time of close attention to Linnaean taxonomy, to Romantic theories of nature as a metaphor and muse for the creative spirit, and to Romantic and Victorian interest in dialogue between the arts and sciences. Charlotte Brontë, for example, invokes in "The Letter" (1837) the persistent mystery of clouds despite classification systems when she writes:

> [...] you may not see
> Distinct, what form defines
> The clouded mass of mystery
> Yon broad gold frame confines. (ll. 53-56)

Several years later, Elizabeth Gaskell reports, "'She [Charlotte Brontë] said [...] that I had no idea what a companion the sky became to any one living in solitude, — more than any inanimate object on earth, — more than the moors themselves'" (*Life* 353). Numerous

poets throughout the century were thinking and writing about clouds—and compared to previous eras, more nineteenth-century British poets wrote about clouds, and did so in more poems, than British writers of any prior century. Across the 1247 pages of the most recent edition of Wiley-Blackwell's *British Literature, 1640-1789: An Anthology* (2016), there are only thirty references to clouds, clustered among the work of a few writers. (John Milton's writing holds five of these references, or almost 17% of the total.) In contrast, across the 1558 pages of Wiley-Blackwell's most recent edition of *Romanticism: An Anthology* (2012), reaching from 1770 to 1851, one finds over one hundred references to clouds—over three times as many references as in the anthology for the century prior. Rather than cluster in many references by a few writers, as seen in the 1640-1789 anthology, clouds in *Romanticism* appear across the work of many included authors. Likewise, in Wiley-Blackwell's most recent edition of *Victorian Literature: An Anthology* (2014), despite being a shorter anthology than either of the two others studied—at 1025 pages—clouds appear twenty-eight times and across many included authors.

Certain demographics tend to be more represented in certain anthologies, and Wiley-Blackwell / John Wiley & Sons, like many publishers, tends to include more robust selections from more canonical—and almost always more economically secure—writers, even as they have increased the socioeconomic diversity of authors represented in their anthologies of British literature. However, cloud writing was not only a passion of middle- and upper-class poets. Pickering & Chatto's two comprehensive anthologies of laboring-class poets, *Eighteenth-Century English Labouring-Class Poets, 1700-1800* (2003) and *Nineteenth-Century English Labouring-Class Poets, 1800-1900* (2006), each of which holds selections from over one thousand poets from the respective century, show that the nineteenth-century increase in cloud poetics extended across classes. Across the 1396 pages of *Eighteenth-Century*, clouds appear twenty-six discrete

times, while across the 1400 pages of *Nineteenth-Century*, clouds appear forty-three discrete times, or 165% as often as in the century previous. Across writers from the laboring class and from the middle and upper classes, across writers more and less canonical, the nineteenth century saw a dramatic increase in cloud poetics.

Thus, this dissertation studies works by both middle- and upper-class writers and by working-class writers. I include substantive discussion of at least one woman writer and at least one working-class writer across almost every chapter to queer and expand the (often privileged) canon by including essential yet understudied voices.[2] At times, some readers might wonder why more familiar writers are not discussed (or discussed as often perhaps preferred); and at times, the choice of writers and works for a given topic or chapter might seem less likely than other pairings that might come to mind. I ask my readers' patience in this slow, at times awkward, but essential process of expanding the canon. Just as *queer* ecology troubles normative assumptions about human bodies, ecological bodies, and their relations, so do I, through these choices, trouble normative assumptions about whose works (and, thus, whose lived and textual bodies) merit study. I show how the queer ecology of clouds extends across socioeconomic classes and across nineteenth-century British writers from diverse life circumstances to make visible the silences when they are excluded elsewhere. Through this increased visibility, queer ecology becomes a practice of *doing* which facilitates generative conversations across the century.

As the Romantic period and early meteorological studies converged, diverse writers, thinkers, scientists, and observers across the nineteenth century welcomed in the clouds, with their mysteries and contradictions, as puzzles, inspirations, and co-

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[2] Citation is a "reproductive technology," as Sara Ahmed (2013) has written, where certain voices are amplified or erased, and certain lineages are ended or perpetuated (n.p.); so, throughout this dissertation, I turn to women and working-class writers to honor and continue the conversation on their often deeply descriptive and ecologically attuned cloud poetics.

habitants. In *Orlando* (1928), a novel spanning the sixteenth century to the twentieth century, Virginia Woolf chooses a cloud to symbolize the nineteenth century:

> Orlando then for the first time noticed a small cloud gathered behind the dome of St. Paul's. As the strokes sounded, the cloud increased, and she saw it darken and spread with extraordinary speed. [...] A turbulent welter of cloud covered the city. All was darkness; all was doubt; all was confusion. The Eighteenth century was over; the Nineteenth had begun. (216)

Woolf's cloud may be a cloud of pollution, much as John Ruskin (who Woolf parodies in this passage) described "The Storm-Cloud of the Nineteenth Century," in his 1884 essay of that name. In this essay, Ruskin used the "dry black veil" (27:132) of a storm-cloud generated from both "poisonous smoke" and "dead men's souls" (27:133) as an overarching symbol of the nineteenth century. However, Woolf and Ruskin—like many nineteenth-century British writers—do not merely use a cloud as a symbol, as in centuries of earlier artistic use of clouds. Woolf and Ruskin both describe observable natural phenomena, albeit with creative license, using the tangible, unprecedented (and pollution-fueled) increase in fog—or stratus cloud—to comment upon the period.

Thus, like creative and scientific prose writing on clouds, nineteenth-century poets who invoke clouds in their work also open an explicitly alternative space to comment on, work with, and detach from simple symbolism or constricting biological taxonomies. These poets, instead, often opt for clouds to highlight the ecological wonders and relationships they model. For example, in "I Wandered Lonely as a Cloud" (1804), William Wordsworth uses the simile of a porous, proliferating body of a cloud to develop what Marjorie Levinson (2010) terms as a way of expanding individual consciousness into a being "already multiple, diverse, and dynamically continuous with its environment" (635). Even as Wordsworth's speaker first introduces *cloud* as singular and isolated, for he is "lonely as a cloud" (l. 1), he finds that even in this (sometimes) singular cloud, there is always movement, clouding, crowding. He "floats on high o'er vales and hills" (l. 2), connecting land and sky through the queer middle space that is

cloud, and he finds most satisfaction when *cloud* becomes *crowd*, when land and sky join in "a crowd, / A host, of golden daffodils" (ll. 3-4). This feeling of being knit into a multiple, connected and "continuous" (l. 7) ecological "host" (l. 4) and "never-ending line" (l. 9) is what gives the speaker "bliss" (l. 22) and "pleasure" (l. 23) when he remembers this day with cloud—*as cloud*—and daffodil.

Into the Queer Ecology of Clouds

In a period when species names—including *buttercup* and *dandelion*—are deleted from dictionaries, and species extinctions and environmental destructions rise together with our loss of environmental connection, the queer ecology modeled by nineteenth-century British writers' cloud poetics, in its reorientation toward embodied, collaborative multispecies community and inclusion, offers an ethical pathway for negotiating relationships with all of our human and ecological relatives. I offer this dissertation as we grow in dialogue not only toward a more inclusive environmental *humanities*, but also toward more inclusive environmental *studies*—a proliferating, multivalent, layered field that will be more able, as more voices are heard and included, to make connections across disciplines and effect positive change within our shared ecological network. Thus, my dissertation is situated primarily within literary studies, ecology, and queer studies, focusing on what we can learn, in a broader sociocultural context, from literary applications of queer ecology.

Earlier theories of queer ecology focused on sexually queer authors, texts, or content, generating important conversation about the exclusion of non-heteronormative beings and perspectives from discourses of environment and "the natural." More recent queer ecology scholarship (of which this dissertation is a part) expands the field, similar to the expansion of phenomenology by Sara Ahmed in *Queer Phenomenology* (2006), to consider queer ecologies as present across recursive, non-hegemonic, multivalent

ecological networks and participants' relations. Clouds, particularly as described and invoked by British writers in the nineteenth century, during the first years of widespread cloud classification and meteorology, are among the most tangible (yet paradoxically so) examples of such fluid, nonlinear, collaborative, and proliferating ecologies. Ruskin, in a June 1885 letter to Oliver Lodge, edges toward the unbounded and slippery queer ecology of clouds when he disputes the emerging scientific argument that clouds are comprised of tiny drops of water falling throughout the air. This premise neglects, in Ruskin's view, the "primary question [...] —what gives a cloud its boundary?" (37:514).

Clouds, like poems, queer material and metaphorical boundaries. Thus, working-class poet John Clare positions himself as a cloud in "I Am" (c. 1842-46), when he finds himself, "Untroubling, and untroubled where I lie, / The grass below—above the vaulted sky" (ll. 17-18), the dash of *below—above* heightening the vertiginous effect of the queer middle space of the cloud. Even Ralph Abercromby, who worked toward an international cloud nomenclature, had to admit in "Modern Developments of Cloud Knowledge" (1888), that while "clouds always tell a true story," cloud shapes are "equivocal," because "the true import must be gathered from the surroundings, just as the meaning of many words can only be judged by the context" (18). Adjacent to the proliferating names for specific clouds, the nineteenth century also saw contradictions in prosody manuals. Meredith Martin and Yisrael Levin (2011), describe these manuals' disagreements on specific forms—from the total length of a given form to its meter, rhyme scheme, subject, and the length of each line. Martin and Levin wonder if, rather than see these disagreements as a burden to overcome, we could instead see how the phenomenon of competing accounts "allows a frightening, indeed, a destabilizing amount of freedom. What if, instead of a border, a boundary, a measure, delineation, a container, a shape, meter was more of a discursive in-between space?" (157). What if clouds, also, offer us

such an in-between space for dialogue and collaboration? Clouds are *both-and*, or rather, *and-and*, situated in queer material and metaphorical relationships of ecology.

Turning to clouds as material and poetic co-subjects who queer notions of ecological relationships, we see that bodies are not fully independent, enclosed capsules. We are all porous. We are all, as Wordsworth describes, a *host* and a being *continuous*. Astrida Neimanis (2008) writes of water, bodies, and the Eurowestern "myth of separation from our others, human or otherwise," to show instead how "they cycle through us, as we through them" (6).[3] As configurations of air and water, our bodies gather, hold, and release air and water like the clouds above, in continual flow—the inhalation and exhalation of breath, the release of water when we sweat or cry, the way our skin-shape tightens and loosens depending on our level of hydration and available oxygen, just as a cloud's visible shape curves lenticular with an air current rising over a mountain ridge or pools into fog in the rich humidity of a valley.

Take a deep breath in, then out. Depending on where you are, you might see a briefly visible cloud in your exhalation, as lung-warmed air meets the cooler air around you. Even if this exhalation-cloud is not visible, though, you are a cloud-body touched and folded by the interplay of water, air, and temperature. Breathe in again, and you breathe in the residue of generations of clouds blooming in your lungs, releasing oxygen and nutrients throughout your body; clouds remaining in your mouth as moisture that nourishes your throat, your organs, smoothing the interstices between muscle, tendon, cartilage, and bone. As Percy Bysshe Shelley opened his poem "Mutability" (1816), "We are as clouds that veil the midnight moon" (l. 1). There might be no *outside*, only a layering of veils; regardless, these borders and boundaries of *you* are queer and questionable at best. You breathe in cloud—and you breathe out cloud as the cloud breathes out you. Who you are might be as fluid and relational as the clouds above.

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[3] I am indebted to Neimanis's dissertation introduction for helping me structure my own introduction.

I do not, however, argue that we can discard the differences between all human bodies or between the bodies of humans and other ecological relatives. To do so would be dangerous in a time of continued privilege (for a few) and marginalization (for many). Each of us—across and amid species—occupies particular embodied, embedded sites of historical, social, cultural, physical, and intellectual privilege. As numerous feminist, queer, and critical race scholars have discussed, to erase discussions of in-species and between-species difference is often a means of erasing non-privileged ways of being in, witnessing, and relating with the world. The so-called *flat ethics* touted by some theoretical fields do not flatten all participants into equality (e.g., by raising some and lowering others, or by lowering all to the level of less-privileged others). Rather, they flatten all participants into dominant frameworks by shearing off the less-privileged levels. Queer ecology, phenomenology, and feminist materialism, in particular, provide generative ways of witnessing and engaging embodied difference, as I will discuss.

While I align my research with other queer, feminist, and/or Indigenous scholarship that seeks to dismantle human subject-environmental object hierarchies of dominance, and instead work toward human subject-ecological subject relationships of collaboration and reciprocity, I think and write as a human largely educated within Eurowestern, and thus humanist, paradigms. I do not cultivate the humanism within which queer ecology emerges as a means to make the human more important, powerful, or interesting than other species. I acknowledge humanism as the species-site from which I often think and write, as well as from which I must take action. Humanism offers a means to retain awareness of the embodied differences—and resulting layers of privilege and oppression—within human-human relations, as discussed, but also within multispecies relations that engage humans.

As humans, we have a particular situated ethical responsibility to—and with—our ecological relatives and our world. This responsibility is neither paternalistic nor more

poignant than other multispecies responsibilities and networks. However, as humans—and, given the construct of this work as a doctoral dissertation and our levels of privilege in writing, accessing, and reading this work, our likely participation in industrial capitalism—we must acknowledge our personal and sociopolitical participation in practices which have wrought unprecedented climate change, mass extinctions, and environmental destructions. We cannot toss our human status aside in a retreat to an idyllic nostalgia, a theoretical shortcoming I will discuss later. Through this project, I begin to reckon with our particular responsibilities and relations as often, albeit variously, privileged humans in this ecological network—a reckoning that extends and requires relations across the diverse ecologies of different disciplines.

Through Ecotones, a Challenge to Binaries

Through queer ecology and my training as a literary scholar and interpretive naturalist, I find that these perpetually evolving ecologies bring to mind the *ecotone*, a concept crucial to this dissertation. The ecotone is the transitional space between two ecological environments—the space where forest transitions into meadow, for example. Ecotones consistently hold more biological diversity than either (or sometimes both) of the ecosystems they border and connect. The ecotone does not advance a linear hybridity between Ecosystem 1 and Ecosystem 2—it is not simply Ecosystem 1.5. The ecotone is nonlinear and demonstrates the intra-active entanglement proposed by Karen Barad (2006), and discussed in Chapter 4, where beings are *relata* who make and hold identity by their coming-into-relation. An ecotone between a forest and a meadow will hold species not found in either forest or meadow. This ecotone will afford potential for life, death, relation, and intra-action not afforded by either forest or meadow. The ecotone swarms with potential through its entanglements. So, while one often can point to a discrete area and say, *This is forest*, and point to another area and say, *This is meadow*,

and even where the space between the two are blurred, one often cannot pinpoint the exact place where the ecosystem changes from 51% forest to 51% meadow. The ecotone is not merely a linear *middle* but a nonlinear *together-and-someone-else*.

We see such ecotones in the ever-flowing, ever-moving clouds. Howard's *Essay* and cloud taxonomy gained such international traction because it was able to account for both the specific categories of clouds (e.g., *cumulus, stratus, cirrus*) and also for the "modifications" that these clouds—known not as static objects but as "aggregates" (2)—shifted among and through. *Cloud* is never entirely singular. *Cloud* is always a convergence, always moving in response to topographies below, air currents throughout, and a multitude of water falling and lifting in ceaseless modification. Thus, Howard's *cumulo-stratus* became, with the suggestion of German meteorologist Ludwig Kaemtz in 1840, *strato-cumulus*, the designation this cloud—the most prevalent cloud on earth, and the cloud described by Richard Hamblyn (2008) as "a prime example of a cloud in transition" (32)—still holds, albeit without the hyphen.

Even as this cloud's current name might seem to declare this cloud more stratus-like than cumulus-like, the definition of *strato-cumulus* written by Ralph Abercromby (1887) holds the ecotone open: "a layer of cloud, not flat enough to be called pure stratus, but rising into lumps too irregular and not sufficiently rocky to be called true cumulus" ("Identity" 141). Now, we can see a field of cumulus and then, an hour (or three hours, or five minutes) later, we can see a field of stratocumulus, but we cannot *say precisely* when the cumulus sky becomes a stratocumulus sky. Maurice Merleau-Ponty, in *The Prose of the World* (1969), describes a similar phenomenon across the ecosystems of the sky. He notes, "I cannot say precisely when the light of the setting sun turns from white to pink, but there is a moment when I see things pink" (40). We open and surrender to the flux of the ecotone, a material entanglement of bodies, images, and possibilities, and

the relinquishment of control and dominance that ecotones and cloud studies alike require is a necessary counterpart to ethical environmental studies.

The queer ecology of clouds in British nineteenth-century poetics makes visible and brings into dialogue several ecotones, and the possibilities in and surrounding them, vital to working toward ethical relations with our ecological relatives. The ecotone, in its core definition as a transitional and nonlinear hybrid space, defies the concept of the binary, thus destabilizing binaries in Eurowestern environmental studies that perpetuate human conquest, dominance, and exceptionalism. Through the ecotone of queer ecology, assisted by cloud poetics, we challenge the supposed binaries of *my body/your body, human/non-human,* and *arts/sciences*, among others, and I employ a relational grammar in this dissertation to do so.

As described earlier, and returned to throughout this dissertation, witnessing the bodies and activities of clouds helps us see how cloud-bodies, like human-bodies, are not discrete and bounded, but rather porous and interdependent. The seeming borders of clouds collapse and elide independence as a given cloud might gather into a ball, connect with other once-balls, smooth out into a sheet, and, further, constantly surrender water droplets for evaporation in the higher atmosphere or precipitation in the lower atmosphere, which are incorporated into and become part of a multitude of ecological bodies. We breathe in cloud, who breathes in(to) us. Look to the sky and take a breath. This activity, among many others, dismantles the binary between *my body* and *your body*, and we see this binary explicitly troubled by numerous nineteenth-century British writers in their cloud poetics. Permeable and multivalent cloud-bodies speak in Shelley's "The Cloud" (1820) and Mary Maria Colling's "The Moon and the Cloud" (1831), discussed, respectively, in Chapters 1 and 4. Clare also uses clouds, particularly the stratus cloud's embodiment as fog and mist, to blur multispecies boundaries in several

Northborough sonnets (1832-37), including "The shepherds almost wonder where they dwell," discussed in Chapter 2.

In addition to disorienting the binary of *my body/your body*, the queer ecology of these cloud poetics also disorients the binary of *human/non-human*. The category of *human* has yet to become universal in granting the same status, rights, and privileges to all *Homo sapiens*; until recently, and even now not universally, *human rights* are granted to certain human bodies over other human bodies on account of differences of race, ethnicity, sex, gender, sexual orientation, socioeconomic class, age, ability, or other factors. Likewise, the category of *human* remains exclusive, and the binary of *human/ non-human* is called upon to reinforce the difference not only between humans but between those who qualify as *human* and those who do not. If a being is kind, we call them *humane*; if a being is cruel, they are *inhuman*. If we wish to study the environment and literature, art, folkways, or histories, even in a multispecies sense, we study the environmental *humanities*. When we consider our current geological era, we speak of the *Anthropocene*, the "age of humans," even as certain humans enact much greater destruction and burden on the planet than other humans. Métis scholar Zoe Todd (2015) describes how the term "Anthropocene," in its elision of capitalist societies' far greater responsibility for environmental crises, participates in "the structural violences of heteropatriarchy and white supremacy as they shape discourse and praxis" (248-9). As such, this dissertation uses *Anthropocene* sparingly at best, choosing instead language that makes visible these structural violences.

Through my language choices, I work toward an inclusive, relational multispecies grammar. In writing this dissertation, I have often struggled to locate an inclusive English-language nomenclature and grammar for honoring our ecological relatives. I do not want to erase the important systems of privilege enacted by different bodies among other bodies. I do not want, as discussed earlier, to flatten all being into a species-blind

approach. Instead, I work toward greater inclusion and acknowledgement of fellow beings that many, particularly in Eurowestern paradigms, have considered "less-than-human." The English language falls short in offering an affirmative way to name, describe, and include beings who are not human beings. Some scholars turn from the negative judgment of *non-humans* to the more inclusive *more-than-humans*, but this term falls short for me in that it continues to define and value these beings through their perceived difference from human beings—which is still posited as a binary, albeit as the less rigid *X/more-than-X* binary than the *X/not-X* binary signaled by *non-human*. Some scholars use other terms, such as feminist and queer ecology scholar Greta Gaard's (2017) *earthothers*, a term that includes animal as well as plant, topographical, and meteorological beings, but, again, designating some beings as essentially *other* does not quite align with the relational ethics I seek to develop in this project.

Other possibilities presented themselves: to discuss *human and environmental beings*, or, to include more porous earth-bodies, *human and ecological beings*. I use these terms at times, as they feel among the most relational of available or imagined options, and these terms remind me not to elide all cross-species difference into a cozy facade of equal togetherness within Eurowestern paradigms. Yet, I remain dissatisfied at how these terms seem to affirm clear separation between the *human* and the *environment/ecology*—a separation that does not exist, at least not in as clear a binary, and that has, in its affirmation by Eurowestern paradigms, fueled extensive and continuing destruction. Thus, I draw upon my slowly emerging knowledge of the Cherokee language to interweave those terms with a third: *ecological relatives*. In this phrase, I affirm the interconnection of species while holding space for difference. For example, when using human and English-language relational terms, one's *mother* is a different relative from one's *aunt*, who is different from one's *cousin*, but these differences do not neatly parse into binaries. I hope that by weaving *human and*

environmental beings, human and ecological beings, and *ecological relatives*, I honor both multispecies difference and relation.

Further, throughout this work, when referring to a cloud (or clouds), I use the pronoun *they* rather than *it*, and the pronoun *who* rather than *that*. When many of us speak in English of humans, we describe them as *she, he,* or *they*. *She who is my teacher*. While beloved companion animals sometimes gain the *she/he/they* pronouns, they rarely also gain the *who* pronoun. *See the dog that runs*. Non-animal life is almost always described as *it* and *that*, the same pronouns used to oppress, marginalize, and silence—to *dehumanize*—humans considered less-than-human. Gaard reminds readers that African captive peoples and animals, Indigenous peoples, transgendered peoples, carnivorous plants, and other populations across species "have long populated the zoos, circuses, and/or freak shows of colonial empires," where they have been described through "the dehumanizing and ethically stripped pronoun 'it'" (44). I am more concerned with how this pronoun *ethically strips* these beings rather than how it *dehumanizes* them. I do not believe humanizing is the ultimate goal. Rather, I work toward a future that upholds ethical relations across all beings and sees ethical being and relation as not simply a *human(e)* practice, but as essential across all species.

Thus, I always refer to clouds as *they* and *who* for two major reasons. First, I use *they* and *who* to respect clouds as animate, active beings. In this, I follow the lead of Citizen Potawatomi Nation scientist Robin Wall Kimmerer (2013), who writes:

> Imagine seeing your grandmother standing at the stove in her apron and then saying to her, 'Look, it is making soup. It has grey hair.' We might snicker at such a mistake, but we also recoil from it. In English, we never refer to a member of our family, or indeed to any person, as *it*. That would be a profound act of disrespect. *It* robs a person of selfhood and kinship, reducing a person to a mere thing. So it is that in Potawatomi and most other Indigenous languages, we use the same words to address the living world as we use for our family. Because they are our family. (55)

My pronoun choices also follow political theorist Bruno Latour (2004), who destabilizes anthropocentric subject-object hierarchies by honoring plants, storms, and other

ecological beings as "actants," rather than "objects," acknowledging their agency and capacity for engaged relationship (75). Second, determining whether a mass is "a cloud" or "clouds" is often an interpretive question. As clouds are ungendered and as this work draws upon queer ecology, I use *they* with a nod to this pronoun's increasing use by non-binary-gendered individuals and the delightful—and apt, for clouds—slippage *they* creates between the singular and the multiple.

Such slippage, buoyant and playful—and essential—across queer ecology, also helps this dissertation to unsettle a third significant Eurowestern binary: the distinction of *arts/sciences*. In this way, my dissertation resonates with the emerging theoretical field of new materialism, a broad constellation of scholarship that holds phenomenology as an ancestral influence. New materialism disorients binaries, such as that between the scientific humanities and the artistic or philosophical humanities in an effort to understand the *essence* or *nature* of things through considering how things' material existence matters. I will discuss new materialism, embodied phenomenology, and this project's other theoretical relatives further in this introduction. To unsettle the *arts/ sciences* binary and to help heal divisions between the arts and the sciences throughout this dissertation, I demonstrate how cloud studies—whether in poems or scientific journals—use a necessary combination of material and metaphoric description to find language to describe the phenomena of clouds.

Cloud writing, then, is an ecotone between artistic and scientific writing. Discussed in further detail in subsequent chapters, cloud studies have occupied a liminal space between, first, the more rigid scientific taxonomies popularized by Linnaeus and adopted across many emergent biological sciences and, second, the more fluid artistic and creative conventions used by poet-scholars and creative-critical scholars for generations. Even as Howard in his pivotal *Essay* offers a quasi-Linnaean taxonomy for clouds that names and describes three major cloud types and four transitions, distilling

the proliferating sky into seven recognizable and knowable formations, he draws from metaphor in creating these Latinate cloud formations. For example, the *cirrus* cloud is, literally, a *fibers-cloud*, and the *stratus* cloud is thus named as the *sheet-cloud*. Cloud observers across western Europe also used metaphor and imagination to name and identify the clouds; the cirrocumulus cloud is known as *ciel pommelé* (fleecy sky) or *ciel moutonné* (sheep sky) in France; *cielo a pecorelle* (lamb sky) in Italy; *cielo empedrado* (dappled, or cobblestone, sky) in Spain; and *mackerel sky* in England. Howard's additions to subsequent editions of his *Essay* help position, even more explicitly, cloud studies within an *arts/sciences* ecotone that unsettles the notion of a clear division between the *arts* and *sciences*. Howard opened later editions of his *Essay* with Goethe's "Poem on the Clouds," foregrounding, as it were, this cloud guidebook with a poetic meditation, and he included watercolor plates throughout the text. These revisions heighten the interdisciplinary ecotone between textual and visual, and scientific and artistic, modes of witnessing clouds. A clear distinction between *arts* and *sciences* is a relatively modern invention. Studying nineteenth-century cloud writing—particularly when assisted with queer ecology—keeps the artificiality of this binary apparent.

As such, while this dissertation is housed within literary studies, with strong relations to ecology and queer studies, three disciplines that often write in more distanced, disembodied, and critical modes, I honor in my writing genre and voice the way cloud writing has destabilized clear divisions between dominant conceptions of artistic writing and scientific writing. From—and often before—Howard, one often must write from an ecotone of literary genre, mixing elements of poetry and prose, the figurative and the material, to describe the clouds observed. For example, an anonymous observer of the Worcestershire weather in January 1703 writes:

> I remark we had a constant thick & heavy Sea of clouds & close dark nebulous expanse, or Black sad Atmosphere baked in massy clouds, & I could compare ye huge rising body & vast aeriall Load or ye mundane smoak to nothing more than

> a Diffusion of ye Ocean or steam of some infinite Abyss & what I term in my speciall Language, a Sea-sheet [...] (242)[4]

To describe clouds, whether before, during, or after the onset and subsequent expansion and revision of Howard's nomenclature, one needs a "speciall Language." One needs to reach both toward connotative metaphor and toward observable phenomena—and, importantly, toward the ecotone of genre and voice that these modes generate when brought into being together. For, is "a constant thick & heavy Sea of clouds" entirely a statement of observable phenomena? How can clouds be heavy, or be a sea? And is "steam of some infinite Abyss" entirely metaphor? Before atmospheric measurements, the sky may have seemed infinite, and the entanglement of cloud and sea could be said to generate steam.

In writing this dissertation, I practice this ecotone of "speciall Language" by joining a number of feminist and queer literary studies scholars, as well as queer studies and embodied phenomenology scholars, in moving across more traditional Eurowestern academic writing modes and more sensuous, embodied, lyric or poetic sequences. By engaging both historical and textual material as well as my own embodied experience, I strive, as José Esteban Muñoz (2009) writes, "to reach for other modes of associative argumentation and evidencing" (3-4). Writing in a space of queer ecology where relationality and sensuous immersion are emphasized seems to require a grammar (as just discussed) and a genre that honors and makes visible these emphases. While other scholars might enact a queer ecological engagement through distanced writing, I, like Muñoz, Gaard, Merleau-Ponty, and Neimanis, and even Howard and Kimmerer, move between the critical and the lyric, signaling the more lyric passages through italics, but invoking this generic ecotone, in various levels, throughout the dissertation.

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[4] To avoid stigmatizing writers who follow different spelling or grammar conventions (as in this observer's spelling of "aeriall" and "smoak," among other words), I avoid signaling seeming 'errors' with "[*sic.*]". I am grateful for readers' trust in my and my advisors' copyediting to catch any errors I may have introduced.

I also invoke both more distanced critical writing and embedded lyrical writing across this project because one of my major goals is to engage and model a relational multispecies ethics. Returning to academia after working in nonprofits and informal education, I am drawn to literary studies that facilitate social, cultural, and/or political growth toward a more diverse, inclusive, and equitable future. I, like many literary scholars, enjoy debating the importance of a comma. In this work, I show how grammar helps trouble heteronormative binaries for clouds, writers, and readers. Yet, I am not content with a project that remains fully theoretical. We need to *show* and *demonstrate*.

As a result, I write in lyric interludes and embodied perspectives to model my own thinking-through and enacting of the relational ethics this project strives toward, with the hope, grounded in Métis scholar Warren Cariou's (2020) concept of *critical humility*, that my readers might be moved to also think-through and enact with me. As the Worcestershire weather observer writes, I believe the "oddnes of such terms must be allowed [… to] exhibit a more naturall & lively idea & image of my meaning," and like this observer, "I embrace with utmost freedom & pleasure any word as conduces to cleer & distinguish my sense or falls in to my purpose" (358). What does it mean that our bodies are porous and entangled, like (and yet different from) cloud-bodies? Once we see how the binaries of *human/nonhuman, my body/your body,* and *arts/sciences* are tenuous at best, what does this realization mean for our scholarship and our ethical practice of being? What responsibilities must we acknowledge? What opportunities for multispecies collaboration might exist? To what kind of future might this work lead? The queer ecology of clouds in British nineteenth-century poetics offers an opening for us to disorient persistent binaries and speciesism, and in doing so, we can join in the work toward a more just and ethical future for all beings on this shared planet.

From Material (and Metaphorical) Bodies to Theoretical Bodies

Theories do not emerge in a vacuum, just as a cloud does not jump into visible existence in the sky with no (visible or invisible) precedent. Theories flow like air, water, and clouds. Some join with others for generations, others for an hour. If this project is successful in generating future dialogue and scholarship across disciplines, I cannot predict these rippling trajectories. I might dwell within an altocumulus cloud here, now, but it is your coming-alongside and thinking-with this project, and our scholarship's resulting intra-action, that will determine whether we next shift into cirrocumulus, or rise into cirrus, or roll into radiatus in those approaching air currents.

Queer Ecology

Queer ecology, in the iteration that I pursue, focuses on embodied experience as embedded within ecological networks. This theory disorients humanist, hierarchical, and linear models of understanding the independent objects of the world in favor of a more multispecies, collaborative, nonlinear, interconnected experience of being—a deep, generative, relational node of study within the field of ecology, which is itself the branch of biology focusing on relationships of organisms with each other and their physical environments. Many cultures have studied relationships between animate and inanimate human, animal, and environmental beings long before the 1860s, when scientist Ernst Haeckel offered the term *oekologie*, or the study (*logy*) of the household or home (*oikos*). Shifting into *écologie* in the French language by 1874 and *oecology* in English by 1875, *ecology* gained its contemporary spelling by the 1890s. In my community, we have no epistemological framework for a way of existing that does not realize our embeddedness among a range of animate and inanimate beings. *Ecology* as a term falls short, sometimes, by presuming to define and declare a new way of seeing that many

Indigenous and some Eurowestern communities have practiced in different ways for millennia.

Ecology's orientation toward interconnection and interdependence is one reason why I focus not on a single discrete ecological or meteorological being in nineteenth-century poetic writings, such as the sun or the moon. Instead, I focus on clouds, or in Gerard Manley Hopkins's words, the "network" (*Journals* 535) of "swollen" (174) cloud. Here, and across my focal writers and texts, clouds are a literal and metaphoric shorthand for an entanglement of space and time, perceiver and perceived, human and environment. Clare, during his time in Northborough, wrote of the mutability and relationality—again, the *ecotone*—of clouds. He asserts, "we often see clouds which we identify by their curling up from the orison in separate masses as gass clouds which ascend into the middle sky & then join the quiet journey [of the] clouds & are lost in the same colour" (*Natural History* 337). We see horizon merge into sky, and the sky merge into middle and upper sky. Clouds ascend and disappear depending on our stance and our perspective as situated and entangled within this dynamic process.

This focus of ecology on relationality deepens with a growing theoretical turn toward queer ecology, a field that, importantly for my study of cloud poetics, turns from notions of an objective, stable taxonomy toward not only a relational network of body-relations but toward a relational network that welcomes perspectives often silenced or marginalized from dominant discourse. As the field emerged in the 1990s, earlier formations of queer ecology focused on texts and readings sexually queer in content or author, which felt essential to Catriona Sandilands (1994), Gordon Brent Ingram (1994), Greta Gaard (1997), and other scholars working within entrenched Eurowestern notions of queer peoples and perspectives as existing in opposition to nature. These troubled

intersections of sexuality and ecology remain active in contemporary literature and thought, and deserve sustained attention and dismantling.[5]

I join a growing number of scholars who define *queer ecology* as a more expansive field that moves beyond the literal queerness of author or text to combine academic discourse with social and cultural activism. I hope to deconstruct false dichotomies and separations between multispecies organisms embedded in a weave of relationship and mutual transformation. This broader use of *queer* resembles the definition of the term by Sara Ahmed in *Queer Phenomenology* (2006). While Ahmed engages sexually queer identity in her theory, she uses "queer" more in its spatial meanings of nonlinear and recursive. Similarly, Noreen Giffney and Myra Hird (2008) describe queer ecology as focusing on "fluidity, uber-inclusivity, indeterminacy, indefinability, unknowability, the preposterous, impossibility, unthinkability, unintelligibility, meaninglessness, and that which is unrepresentable [...] to undo normative entanglements and fashion alternative imaginaries" (4). Discussing the discipline at large, Jonathan Mullins (2020) argues that queer theory and environmental humanities oppose hegemonic purity, atomization of life, and territory, to offer alternatives, including the embrace of impurity, coalitions, and imaginative geographies. Recently, scholars have begun to apply such extensions of queer ecology to British Modernist texts.[6] Yet, broader queer ecology scholarship has not yet gained significant

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[5] Nicole Seymour (2013) discusses modern prose and multimedia overtly queer in content or authorial identity to find queer ways of thinking ecologically and ecological ways of thinking queerly. Timothy Griffiths (2015) reads Wordsworth's "Nutting" and "The Thorn" for moments when the poet resists heteronormative narratives of reproduction. Likewise, Wendy Parkins (2018) writes about the queer ecology of gay rights activist Edward Carpenter. While these scholars all acknowledge the potential of queer ecology to move beyond sexually queer themes, they focus analyses on queer human sexualities.

[6] Laura Winkiel (2019) analyzes the queer ecology of the sea in Virginia Woolf's *The Waves* to witness the sensuous nature of relation between the sea, human characters, and reading and writing. Benjamin Bateman (2020) considers the queer ecology of E.M. Forster's *Maurice* by showing how Forster's use of interpenetrative ecologies (e.g., bacteria, pollen, rain) moves beyond a first-person queer human subject and physically opens new possibilities for entangled, multispecies selves.

attention in studies of nineteenth-century poetry, despite the increase in environmental themes and characters in poems of the century.

Queer ecology shows a reciprocal, sensuous nature of relation between a text, its poetic elements, its human characters, its clouds, and our processes of reading and weaving a pattern of being. Catriona Mortimer-Sandilands and Bruce Erickson (2010) also describe queer ecology in this more encompassing and entangled manner that is "not, then, simply a matter of making nature more welcome to gay inhabitation; it is also an invitation to open queer theory to ecological possibilities, and to thus producing a queering of ecological relations" (22). I remember, in childhood, lying on my back and looking up into the sky for so long that *up* became *down*. Similarly, in his 30 October 1884 letter to *Nature*, Hopkins writes:

> If a very clear, unclouded sun is then gazed at, it often appears not convex, but hollow; swimming—like looking down into a boiling pot or a swinging pail, or into a bowl of quicksilver shaken; and of a lustrous but indistinct blue. The sky about it appears to swell up all round into a lip or brim, and this brim is coloured pink. (633)

Hopkins's vertigo, which he describes in the sky's shift from "convex" to "hollow," from looking up at the sun to "looking down into a boiling pot," which at once will "swell up all round," is the reorientation of embodied queer phenomenology, extended to skies, clouds, and queer ecology.

Even as queer ecology provides a sensuous, generative home as the primary theoretical approach for this dissertation, this field still holds troubling limitations, and I continue to gather supplementary theoretical communities to build this project. Despite the emergence of queer ecology outside the academy and practiced in diverse cultural activism, these fields are eagerly subsumed by the academy and, in these formal iterations, have become largely white and middle-class fields. Literary iterations of queer theory and queer ecology often discuss white-authored works and often highlight the *queer* elements without much engagement with the intersection of gender or sexuality

with race. This dissertation, in focusing on the work of white nineteenth-century British writers, may participate in this shortcoming. Yet, I hope that by bringing attention to working-class writers, and by including my embodied perspective, I help nudge the borders of queer ecology open a bit further. Meanwhile, I look to adjacent and diverse fields to supplement this work.

Phenomenology

My abiding fascination with clouds emerges in part from a fascination with how we perceive and orient ourselves to the world—and what that phrase, *the world*, even means— particularly in our orientation through lived, embedded, and embodied experience. These queries led me to embodied phenomenology. Most earlier schools of phenomenology (and ecology) in the mid-twentieth-century argued that individual subjectivity can be oriented outside of history and culture to witness universal conditions and truths.[7] More recent theorizations of phenomenology fracture these early illusions of a shared universal perception in favor of a situated, embodied experience of being—work similar to queer ecology. We cannot be separated from the world around us; we are embedded in ecological relationship. The mid-century work of Merleau-Ponty prefigures the embodied, contextualized turn of queer phenomenology (and queer ecology). Merleau-Ponty's *The Phenomenology of Perception* (1945) offers a phenomenology more embodied in and contingent on relational interactions, for he specifically offers *being a body in and with the world*—part of an ecological community.

Embodied experience mediates all perception, sensation, and reflection. We each are a consciousness housed within a body. This body-being system is part of the larger

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[7] Such an objective orientation, formative phenomenologist Edmund Husserl argued in *The Crisis of European Sciences and Transcendental Phenomenology* (1954), allows one to achieve "transcendental subjectivity," or a subjectivity freed from all personal and cultural preconceptions and filters to achieve a pure and direct perception of the world, thereby making possible "objective science" (110).

ecological and relational system of body, object/fellow beings, and world. For Merleau-Ponty, we do not stand above the world nor are we thrown into the world (seeking to generate possession from/out of this thrownness). Rather, we engage existence, phenomena, and sensation through a surrender and plunge into the world. To sense the sky, as in one of his examples, is to be deeply *with* the sky (despite his use of the *it* pronoun) as "not an acosmic subject *standing before* it, I do not possess it in thought, I do not lay out in front of it an idea of blue that would give me its secret. Rather, I abandon myself to it, I plunge into this mystery, and it 'thinks itself in me'" (222). We make sense of being only through our orientations in space. These orientations include our personal and cultural histories and experiences, as well as our senses, as markers of our "fundamental contingency" (229), or our tenuous—but vital—connection to this mortal world. In our experience of space, "there is no direction, no inside, and no outside" (210). Perhaps there is only *with*. A phenomenology of *with* supports my effort to move beyond persistent human subject/environmental object binaries, as this porousness is a crucial component of receptivity to ecological relation.

In *The Prose of the World* (1969), Merleau-Ponty critiques the notions of objective scientific knowledge and objective nomenclature, two long-standing debates in cloud science. He acknowledges the desire for an ideal language where all is knowable, true, and pure, but he asserts the impossibility of such a language. If this "pure language" existed, language would become a finite "treasury of everything one may wish to say" (6), a closed, repetitive, and reproductive-yet-sterile system. Rather, the experience of language is generative, creative communication where "reading is an encounter between the glorious and impalpable incarnations of my own speech and the author's speech" (14). Language exists in "endless proliferation" and in "perpetual movement" (39). There is no pure language just as there is no complete or finished expression.

In the nineteenth century, international efforts to standardize cloud classification required cloud watchers to see what fellow observers saw, in the shapes and patterns in which they saw them, and not to see what others did not also see. One must agree to see what is (sometimes not) there. One must agree not to see what is (sometimes) there. Even Luke Howard's *Essay*, with its deep and precise descriptions, combines what Kathrin Maurer (2016) describes as a "phenomenological approach" with "universal laws about the atmosphere" (424). However, as we see through the embodied phenomenology as well as through literary studies and lived experience of language and the skies, there is no *objective cloud nomenclature* just as there is no *complete or universal definition of a cloud*. Consciousness, to embodied and queer phenomenologists, is always "embodied, sensitive, and situated," as Ahmed writes (27), and as bodies in and with the world, we join our ecological relatives in co-creating meaning.

Material Ecocriticism and Feminist Materialism

Material ecocriticism and feminist materialism are useful theories to bring into conversation with the queer ecology of clouds in poetics, for clouds and poetic language, both, are material beings. Like queer ecology and, to an extent, embodied phenomenology, material ecocriticism and feminist materialism dismiss often hegemonic boundaries between subject/object, sentient/nonsentient, and animate/inanimate to reach toward entangled, nonbinary means of relating, existing, and storying. Material ecocriticism and feminist materialism are subfields of new materialism, a theoretical approach that moves away from discussion of matter as passive, mute objects and instead witnesses matter—human, ecological, and beyond—as relational, emergent networks in dialogue with biological, political, and social narratives.

Material ecocriticism applies new materialism to ecology, where we acknowledge that all matter—in every form, body, and relation—holds agency, exists through creative

expressivity, and narrates meaning. As humans, we are but one reader of these meaning-stories and but one species collaborating in writing and witnessing these stories. In this way, material ecocriticism—like a queer ecological study of clouds—de-centers the human as the exceptional subject (over a world of objects), exceptional agent (over a world of passive recipients), and exceptional interpreter (over a world of mute entities).[8] New materialism also offers an attractive route for feminist scholarship, as this practice steps away from essentialist notions of gender as fully dictated by the body. As a result, Stacy Alaimo (2010) develops a material feminist theory by studying how social categories (e.g., gender, sexuality) are formed through material networks across human and nonhuman bodies and natures. Alaimo's research emerges in dialogue with Noreen Giffney's and Myra J. Hird's (2008) study of embodiment, as well as Greta Gaard's ongoing work to challenge essentialist binary notions of man-human/woman-nature to work toward a more ecologically just future for all beings.

Queer ecology and material ecocriticism attend to the entangled networks of being that comprise all life (and death). Both material ecocriticism and queer ecology require scholars to disorient essentialist and anthropocentric models of identity. Instead, scholars bear witness to biological, ecological, political, sexual, and social entanglements that queer the nature/culture dualism, as Donna Haraway (1991), Karen Barad (2006), and Jane Bennett (2010), among others, have described. Catriona Mortimer-Sandilands's and Bruce Erickson's aptly titled *Queer Ecologies: Sex, Nature, Politics, Desire* (2010) shows the resonance of queer ecology with material ecocriticism through

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[8] Some readers might wonder why I do not engage object-oriented ontology as another field that uses materialism to reject the automatic privileging of humans over other beings. I find object-oriented ontology largely incompatible with a queer or feminist ethos. Even as this ontology declares all beings—rather, *objects*—to be equal, this declaration is exclusive. Some objects more valued than others. These more-valued objects are human and desirable to dominant heterosexual, white, male perspectives. Such an ontology replicates the exclusion masquerading as inclusion of the U.S. Declaration of Independence—*all men are created equal*—and of Robert Southey's Pantisocracy project with Samuel Taylor Coleridge—*all are equal but some have servants*. I thank Jane Bennett's "Systems and Things" (2012), Andrew Cole's "Those Obscure Objects of Desire" (2015), Rebekah Sheldon's "Form / Matter / Chora" (2015), and Niels Wilde's "Burning Bridges" (2020) for helping me think through this uneasy relationship.

both fields' concern with how physical bodies are inscribed by—and disrupt and multiply inscriptions by—ecological, social, and political structures, and how bodies use relationship and narrative to question structures and constellate new meanings. In *Bodies of Water* (2016), Astrida Neimanis uses phenomenology, material ecocriticism, feminist materialism, and posthumanism to disrupt notions of human exceptionalism and independence through a deep description of water and our ecological relatives' also-watery bodies.

Like these materialisms, queer ecology often focuses on disrupting heteronormative and androcentric systems of power and privilege. In *Queer Ecologies*, Mortimer-Sandilands and Erickson describe queer ecology as a way to merge ecojustice and ecofeminism, similar to how ecological artist Caffyn Jesse Kelley (2016) describes that queer ecology offers "a way of choosing a radical openness" (n.p.). Rather than confirm the human as the subject among objects, material ecocriticism and feminist materialisms situate the human as one subject among many co-subjects to honor, as Alaimo writes, "the entangled territories of material and discursive, natural and cultural, biological and textual" (238). In these entangled spaces, humans, clouds, and other ecological and narrative beings are not simply *in relation* but are *comprised of relation*. Thus, it is fitting that this dissertation, while I foreground its resonance with queer ecology, is comprised of gathered and dispersed cloud-relations between embodied and queer phenomenology, queer ecology, and ecocritical and feminist materialism.

An Opening, An Ecotone

Throughout this dissertation, I gather various theoretical threads—specifically those of queer ecology, phenomenology, and new materialisms—even as I acknowledge that, just as you and I might see different animals in the same cloud, other readers might find other threads in these patterns. For example, the fields of Indigenous studies and

quantum physics also provide vital support for my dissertation. While queer ecology, in its recent expansion and potential for political and social multispecies justice and equity, offers a theoretical model for sociopolitical impact, Indigenous Traditional Ecological Knowledge (ITEK) scholars—and communities, beyond the academy—have practiced and studied ethical, sustainable ecological relationships for millennia. Eurowestern modes of ecology and queer ecology can perpetuate ingrained colonial assumptions, biases, and modes of being and relating with the world. For example, some recent Eurowestern ecologists write of honoring the potential sentience of all matter as if this is a new theory, without acknowledging the Indigenous scholars who have written already on sentient ecologies and ways to honor this sentience in grammar.

Because "colonial relationships have worked and continue to work to exclude *already existing* relational ethics," as Amanda Thomas (2015) asserts, and work within the academy can maintain and repeat this continued exclusion, I look to many ITEK and Indigenous scholars for guidance and support throughout this dissertation. The work of Citizen Potawatomi Nation scientist Robin Wall Kimmerer (2013) and Métis scholar Warren Cariou (2020), in particular, supports the necessity of wonder as a relational ecological practice that I describe in Chapter 2. Drawing from their studies of physical relationship, I invoke efforts toward relationality by Cherokee Nation scholar Daniel Heath Justice (2018) when discussing kinship throughout. Yet, we need more dialogue across queer ecology and Indigenous studies, enabling scholars to learn from each other and honor, in our entanglement, each other's presence and presents across space and across time. I hope that this project, through its engagement with Indigenous scholars for ecological research, contributes to this ongoing, necessary collaboration.

Approaching relationship-building from another mode of inquiry, I turn to quantum physics, which highlights the fundamental entanglement between ecological bodies. A body, as quantum physicists would argue (and as numerous queer ecologists,

phenomenologists, new materialists, and Indigenous scholars would likely agree) is not comprised of individual elements but of *relata* who are and who find meaning in relation. I argue in Chapter 2 and onward that ethical ecological relations require a response of collaborative, relational wonder. Such wonder, as seen in focal writers throughout this project, emphasizes a queer disorientation of binaries and automatic human privileging in favor of a nuanced, proliferating entanglement with all ecological relatives. Thus, in Chapter 3, I consider several nonlinear ways of thinking through the sensuous experience of touch in cloud poetics (and, by extension, ecological relations). These considerations lead to a discussion of the entangled and quantum ecological body in Chapter 4—body of text and of cloud as a nonlinear, quantum and queer process.

Across this work, I strive to queer and decolonize dominant Eurowestern models of independence and exceptionalism, disrupting the linear and discrete in favor of the recursive and intra-active, the relational and the animate, drawing from lived and studied Indigenous models of ecological, multispecies sentience and ways, in language and orientation, to honor this sentience. The work of queering is often—or should be often—work also of decolonization. "We view 'decolonization' and 'queering' as active, interconnected, critical, and everyday practices," write Kwagiulth scholar Sarah Hunt and white ally Cindy Holmes (2015), where both practices, especially when brought together, challenge hegemonic assumptions, knowledges, and power relations in favor of a more inclusive, collaborative way of being in and with the world as good relatives (156). Throughout this dissertation, I focus on studying the interdependence and relation between humans and ecological communities. This project has provided an opportunity to think through these concepts with clouds, those simultaneously tangible and intangible, constant and fleeting, near and far relatives.

Clouds bloom and flow into, through, and across theories, showing gaps and links, possibilities for connection and for divergence. I believe this project can help

advance queer ecology toward even more multispecies inclusion, as I engage meteorological bodies in a field that often has focused on tangible plant and animal bodies. I believe that this project can also help advance embodied and environmental phenomenologies toward a less humanist approach, or at least one more aware of its humanist bias, through my choices in grammar and content. I hope, also, in a moment of simultaneous ecological catastrophe and a renewed call toward flattened (anthropocentric) ethics, that this dissertation shows the necessity for continuing to honor and acknowledge difference across—and within—species, even as we work toward a more just and inclusive future. My dissertation does not present a radical departure from queer theory, phenomenology, materialisms, or my supplementary theories. I hope to bring our attention to *this* particular entanglement of theory and cloud, sky and body, you and me, and in doing so, engage both intellectual theory and social implications.

The Chapters Ahead

Chapter 1 — Cloud Histories in Literature and Science

While this introduction briefly discusses the emergence of meteorological studies in England and western Europe, Chapter 1 provides a thorough overview of critical and creative writing on clouds in the nineteenth century. From eighteenth-century precedents in Carl Linnaeus's taxonomies (1753 and 1758), the Societas Meteorologica Palatina (1780-95), and numerous weather diaries, nineteenth-century cloud science materializes in the near-concurrent publications of Jean-Baptiste Lamarck (1802) and Luke Howard (1803), and the resulting—and often contradicting—cascade of cloud pamphlets, atlases, articles, and symposia that followed. This cascade generated a queer swarm of cloud classifications, leading to different terms for the same cloud across—and within—Eurowestern countries, different observational practices, and different schools

of thought on cloud description, ranging from arguments for an international nomenclature to an embrace of multiple, simultaneous possibilities.

This overview of cloud science also provides a brief history of (primarily British) cloud poetics to show the growing, though nonlinear, shift from using clouds as metaphor for the human to invoking clouds as beings in themselves. From the cloud riddle of the Anglo-Saxon monk Aldhelm (c. 695), where the speaker imagines themselves to be a cloud, onward, I illustrate the increasing attunement toward clouds as phenomenological beings and subjects. I offer examples from the Renaissance (e.g., Christopher Marlowe, William Shakespeare) and the Restoration and the eighteenth century (e.g., Lucy Hutchinson, James Thomson), before moving into the profusion of poetic cloud writing in the Romantic and Victorian periods. Toward the close of this chapter, I gather strands of nineteenth-century cloud science, cloud poetics, and queer ecology to show these slippery qualities in Percy Bysshe Shelley's "The Cloud" (1820). Shelley wrote "The Cloud" at least partly in response to Howard's cloud nomenclature, but I consider "The Cloud" as embodying clouds not as individual objects in discrete sequence but as collectives in overlapping swirls—as phenomenological subjects building a queer ecological community. This analysis, in its questioning of linear taxonomies and ecological mastery, prepares readers for the following chapter's engagement with ecological wonder.

Chapter 2 — An Embodied Ecology of Wonder

In this chapter, I consider the embodied ecology of wonder offered in the cloud poetics of Dorothy Wordsworth and John Clare, focusing on Wordsworth's *Grasmere and Alfoxden Journals* (G 1800-03; A 1798) and Clare's *Northborough Sonnets* (1832-37). These works may seem an unlikely pairing: Wordsworth's journals are prose reflections and Clare's sonnets are formal poems. Yet, both works compile over two

hundred brief lyric observations and fragmentary writings that demonstrate sustained meditations on place and environmental relations. Clare's sonnets are almost always untitled and often read as connected sequences, while Wordsworth's entries are titled simply by their date and often form brief sequences in their repetition of specific preoccupations. Ideas, phrases, and lines from Wordsworth's journals resurface in her poetry, and characters and preoccupations in Clare's poetry resurface in and/or echo similar themes in his natural history prose writings. Further, both Wordsworth and Clare describe the embodied experience of existing in particular ecological milieus; it is no coincidence that their work is now known to us through the place(s) they resided—Grasmere, Alfoxden, Northborough. Likewise, also, both writers meditate on the role of the poet—and the clouds—in mediating these ecological relationships, making them a generative pair to bring into dialogue.

Wonder is an open-armed welcome to mysteries and their many possibilities. Wonder dissolves the singular (human) self into an ecological community and grants all such community members (animal, plant, topographical, meteorological, and more) animate existence. Wonder creates an entangled enchantment between ecologies, writers, texts, subjects and audiences. By contrast, the sublime often creates a hierarchy of lower environmental phenomena, who can only *be*, and higher human beings, who can *create* and *imagine*. Wonder, on the other hand, opens to nonhierarchical multispecies community. In wonder, writer, reader, text, and the communities invoked suspend preconceived notions to welcome relations and insights as if for the first time. Wordsworth and Clare show how cloud poetics often turn away from individualist experiences of the sublime and opt instead for a relational, queer ecology of wonder. Such wonder invites us to acknowledge our human position as but one species within a multispecies ecological network, and we re-evaluate our ethical responsibilities to all

beings in this network—an important re-orientation in our period of escalating environmental catastrophe.

Chapter 3 — The Poetics of Touch

I advance Chapter 2's discussion of the embodied ecology of wonder in this chapter by focusing on the role of touch in fostering awareness of our intra-active relations with and ethical responsibilities toward our cloud relatives—and the larger ecosystem networks we co-create and co-inhabit. To discuss this sensuous phenomenon of touch, I analyze the cloud poetics of Luke Howard and early cloud scientists, Alfred Lord Tennyson, and "Edith" and Ellen Johnston, alongside research in queer ecology, ecofeminism, and material ecocriticism. The linguistic hybridity of Luke Howard's and his successors' cloud taxonomies (1803, 1887—), the hydro-erotics of Tennyson's "Tithonus" (1833, 1860) and the weathering of Edith's and Ellen Johnston's exchange "Lines by Edith to the Factory Girl" and "The Factory Girl's Reply to 'Lines by Edith'" (1866, 1869) shows how touch—among clouds and their embodiments as watery bodies, and these diverse cloud bodies and human bodies—holds a way for nineteenth-century British writers to witness the poetic and ethical erotic potential of multispecies touch.

Queer ecology's attention to touch amplifies the embodied ecology of wonder discussed in the prior chapter. Here, queer ecology is a study of the reciprocal, porous interconnections between beings that disrupt Eurowestern notions of independent or discrete individuals. Erotic ecology (like that offered by the hyphens, hydro-erotics, and weathering to be discussed in this chapter) is a study of the sensuous, fluid relations of touch, touching, and being-touched—of contact—that make and sustain interconnections. To wonder and connect—and as I would add, to build responsive relations—with our ecological relatives, is to embrace mystery and where, rather than seeking to *know* or *dissect*, one learns and builds community through touch. The erotic

ecology of wonder seen in the work of Howard, Tennyson, Edith, and Johnston, heightened by queer ecology's readiness to challenge binaries and paradigms that privilege certain (human) beings above all other beings, moves us towards a more sensuous relation with the world that emphasizes our porous kinship with our ecological relatives: including the clouds.

Chapter 4 — The Quantum Poetic Entanglement of Clouds

Just as the queer erotics of touch push toward a more nonlinear mode of relating with our ecological relatives, so does entanglement, when studied via queer ecology, push the notion of touch further toward acknowledging the fundamentally porous and connected web of existence. Merleau-Ponty's (1964) concept of the *chiasm*, or the reciprocal sensation of touching and being-touched by the "flesh of the world" (144), resembles how the electron crosses, recrosses, criss-crosses the world as a particle and a wave, depending on who watches and how. The chiasm also resembles Barad's concept of *intra-action*, where (as discussed earlier) beings are not bounded, independent entities *interacting* but instead are porous relata who come into being through their *intra-active* relationship. Given the entangled and intra-active nature of clouds, Howard's *Essay* focuses not on *types* or *species* of clouds, like most eighteenth-century European scientific taxonomy, but on *modifications*, an orientation that foreshadows quantum physics and queer ecology alike in its uncertainty, relationality, and entanglement.

In this chapter, I extend Chapter 3's analysis of touch to examine queer ecological entanglement as a profound manifestation of touch in short lyric poems by Mary Maria Colling, Samuel Taylor Coleridge, and Gerard Manley Hopkins. Colling's polyvocal lyric "The Moon and the Cloud" (1831) demonstrates a quantum hybridity that acknowledges class dynamics while amplifying the relational possibilities of cloud poetics, as seen in the intra-active bodies of the Moon, Cloud, and Sun. Next, through its multiple versions

and satires, Samuel Taylor Coleridge's sonnet "Fancy in Nubibus" (1818) engages cloud imagery to destabilize notions of a universal perception and offers instead a queer, porous entanglement of time and space. Last, Gerard Manley Hopkins's sonnet "That Nature is a Heraclitean Fire," demonstrates the quantum phenomenon of "diffraction" (or the way sound, light, and water waves overlap, bend, and spread) through the diffractive nature of his clouds, who shift, dissolve, and re-emerge in relation. Through the slippery entanglement of cloud poetics, particularly the intra-action in Colling's lyric, embodied perception in Coleridge's sonnet, and diffraction in Hopkins's sonnet, queer ecology and quantum physics show how clouds are always in embodied entanglements.

Invitation

Perhaps, in essence, this project is a story of kinship: kinship with clouds, our ecological relatives, and, through poetics, our human relatives. With awareness of evolving histories, we move into wonder and seek out touch, entangling ourselves into a *we*. Queer ecology, with its emphasis on nonhierarchical, sensuous, and wonder-filled relations across the ecological spectrum, prepares us for a practice of entangled kinship.

We gather for a moment—albeit a moment that entangles bodies and relations—but this gathering, like the gatherings of the clouds overhead, is neither static nor linear. We are always, in various ways, tending the threads of kinship. In *The Queer Ecology of Clouds in Nineteenth-Century British Poetics*, we can affirm our commitment toward kinship, honoring human and ecological ancestors who have lived, tomorrow, and those who will live, today.

Chapter 1 — Cloud Histories in Literature and Science

I am not sure where I am, or when, without the clouds. Perhaps this comes from being raised in West Virginia, where the sudden appearance of the cumulonimbus thundercloud meant a real risk of flood. From leaving Appalachia for the midwestern prairies in graduate school and marveling to my partner, almost daily for the next three years, The clouds are so close. *Now, late summer in northern Colorado, and the morning wind has scrubbed the sky clear of all but the highest altitude cirrus, their white wisps formed from ice crystals falling over thirty thousand feet above.*

*These bodies are tangible and intangible, inches out of reach and miles away. Clouds hold discrete identities—*here *is a cumulus,* there *is a stratus—even as they swerve in a minute or over an endless afternoon into other types, species, varieties. Cumulus mediocris, a single puff-ball tall as they are wide, into cumulus mediocris radiatus, a gathering of rows of these puff-balls, and then joining into a layer of stratocumulus, in time separating again or remaining in community until sunset.*

*We watch the sky. We celebrate the sunny sky outlook, we describe someone as stormy, and we notice who is just a fair-weather friend. To draw an outdoor scene, many of us sketch humans and trees and flowers, and the unmistakable cotton-ball cumulus. We look up, sometimes out of physical necessity—*Do we need a rain jacket?*—and sometimes out of spiritual, communal necessity. My grandmother would tell me to reach my arms as high as I could into the sky, and there, at the tips of my fingers, was the sky vault, the spirit world, brushing this world through these changing clouds.*

In this chapter, I offer a historical overview of predominantly British critical and creative writing on clouds, emphasizing the shift in orientation, just before and into the nineteenth century, from discussing clouds as metaphors and symbols to discussing them as meteorological beings in themselves. With a frequency unmatched in previous centuries, British writers across the nineteenth century describe, apostrophize, personify, and identify with clouds. They engage with cloud types, movements, and metaphors—and often do so through scientific or observational attunement to cloud types, movements, and metaphors. When describing her editorial work on poet Gerard Manley Hopkins in an email exchange, Lesley Higgins (2021) notes, "In the time that it took me to transcribe all of Hopkins's diaries, I think that the word I typed the most was 'clouds'" (n.p.). When considered with queer ecology and phenomenology, creative and critical cloud writing generates multiple meanings, offers alternatives to dominant cultural models, and stresses sensuous relationality—a queer ecology—with the natural world. Because of the mutability and complexity of clouds, cloud writing is slippery and multivalent, and it thus occupies a different space from many other taxonomic pursuits.

Eurowestern nephology (cloud science) emerged, broadly, in Aristotle's *Meteorologica* (340 BCE) and is illustrated in works by Theophrastus (2nd to 1st century BCE) and Lucretius (1st century BCE), as well as in René Descartes's *Les Météores* (1637). More specifically, however, Robert Hooke (1665) worked to develop the first English-language taxonomy of clouds which, though largely ignored, was followed by numerous detailed accounts of specific cloud patterns in eighteenth-century weather diaries—some of which were recorded over forty or more years, like those of John Rutty (1725-1766) and Parson James Woodforde (1758-1802). Inspired by the biological taxonomies of Carl Linnaeus (1735, 1753), the Societas Meteorologica Palatina, founded in Mannheim, Germany in 1780, pursued a systematic and international study of clouds,

recruiting observers from over fifty weather stations across the world before being dissolved when the French Revolutionary Army invaded Mannheim in 1795.

In the first years of the nineteenth century, scientists Jean-Baptiste Lamarck (1802) and Luke Howard (1803) generated independent but near-concurrent cloud taxonomies. Lamarck's, for several reasons (including the disapproval of Napoleon Bonaparte), failed to generate much public interest or awareness. Howard's, however, was praised by British scientists and published in numerous forms and venues. Howard's taxonomy, alongside increasing contemporaneous interest in classification and observation across fields, inspired a cascade—often competing and contradictory—of cloud pamphlets, atlases, articles, and symposia throughout the century. This cascade generated a queer swarm of cloud classifications, leading to different terms for the same cloud across—and within—western European countries, different observational practices, and different schools of thought as to cloud observation and description. Some observer-scientists, like Ralph Abercromby, argued for a consistent international nomenclature and, accordingly, that a given cloud could be classified in the same way by all observers; other observer-scientists, like André Poëy, advocated an early version of the queer ecology of clouds when he argued a single cloud could be multiple species in the same moment, depending on the perspective of the observer. As cloud taxonomies (and names) were offered, refined, and restructured over the nineteenth century, nephology moved not in a linear trajectory but rather in a queer and recursive spiral, echoing the increasing attention by poets and writers in this period to the clouds above, within, and throughout this world.

British poets and writers of the nineteenth century were uniquely positioned to engage the resulting widespread fascination with and study of clouds. Alongside my overview of cloud science before and throughout the nineteenth century, I provide a brief history of (again, primarily British) cloud writing to show the growing, though nonlinear

and variable, shift from using clouds in poetic writing as metaphor for the human to invoking clouds as beings in themselves. Clouds offer these writers a means of speaking for, with, to, and through their changing world. From the cloud riddle of the Anglo-Saxon monk Aldhelm (c. 695) onward, these poetic writings show an increasing attunement toward clouds as phenomenological beings and subjects. I offer these and other examples from the Renaissance, Restoration, and eighteenth century, before moving to the profusion of cloud poetics in the Romantic and Victorian periods.

Toward the close of this chapter, I gather the strands of nineteenth-century cloud science, cloud poetics, and queer ecology together to show these slippery qualities at work in Percy Bysshe Shelley's poem "The Cloud" (1820). As several critics argue, Shelley wrote "The Cloud" in response to Howard's cloud nomenclature, and they offer a persuasive reading of his poem that links sequences with each of Howard's major and minor cloud types. I expand this reading to consider "The Cloud" as embodying clouds not as individual objects in discrete sequence but as overlapping collectives—as phenomenological subjects building queer ecological community and questioning notions of self, power, and relation. In this way, cloud poetics, as in Shelley's poem and in works discussed across the chapters to come, offers an alternative space where one can acknowledge, work with, and/or detach themselves from Linnaean taxonomies in favor of a more open embrace of the mysteries of the natural world—and of clouds.

Early Histories and Etymologies of "Cloud"

While Luke Howard's *Essay on the Modifications of Clouds* (1803) is often praised for independently naming and categorizing the clouds—even *inventing* the clouds, as one scholar writes—, and while Howard's nomenclature brought a clear taxonomy that largely remains in use today, clouds have been documented, invoked, and rendered for millennia. Dedicated cloud studies were kept via the recording diaries of

Babylonian scribes in 650 BCE, meteorological and cloud calendars of Chinese astronomers in the third century BCE, and in Aristotle's theoretical and predictive treatise *Meteorologica* in 340 BCE, the first major Eurowestern systematic text on meteorology. In this text, Aristotle turns away from earlier discussions of clouds as simply denser areas of air, instead asserting them to be an integral part of the water cycle. He also links wind direction to cloud and weather types, observing that a southwest wind often leads to fewer clouds while a north or northwest wind, unless very cold, often spreads clouds across the sky.

Aristotle's student Theophrastus of Eresus (c. 370—c. 287 BCE) also looked for physical explanations of cloud types and behavior in *On Winds* and *On Weather Signs*. Theophrastus advances cloud studies by noticing the interaction between time, cloud, and precipitation, as when "morning breezes bring clouds and so make the sky cloudy until the sun rises, but it does not rain because the clouds do not have a place to settle" (*Winds* 65). He distinguishes different types of clouds, like those who are "moisture-laden" (*Weather* 61), who make "the sun appea[r] hollow" (75), and who are "coppery in color at sunset after a rain' (93), as well as different cloud behaviors, as when "a cloud stands upright on a mountain peak" (89). He notes how clouds sometimes move with the wind and sometimes move in opposition (the latter a hypothesis of a phenomenon unnamed in Eurowestern science until two thousand years later: thermal wind). In *On the Nature of the Universe* (1st century BCE), Lucretius observed cloud behavior and argued for an atomistic model of cloud formation. Here, clouds formed "due to the sudden coalescence, in the upper reaches of the sky, of many flying atoms of relatively rough material, such that even a slight entanglement clasps them firmly together" (Book VI). These small cloudlets gather and entangle further cloudlets (prefiguring the discussion of entanglement in Chapter 4). From these cloudlets, larger clouds form and grow until scattered by rain or storms, a similar theory, albeit with a religious spin, as

given in the Bible's Book of Job (c. 500 BCE), where it is "by watering he wearieth the thick cloud" (*King James Version*, 37.11).

The works of Aristotle, Theophrastus, and Lucretius, extended by Marcus Tullius Cicero in *De Divinatione* (44 BCE) and Pliny the Elder in *Historia Naturalis* (c. 77 CE), show growing attunement to the formation and dispersal of clouds, their types and movements, and even their entanglement with each other and ecological cycles. Yet, continued advances in early meteorology fell into a long hiatus, for western Europe, from these theorists until the Renaissance. For the next sixteen hundred years, some theorists offered cloud studies and scientific explanations. However, the dominant emphasis was on clouds as religious and spiritual symbols, as they largely had been invoked in poetry and prose throughout these scholars' time and would continue to be so for centuries.

Numerous early texts of the Greek, Hebrew, and Roman peoples, which would become familiar to British writers in future centuries, refer to clouds as the homes of the gods and as symbols of their mystery and knowledge.[9] Homer, in both *The Iliad* (c. 750 BCE) and *The Odyssey* (c. 725-675 BCE) refers to Zeus as the "cloud-gatherer" (14.312 and 13.139, respectively), and the Bible speaks of how Jehovah's "secret place; his pavilion round about him were dark waters and thick clouds of the skies" (Psalms 18.11), a description of home echoed much later by John Milton in *Paradise Lost* (1674), when God lives within "his secret cloud, /Amidst in thunder" (10.32-33).

Zeus/Jupiter, Jehovah, and other gods and goddesses descend to interact with humans in disguises that include clouds. Jupiter forces a sexual encounter upon Io, his

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[9] Many religious traditions include a close relationship between clouds and the divine. A few examples, shared by Gavin Pretor-Pinney in *The Cloudspotter's Guide* (2006): some Islamic texts share that Allah existed as a cloud before taking more specific form; Ngai, the Masai tribes' creator god, appears as a red cloud when angry and a black cloud when happy; Parianya ("rain cloud") is the Indian god of rain and vegetation; Raiden, the Japanese god of thunder and lightning, used clouds to generate his storms; and Wondjina are Aboriginal cloud and rain spirits, one of whom formed the Milky Way (32-3). Due to this dissertation's focus on British poetics, I often limit my discussion to Eurowestern texts, which often were most accessible and familiar to nineteenth-century British audiences, but more-than-Eurowestern influences were essential to many writers of the period, as will be discussed in all chapters, including later in this chapter with Shelley and the Sanskrit poem *Mégha Dúta*, or *Cloud Messenger* (c. 4th century).

wife Hera's priestess, in the form of a cloud. Ovid, in *The Metamorphoses* (c. 8 CE), describes the violence of the scene, for "the god hid the lands in murk and darkness / And stayed her flight, and took her" (21). In contrast, the pleasure appears mutual in Italian artist Antonio da Correggio's painting *Jupiter and Io* (c. 1531-33). Meanwhile, Jehovah also "descended in the cloud" (*KJV* Exodus 34.5) and "came down in a cloud" (Numbers 11.25) for his conversations with Moses. Later in the Bible, Jehovah is personified as a cloud, for "the clouds are the dust of his feet" (Nahum 1.3) and he speaks as "a voice came out of the cloud" (Mark 9.7). Elsewhere in *The Metamorphoses*, Europa travels under a "cloud concealment" (65), and Minerva travels "veiled in a hollow cloud" (115). Odysseus, in Book 13 of Homer's *The Odyssey*, speaks of the clouds who propel a violent Mediterranean storm that threatens his ship as divine retribution. Aristophanes, in *Clouds* (423 BCE), has Socrates welcome the appreciated, though not always useful, chorus of Clouds to the stage by proclaiming, "They are skyborne Clouds, great goddesses to layabouts. / They fill us up with thoughts and quibbles, mindfulness and nonsense, / circumlocution and deceptiveness and comprehension" (ll. 351-53). Given these writers' frequent use of clouds to symbolize the divine and mysterious, it is no wonder that the speaker of the Bible's Book of Job puzzles, "can any understand the spreadings of the clouds" (36.29).

In the Anglo-Saxon and Old Norse texts shared across the British Isles, clouds are again mysterious—but, often, in their own being and not just as symbols of other beings. In the thirteenth-century Norse poem "The Lay of Vafþrúðnir," the speaker describes how the world was formed following the murder of the frost-giant Ymir:

> The earth was formed from Ymir's flesh,
> rocky cliffs from his bones,
> the frost-giant's skull became the sky,
> his salty blood the sea. (21.1-4)

Ymir's skull becomes the sky, and, later in the poem, the speaker shares that his thoughts become the clouds. Even so, the clouds are not passive receptacles of thought; they

assemble and scatter independently, due to their own volition, desire, and sentience. Likewise, one riddle of the Anglo-Saxon monk Aldhelm (c. 695) asks:

> In flight I vary my hue, leaving heaven and earth behind: there is no place on earth for me, none in the region of the skies. No other creature fears an exile of such cruelty; but I make the world grown green with my drops. (71)

In Aldhelm's riddle, the cloud is the agent of these actions; the cloud flies, rains, produces growth, and ascends beyond heaven not as the passive vehicle of another god but as a sentient, powerful being. Alexandra Harris (2015), referencing this and similar riddles by Anglo-Saxon thinkers Aldhelm, Ælfric, and Bede, writes, "Not until Shelley evaporates himself into a cloud," as he will in "The Cloud" (discussed later in this chapter), "will there be a comparable leap of imaginative empathy with the air" (40). While examples given from the coming centuries might question Harris's assertion, Aldhelm's and other thinkers' riddles, as well as "The Lay of Vafþrúðnir," contrast with the more religious tendencies of cloud poetry from this time and through the Renaissance by asserting the active sentience of clouds.

But what is a *cloud*? Echoing Ruskin, Hubert Damisch (1972) writes, "Cloud is a body without a surface but not without substance" (137). We largely agree with Damisch, Ruskin, and Howard, for our contemporary understandings of the cirrus, cumulus, and stratus clouds, and their varieties. However, one did not always look up to find a *cloud*, in the English language. For hundreds of years, an English-language speaker would instead look down. The earliest form of what was to become the English word *cloud* was the Old English *clúd*, evolving into the Middle English *clūd* and *clod*, and becoming the contemporary *cloud*.[10] At first, a *clúd* was not an airborne mass but a mass of rock or hill. Paulus Orosius, in the first recorded use of what would one day become the English *cloud*, wrote in his *History* (c. 893) of "cludas," as did Ælfric in his *Grammar* (c. 1000) of the "clud." *Clud* becomes *clod* in the 1300s, a large or small mass of earth or clay, at

[10] These and subsequent etymologies, definitions, and uses of "cloud" are from *Oxford English Dictionary*, which first published entries for *cloud* (as a noun and as a verb) in 1891.

the same time branching from the earth-bound *clod* into the *clod* of the air, the "Clowdes of þe aeire," as Richard Rolle writes in *Psalter* (1340). Say *cloud*. At last, we look up.

In the 1300s, *cloud* became a general term for visible condensed vapor floating in the air, or for a mass of smoke or dust floating in the air. *Cloud* also becomes a metaphor, often in religious texts, for the transient or insubstantial, for that which must be believed not through tangible proof but through faith. The unknown Christian mystic who wrote *The Cloud of Unknowing* (c. 1370) describes how one may never know who or what God is, for one will always be separated from him through a cloud of unknowing. They write, "This darkness and this cloud is, howsoever thou dost, betwixt thee and thy God, and letteth thee that thou mayst neither see Him clearly by light of understanding in thy reason, nor feel Him in sweetness of love in thine affection" (72). Because understanding and reason will never grasp this cloud, one must embrace how "it behoveth always to be in this cloud in this darkness" (73)—and, thus, to welcome this cloud as an opportunity to know God through faith. Similarly, *The Wycliffite Bible* (c. 1384) uses clouds to invoke the essential yet intangible, describing "mercy as a morew cloude" (Ecclesiastes 35.19). When *The Wycliffite Bible* describes "a cloud of witnessis" (Hebrews 12.1-2), one cloud rises, fractures, reaches, assembles, and changes again.

While clouds are acknowledged as atmospheric phenomena, writers, artists, and spiritual leaders often call upon them as symbols of mutability. In the 1400s and 1500s, *cloud* becomes a rhetorical shorthand for the sky or the heavens, or a metaphor or abstraction for that which darkens or generates trouble or suspicion. In poetic and scientific texts alike, *cloud*—as seen in *The Cloud of Unknowing* and onward for centuries—becomes a figure for physically, spiritually, or mentally obscuring or concealing figures or ideas. By this time, artists and writers, including Leonardo da Vinci, joined the long-standing classical tradition, evinced by Aristotle, Theophrastus, Lucretius, Cicero, and Pliny the Elder, in dismissing atmospheric clouds as what art

historian H.W. Janson (1961) describes as “the image made by chance” (254). Thus, artists and writers largely continued to prefer the clouds of the mind and spirit to the clouds of the sky.

Cloud Renaissance

During the 1500s and 1600s, *cloud* is a frequent metaphor for the obscure, mystical, or unreal, and also, often, a metaphor for trouble. Thus, Faustus addresses the stars and clouds in Christopher Marlowe’s *Doctor Faustus* (1604):

> You stars that reigned at my nativity,
> Whose influence hath allotted death and hell,
> Now draw up Faustus like a foggy mist
> Into the entrails of yon laboring cloud
> That when you vomit forth into the air,
> My limbs may issue from your smoky mouths,
> So that my soul may but ascend to heaven. (Scene 13, ll. 81-87)

Faustus wishes to become *like* a cloud, before then wishing to become the cloud themselves. He opens with simile (“like a foggy mist”), which maintains a distance between human and cloud; but Faustus then turns to direct correlation (“My limbs may issue from your smoky mouths”), where to be Faustus is to be(come) cloud. Whereas Shelley will inhabit the persona of a cloud for the full duration of “The Cloud,” Faustus depicts in the brief space of these lines the transformation—even transcendence—of (human) self into cloud self.

Similarly, Antony in William Shakespeare’s *Antony and Cleopatra* (c. 1606-07) reaches, as he foretells his imminent death, toward a vision of embodiment that is much more cloud (and, thus, porous, multiple, and shifting) than the dominant Eurowestern concept of the bounded, independent, singular human. Addressing his friend Eros, Anthony describes:

> Sometime we see a cloud that’s dragonish,
> A vapor sometime like a bear or lion,
> A towered citadel, a pendent rock,
> A forkèd mountain, or blue promontory

With trees upon't that nod unto the world
And mock our eyes with air. Thou hast seen these signs;
They are black vesper's pageants. [...]
That which is now a horse, even with a thought
The rack dislimns and makes it indistinct
As water is in water. [...]
My good knave Eros, now thy captain is
Even such a body. Here I am Antony,
Yet cannot hold this visible shape, my knave. (IV.14.2-14)

Here, the human body is disoriented away from stability and into a kaleidoscope of possibility. Like Faustus, Antony also begins in simile, where the cloud is at first "dragonish" and "like a bear or lion" or other ecological beings. By the close of his speech, however, Antony is not *like* a cloud, he, "thy captain is / Even such a body." He, or his body, has become cloud. As a result, Antony's body, who with his approaching death becomes "Even such a body" as a cloud, a body who "cannot hold this visible shape," finds in the foreclosure of stability a near-endless proliferation of possibility. As cloud, even as the singular "a cloud," one might be a dragon, bear, lion, citadel, rock, mountain, or forested promontory—or several, or all, at once.

Even as Faustus and Antony slip out—or long to slip out—from under the confines of the bounded, independent human self for a queer whirl of possibility and connection as cloud, they both do so in extreme circumstances that lead not to relation and joy but to their tragic deaths. Rhodri Lewis (2012) argues that Shakespeare used clouds rarely as meteorological phenomena, instead invoking them in metaphors of loss or anxiety (as in *Antony and Cleopatra*) or of mutability and poetic imagination. Thus, in *Hamlet* (c. 1599-1601), a single cloud is a camel, a weasel, and a whale, and the six-line dialogue between Hamlet and Polonius on this subject might illustrate the coming stymied attempts to develop a taxonomy of clouds:

Hamlet: Do you see yonder cloud that's almost in shape of a camel?
Polonius: By th' mass and 'tis, like a camel indeed.
Hamlet: Methinks it is like a weasel.
Polonius: It is backed like a weasel.
Hamlet: Or like a whale.
Polonius: Very like a whale. (III.2.369-74)

One cloud, observed in the same moment by one person, might be a dragon, a bear, and a lion, as for Antony. One cloud, observed in the same moment by two people, might become a camel and a weasel and a whale. So much depends on one's perspective and one's orientation.

So, in the seventeenth century, the study and invocation of clouds began to return to—and deepen—earlier scientific theories, acknowledging that the significance of these sky-housed beings might not always and entirely be spiritually symbolic. René Descartes, in the appendix to *Discours de la Methode* titled "Les Météores" (1637), offered the first significant meteorological text to return to scientific and physical cloud study since Aristotle, Theophrastus, and Lucretius. Among other assertions, Descartes theorized that clouds formed from small droplets of water or particles of ice, "And this is easy to confirm by experiment in the case of snow, which is of the same material as clouds except that it is already more condensed" (308). Indeed, many clouds are comprised of water droplets and ice crystals. The high, wispy cirrus clouds are comprised of falling streaks of snow and ice, most clouds are gatherings of water in various forms, and fall-streaks or *virga* (of ice or snow in the higher clouds, or of evaporating rain in the lower clouds) can be seen underneath clouds from the low cumulus to the high cirrocumulus. Descartes also theorized notions about clouds that have been disproven, such as that thunder occurs from air resonating between two converging cloud masses (we now know that the air around a lightning bolt is heated to almost fifty thousand degrees Fahrenheit, then expands in just a few milliseconds, and the resulting waves of heating and expansion generate the sound of thunder).

Despite obvious challenges, Robert Hooke, first curator of experiments at the new Royal Society of London, worked to develop the first known English-language taxonomy of clouds, publishing *A Method for Making a History of the Weather* in 1665. In his *Method*, Hooke provided guidelines for observers quantitatively to record wind

direction and speed, temperature, humidity, and barometric pressure, in addition to guidelines for qualitative, descriptive recordings of the "Faces or visible appearances of the Sky" and the sky's "Notablest Effects." He realized that, for his observers to record these "Faces or visible appearances," he and they needed "proper Names" for the clouds. So, in *Method*, Hooke declares:

> Let *Cleer* signifie a very cleer Sky without any Clouds or Exhalations: *Checker'd* a cleer Sky, with many great white round Clouds, such are very usual in Summer. *Hazy*, a Sky that looks whitish, by reason of the thickness of the higher parts of the Air, by some Exhalation not formed into Clouds. *Thick*, a Sky more whitened by a greater company of Vapours. Let *Hairy* signifie a Sky that hath many small, thin and high Exhalations, which resemble locks of hair, or flakes of Hemp or Flax: whose Varieties might be exprest by *straight* or *curv'd*, &c. according to the resemblance they bear. Let *Water'd* signifie a Sky that has many high thin and small Clouds, looking almost like a water'd Tabby, called in some places a Mackeril Sky. Let a Sky be called *Waved*, when those Clouds appear much bigger and lower, but much after the same manner. *Cloudy*, when the Sky has many thick dark Clouds. *Lowring*, when the Sky is not much overcast, but hath also underneath many thick dark Clouds, which threaten rain. The signification of *gloomy, foggy, misty, sleeting, driving, rainy, snowy,* reaches or racks *variable*, &c. are well known, they being very commonly used. (1778)

Hooke acknowledges the range of cloud expressions (or "Exhalations") and the need for a vocabulary that could encompass this range. Yet, his terms—*Cleer, Checker'd, Hazy, Thick, Hairy (straight or curv'd), Water'd, Waved, Cloudy, Lowring*, and more—are not delineated from each other in their description, as could be perceived by one observer, let alone by multiple observers with different interpretations of Hooke's vocabulary. If both a *Hairy* and a *Water'd* sky could hold "small, thin" clouds (*Hairy*) or "thin and small" clouds (*Water'd*), the same sky with the same clouds could seem, even to the same observer, *Hairy* on one day and *Water'd* on the next—or *Hairy* for this hour, but *Water'd* for the next, a queer version of cloud classification similar to that proposed by meteorologist André Poëy in the nineteenth century.

Hooke's nomenclature for the "Faces or visible appearances of the Sky" was too imprecise to last, and his work failed to generate much public interest. Yet, his attention to the plural sky rather than a single cloud, and his awareness of the need for vocabulary

that discussed clouds in relation and movement, did help him create the first known English-language taxonomy of clouds. Even so, though Hooke used his role with the Royal Society of London and his social connections to recruit many initial weather observers, their enthusiasm dwindled in the face of endless form-completion efforts with no clear end nor purpose in sight. Confronted with the "faces of the sky: they are so many, that many of them want proper names" (177), Hooke gave up his meteorological "*Method*" a few months after its publication.

Fourteen years after Hooke's publication of *Method*, Lucy Hutchinson's long poem *Order and Disorder* (1679) opted to continue the popular artistic representation of clouds as imaginative, poetic symbols rather than as beings in themselves. She writes:

> Scorn, princes, your embroidered canopies
> And painted roofs: the poor whom you despise
> With far more ravishing delight are fed
> While various clouds sail o'er th' unhousèd head,
> And their heaved eyes with nobler scenes present
> Than your poetic courtiers can invent. (2.21-26)

These clouds are not hairy or waved, checkered or watered, as in Hooke; these clouds are not even dragonish or whale-like, as in Shakespeare. These clouds are simply a general description of *cloud*, with no specific detail to signify whether, for instance, these "various clouds" are the thin wisps of cirrus, puffy round masses of cumulus, or other species. All clouds, save the low stratus lying as fog or mist, "sail o'er th' unhousèd head," and all clouds, perhaps excepting the grey-blanketing stratus or the rain-all-day nimbostratus, could offer "ravishing delight" to an observer. Elsewhere in this poem, Hutchinson acknowledges the ability of clouds to shift between mountains, ships, and forests, but both there and here, she does not describe a specific cloud. Rather, she uses clouds as an element of the picturesque (an important element of eighteenth- and nineteenth-century painting and cloud studies as well), invoked to fill out the framework of the scene she is building. While more specific cloud invocations were already afoot in Renaissance arts and sciences, the eighteenth century would advance this specificity.

Weather Diaries and Taxonomies of the Enlightenment

As we move from the seventeenth into the eighteenth centuries, clouds often remained an abstract symbol or a metaphor for what was fanciful or difficult—but increasing attention was given to their material causes and manifestations. Thus, even as Daniel Defoe theorized in *The Storm* (1703) that the 1703 hurricane that destroyed the British Navy and part of England was divine retribution for the ineffective British efforts in the War of Spanish Succession, a spiritual interpretation of cloud and weather effects much like that seen centuries earlier, as in the Bible and *The Odyssey*, hundreds of individual observers throughout the British Isles began to attend to the specific manifestations of the sky and keep scientific daily diaries of the weather.

These weather diaries might extend for a few months or for decades, as in Parson James Woodforde's forty-year *The Diary of a Country Parson, 1758-1802* or Constantia Orlebar's twenty-one year *Weather Book* (1786-1808). Sometimes, observers would use their diaries to generate more scientific treatises, as when John Rutty published his *Chronological History of the Weather and Seasons and of the Prevailing Diseases in Dublin* (1770) from notes in his weather journal of forty-one years (1725-1766). Jan Golinski (2007) writes of how these weather observers worked to keep their diaries legible as scientific records by presenting themselves as "detached" and "objective observers" who "effaced signs of personal subjectivity" in favor of a focus on the material (90). Hence, the emphasis on the *rational* in the Reverend John Pointer's titling of his *A Rational Account of the Weather* (1738). (And, too, the significance of Dorothy Wordsworth's embodied, subjective descriptions in her cloud journals, discussed in Chapter 2.)

Yet, clouds remained mysterious and without a consistent nomenclature—and this ambiguity was appealing to many audiences. In 1744, John Claridge published *The*

Shepherd of Banbury's Rules to Judge of the Changes of the Weather as a first-hand account of the folk knowledge and weather-prediction skills gained by this working-class shepherd during his decades in the fields. Just four years after publication, Claridge's book was proven, in a thorough 26-example letter to *Gentleman's Magazine* in May 1748, to be a copying-and-rewriting of Pointer's 1738 text. However, it was (the plagiarized) *The Shepherd of Banbury's Rules*, and not (the original) *A Rational Account of the Weather*, that was an instant—and sustained—best-seller, printing twelve editions and remaining a household favorite for two centuries.

Still, clouds often remained vague and unclassifiable—and sometimes proudly so—in creative writing, whether depicted as material phenomena or as artistic symbols. James Thomson, in the "Autumn" section of *The Seasons* (1730), describes fog as paradoxically both contracting and expanding, and thereby immersing all in confusion:

> [...] in deeper circles still
> Successive closing, sits the general fog
> Unbounded o'er the world, and, mingling thick,
> A formless grey confusion covers all. (ll. 729-31)

Nonlinear and relational, this queer fog is both "closing" and "unbounded," moving in "circles" and yet "formless"—unclassifiable in static, linear terms. Eighteen years later, Thomson writes in "The Castle of Indolence" (1748) of a stymied cloud observer (perhaps one of the many weather diarists of the period, and/or, metaphorically, an imaginative poet) who:

> Oft, as he travers'd the cerulean field,
> And mark'd the Clouds that drove before the wind;
> Ten thousand glorious systems would he build,
> Ten thousand great ideas fill'd his mind;
> But with the clouds they fled, and left no trace behind. (ll. 527-31)

The clouds above, like this character's mind, are manifold enough to hold thousands of distinct "glorious systems" and "great ideas," but clouds, to Thomson, are transient and slippery, leaving "no trace behind," even of the most promising systems or ideas.

No wonder, then, that Alexander Pope makes the parallel between clouds (and cloud studies) and literary texts (and creative writing) explicit in *The Dunciad*, first written in 1728 and later expanded to four books in 1742. Pope describes London's literary community as generating, like London's clouds, endless amounts of rain, cloud, and snow, where:

> [...] showers of sermons, characters, essays,
> In circling fleeces whiten all the ways:
> So clouds replenished from some bog below,
> Mount in dark volumes, and descend in snow. (2:361-64)

Texts (and clouds) are produced, flurry in a mass of precipitating pages, but then dissolve to no lasting effect. Cloud and intellect seem to be at odds, with scientific observers often striving toward objective accuracy—even without consistent nomenclature—and creative observers often emphasizing clouds' slipperiness, and satirizing the attempts to classify and bound them.

Yet, while scientific observers often worked to attain depersonalized rigor and creative observers often mocked these attempts, counterexamples abound to queer notions of any binary between the *scientific* and the *creative*. One Worcestershire observer, in the 1703 weather diary brought back into print by Golinski, demonstrates remarkable and poetic attention to the detail of the sky, moving into metaphoric descriptions that could be lineated into verse and that foreshadow the also poetic cloud observations of Gerard Manley Hopkins in the mid-to-late nineteenth century. He (for Golinski tentatively identifies the diarist as the Oxford-educated Thomas Appletree, aged 23) describes rainy clouds in January as "riding over our heades like vast carracks or hulks of ships in huge Flota of rarified Sea," who after raining "settled in form of some airey-marble" (248). Later in the diary, he describes stormy clouds in June who, while also tempestuous and dark, are quite different from January's clouds, in that they are "swelling up of ye Tide or Torrent of ye overflowing sea" who "appeared as a black List, or dismall piece of light stalking on with a solemn pace to envelop us" (326). At times, he

reaches toward a nomenclature with which to classify the clouds, as when he writes, "Atmosphere loaded & varnished with Bulging, dull swelling Bas-Releive clouds bloated & pendulous. I style them ubera caeli fecunda: sky-cubbies or udders cloudy" (269), a remarkable description of the cloud feature *mamma* or *mammatus*, the udder-like shapes that can form at the bottom of the often heavy-looking stratocumulus or cumulonimbus clouds.

Even so, this Worcestershire diarist laments the insufficiency of the English language to describe clouds in all their varieties and evolving permutations:

> our Language is exceeding scanty & barren of words to use & express ye various notions I have of Weather &c, I tire myself with Pumping for apt terms & similes to illustrate my Thoughts, & yet must own a deficiency & I cannot invent a Language commensurate to [the] vast & infinite Properties discoverable in meteorology. (357)

Language is "scanty & barren" while the clouds are "vast & infinite." Even his concerted efforts in "Pumping for apt terms & similes" lead, ultimately and only, to fatigue and "deficiency." Yet, the clouds hold irresistible appeal. He gleefully spends one November day among the clouds, "admiring & feeding my eager curiosity with feasting my eies & Regaling my cloud-born or Nubigenous Genius," and finding, in the clouds, a captivating and primordial home, for, "like Ixion engendered of a cloud, I am ever gazing & as it were Returning to my womb" (413). Even without hope for a clear nomenclature, and in part due to the seeming impossibility of such static terminology, he returns to the clouds to observe, describe, and metaphorize.

As the eighteenth century continued, some observers, inspired both by the emphasis of Enlightenment discourse on the rational and objective, as well as by Linnaeus's publication of biological taxonomies with which to order the natural world, attempted to classify the clouds. Earlier scientists, including Edmond Halley, Gottfried Wilhelm Leibnitz, and Isaac Newton, wrote in support of vesicular theory, the hypothesis that clouds were made of rising and/or floating bubbles. Vesicular theory became the

dominant theory of cloud formation across most of the century, but John Dalton in *Meteorological Observations and Essays* (1793) argued instead that clouds are comprised of droplets that continually fall through the air—a theory affirmed, adopted, and continued to be believed and proven today.

Meanwhile, Linnaeus's publications delineated and formalized the biological taxonomies that still guide scientific discourse today. In *Systema Naturae* (1735, translated in part into English in 1783-5), along with similar publications in 1753 that elaborated on his 1735 treatise, Linnaeus established three biological kingdoms (the *animal,* the *mineral*, and the *vegetable*). He divided these kingdoms further into classes, then orders, then genera, then species, with an additional lower level available if needed. Within this model, ordered through clear hierarchies and linear progressions, Linnaeus developed detailed taxonomies for the clear, certain identification of genera and species. In *Species Plantarum* (1753), Linnaeus formalized the use of binomial nomenclature, or the assignment of a two-part formal name with both parts of Latin grammatical forms, to all species of living beings. The first part of this name, the *generic* name, identifies the genus to which the species belongs, and the second part, the *specific* name, identifies the species within the genus. For example, we are *Homo sapiens*, members of the *Homo* genus and the *sapiens* species within that genus. Luke Howard, in 1802 and 1803, would develop and apply a similar taxonomy to clouds, thus specifying the *cumulus*, and further, the *cumulo-stratus*, from the *cirrus*, and other genera and species.

Linnaeus's binomial nomenclature established universal naming conventions for the vast range of beings studied across the biological sciences. Scientists and general audiences alike adopted his hierarchical taxonomy, which seemed to promise clear and tangible progress to the eighteenth- and nineteenth-century desire to acquire and gain knowledge. While Linnaean taxonomies often sought to make the mysterious beings of ecological life more known, tangible, and ordered, these taxonomies were not always

welcomed. For example, John Clare worked in the mid-1800s to complete a *Natural History of Helpstone*, modeled on Gilbert White's *The Natural History and Antiquities of Selborne* (1789). Clare abandoned this effort, however, despite recording a remarkable catalogue of over 370 plant and animal species in his poetry and prose, because of the oppressive rigor of taxonomic classification. Clare describes Linnaean naming as "a hard nicknaming system of unuterable words" that covers ecological histories "in mystery till it makes darkness visible" (*Prose* 117). Rather than attempt to work within this distancing, even disrespectful, Linnaean rubric, Clare abandoned his scientific project.

In the emergent field of nephology, the Societas Meteorologica Palatina also began an ambitious and potentially transformative project that was also abandoned before its completion. Founded in the cultural center of Mannheim, Germany, in 1780, the Societas began to pursue a systematic, international study of weather and clouds. All members of the Societas, to assist in their required thrice-daily observations, received standardized instruments which included, as J.A. Kington (1974) reports, a mercury barometer, wind vane, hygrometer, hyetometer, atmidometer, electrometer, declinometer, and two thermometers (one outdoor, one indoor). All members, also, were encouraged to follow standardized sets of often textual and sometimes pictographic symbols to describe the sky, the weather, and the clouds (see fig. 1-1).

a	White clouds
cin	Grey clouds
n	Dark clouds
l	Orange-yellow clouds
r	Red clouds
t	Thin clouds
sp	Thick clouds
fasc	Streak-like clouds
rup	Rock-like clouds
lact	Disc-shaped clouds, of milky appearance
	Layered clouds
	Gathering clouds

Figure 1-1. The standard observational symbols of the Societas Meteorologica Palatina, c. 1780-1795.

These symbols are among the first known effort of Eurowestern scientists to depict clouds through a set number of categories. (Hooke's descriptive terms, in 1665, were offered as the first major batch of significant types, to be added to later.) More attuned to color than Hooke's terms (five of the twelve symbols denote color), the Societas's terms nonetheless also tended toward vagueness and overlapping categories, for one could imagine a *streak-like cloud* also being a cloud of *milky appearance*, or what one might call a *grey cloud* being described by a fellow observer as a *dark cloud*. Yet, the Societas advanced cloud nomenclature in an essential way by specifying that their terms could be used separately or in combination, so one could record a *cin.t.fasc.*, or a grey, thin, streak-like cloud, among many other permutations, thus helping one be more able to account for the evolving, proliferating varieties of cloud.

All sky, weather, and cloud observations by members were sent to Mannheim and published in the Societas's annual journal, the fittingly named *Ephemerides*. Beginning with eleven weather stations, mostly in central Europe, the Societas grew over the coming decade to over fifty stations ranging from America (Cambridge, Massachusetts) to Greenland, to Europe (including Germany, Hungary, Denmark, Sweden, Netherlands, France, Italy), and across Russia. However, when Mannheim was invaded by the French Revolutionary Army in 1795, the Societas disbanded and never reformed. If the Societas had continued, the following decade in cloud science—a most remarkable decade—might have been quite different.

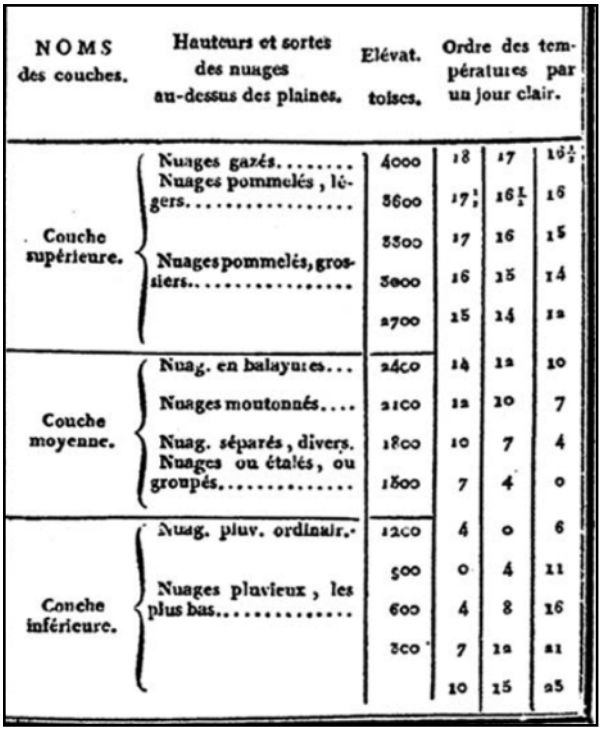
Initial Taxonomies of Lamarck and Howard: 1799—1811

Many cloud atlases, guidebooks, and pamphlets today praise the English writer and scientist Luke Howard as initiating modern nephology and as an unparalleled example of both the independent Romantic genius and the dedicated Victorian scientist.

While his contributions to meteorology and cloud science inspired countless scientists and provided the foundation for the nomenclature we use today, few texts mention the contemporaneous cloud observer Jean-Baptiste Lamarck, who also published a cloud taxonomy several months prior to Howard—but which was largely ignored in France and thus failed to generate notice elsewhere. In 1799, Lamarck began publishing *Annuaires Météorologiques* (*AM*), a series of annual meteorological journals that focused on astrologically derived weather predictions that were asserted as fact despite being consistently incorrect. The *AM* hurt Lamarck's professional reputation among scientists, but the volumes sold well to popular audiences, much like the success of Claridge's *The Shepherd of Banbury's Rules* earlier in the century. In the *AM*'s third issue, Lamarck revealed a new project dedicated to development of a taxonomy of clouds, "for, besides the particular and accidental forms of each cloud, it is clearly noticed that the clouds have certain general forms which are in no way due to chance, but to a state of things which it is useful to recognize and determine" (155). Many weather diarists and cloud observers would agree.

However, Lamarck, like Hooke, saw the range of cloud types as potentially limitless. He unfortunately began his taxonomy not with a set number of generic categories that could hold all cloud types, which could then become more specific with particular species and varieties, but instead with successive installations of more and more broad categories without a clear focus or end. In the first installment, "Sur la Forme des Nuages" ["On the Forms of Clouds"] in 1802, Lamarck proposed five groups: *En forme de voile* (hazy clouds, or overcast sky), *Attroupés* (massed clouds, or flocks of clouds), *Pommelés* (dappled clouds), *En balayeurs* (thin bars of clouds, or broom-like clouds), and *Groupés* (grouped clouds). He expanded this work with "Tableau des Divisions de la Région des Météores" ["Table of the Divisions of the Sky Regions"] (1803) in the following year, where he divided the sky into three "couches," or layers. Each layer

holds two or three distinct cloud species, for a total of eight species, who could be observed and verified through their altitude and the clear-day temperature range on the ground (see fig. 1-2).



NOMS des couches.	Hauteurs et sortes des nuages au-dessus des plaines.	Elévat. toises.	Ordre des températures par un jour clair.		
Couche supérieure.	Nuages gazés.....	4000	18	17	16½
	Nuages pommelés, légers.....	3600	17½	16½	16
	Nuages pommelés, grossiers.....	3300	17	16	15
		3000	16	15	14
		2700	15	14	12
Couche moyenne.	Nuag. en balayures...	2400	14	12	10
	Nuages moutonnés....	2100	12	10	7
	Nuag. séparés, divers.	1800	10	7	4
	Nuages ou étalés, ou groupés.....	1500	7	4	0
Couche inférieure.	Nuag. pluv. ordinair.	1200	4	0	6
	Nuages pluvieux, les plus bas.....	900	0	4	11
		600	4	8	16
		300	7	12	21
			10	15	25

Figure 1-2. "Tableau des Divisions de la Région des Météores," from Jean-Baptiste Lamarck; *Annuaire Météorologique pour l'an XI de la République Française,* no. 4, 1803.

Lamarck subsequently offered additional terms, but these, like those of both Hooke and the Societas, were vague, subjective, and always incomplete; and his meteorological efforts would come to an unexpected end during the command of Napoleon. Lamarck revised his initial 1802 publication on cloud forms and the 1803 expansion into his 1805 treatise "Nouvelle Définition des Termes que J'Emploie pour Exprimer Certaines Formes des Nuages qu'Il Importe de Distinguer dans l'Annotation de l'État du Ciel" ["New Definitions of Terms I Employ to Express Certain Cloud Forms Important to Distinguish, with Annotations, on the State of the Sky"]. Lamarck's 1805 publication provided more details on his identified cloud species, with more assistance for cloud observers to correctly identify the species, which now expanded to include the

metaphor-rich terms *En lambeaux* (shreds of clouds), *Boursouflés* (puffs of clouds), *Coureurs* (running clouds), and more.

None of Lamarck's three significant cloud publications from 1802 to 1805 sparked much scientific or popular interest, either within France or among neighboring nations, a marked contrast to the rapid popularity that Howard's nomenclature would enjoy within and beyond England. In 1809, Lamarck attempted to gift Napoleon with a bound copy of his *Philosophie Zoologique*, a thoughtful work of biological science (an interest of the then-emperor). However, Napoleon, thinking the gift was one of Lamarck's often unscientific *AM*s, refused the gift, rebuked Lamarck for his incorrect meteorological-astrological studies, and ordered him to work instead in evolutionary biology, the field Napoleon believed would help France attain scientific dominance. Lamarck, though the very gift he presented was adjacent to the field in which Napoleon now ordered him to work, was humiliated. He never wrote substantively about clouds or meteorology again; in 1829, he died blind and penniless.

The professional fate of Lamarck's contemporary Luke Howard could not be more different. The public debut of Howard's cloud taxonomy was celebrated, republished, widely distributed, studied across the nineteenth century throughout Europe and North America, and used by international teams of scientists to re-organize international cloud taxonomies to this day. Though Howard worked as a pharmacist, he was interested in meteorology from childhood onward, and in December 1802, he delivered a lecture to London's Askesian Society, a gathering of scientists and thinkers, on "the modifications of clouds" (1803, p. 1). He admitted this field might be seen as "an uncharacteristically impractical subject," and even "a useless pursuit of shadows," if one were to believe that "clouds were the mere result of condensation of vapour in the masses of the atmosphere which they occupy, if their variations were produced by the movements of the atmosphere alone." Yet, he argued, "the case is not so with clouds."

Rather, Howard diverged from the persistent view that each cloud is unique and hopelessly irregular. He posited a cogent framework, with Latinate names, of three major cloud types—the *cirrus* (tendril), the *cumulus* (heap), and the *stratus* (layer)—and four transitions between these three major types—the *cirro-cumulus*, the *cirro-stratus*, the *cumulo-stratus*, and the *cirro-cumulo-stratus* or *nimbus*—, each representable with a simple symbol (see fig. 1-3).

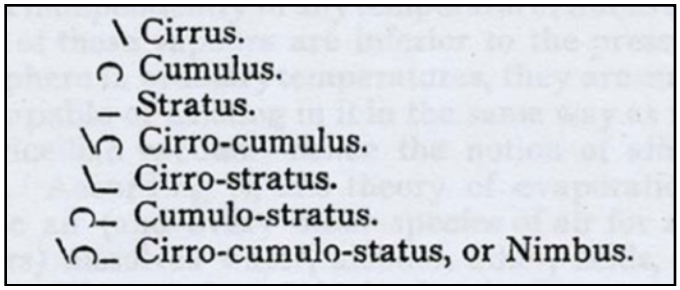


Figure 1-3. "Modifications of Clouds with Symbols," from Luke Howard; *Essay on the Modifications of Clouds*, London: S.I. Taylor, 1803.

Howard, in his lecture and its subsequent revision and reprinting, gave details on these seven cloud modifications' structures, appearances, and atmospheric effects, providing what Hooke, the Societas, and Lamarck did not quite offer: a finite number of cloud types that, while accounting for transition and change, each stood as a distinct, separate type for identification.

Howard's lecture was swiftly revised and serialized as a three-part "On the Modifications of Clouds, and On the Principles of Their Production, Suspension, and Destruction" in the July, September, and October 1803 issues of *Philosophical Magazine*, attracting further scientific attention through publication in the most prestigious and popular scientific journal of the period in England. He then published this text as the 32-page stand-alone pamphlet *Essay on the Modifications of Clouds* (of which few original copies remain, and those that do generally show significant water damage as a result of being taken, as its author encouraged, into the literal field for first-hand observation and study). Upon numerous warm invitations, Howard prepared a digest version of his *Essay* titled "Cloud" for Volume 8 of Abraham Rees's *Cyclopædia,*

or Universal Dictionary of Arts, Sciences, and Literature in 1807; was appointed meteorological journalist for *The Athenæum: A Magazine of Literary and Miscellaneous Information*; began publishing his own (and soliciting others') meteorological observations in 1807; and republished observations and/or selections from his *Essay* in venues including the *Journal of Natural Philosophy, Chemistry, and The Arts* (1811) and the *Annals of Philosophy* (1813-27).

The appeal of Howard's essay came in part from its quasi-Linnaean taxonomy, its self-described "methodological nomenclature" (3-4) that intersected with a growing European interest in cataloguing the natural world; yet, even with this taxonomic structure, Howard was much more concerned with the slippery flux of clouds. His decision to title his work *Essay on the Modifications of Clouds*, rather than *Essay on the Types of Clouds*, is intentional. Howard saw clouds not as static *types* but as evolving *modifications*. Rather than define these three major cloud types alone, Howard described two intermediate cloud types (cirro-cumulus and cirro-stratus) and two compound cloud types (cumulo-stratus and cumulo-cirro-stratus/nimbus) to complicate the reduction to Linnaean taxonomies and to foreground clouds' shifting identities in this nascent science. Even as Howard emphasized the modifications of clouds and their stunningly visible mutability, though, he also segmented the potential plenum of these shifting beings into seven discrete types to be recognized and logged with a fixed name and symbol—and this categorization was very attractive to much of his audience.

Still, Lamarck's and Howard's cloud rubrics each received a vastly different reception. Both Lamarck and Howard were scientists who had studied—and emulated, in their publications—the eighteenth-century taxonomies of Linnaeus. Both sought to develop standard, consistent rubrics for cloud science, rubrics for naming and organizing like the nomenclature popularized by Linnaeus. Both men generated schemas for the verifiable, reliable identification of clouds, and both created these schemas for both

professional and amateur audiences. Howard included symbols for easy reference in cloud identification that mirrored symbols already in use in meteorology, and Lamarck included notes on the altitude of specific clouds and ground temperatures that accompany their sighting. Both men expressed awareness of the ambition of their attempts to standardize phenomena that are slippery and shifting. Howard described the centuries of gathered cloud knowledge as leaving him, one who sought a consistent scientific method, unable to sift what seemed "in a manner incommunicable" (Essay 2). Likewise, Lamarck shared his desire to communicate "clear and distinct ideas of the objects" that had thus far eluded scientists in their movements across the skies ("Nouvelle" 113).

Even so, Howard's rubric became the model for decades of future publications, while Lamarck remains briefly and rarely mentioned in nineteenth-century or contemporary accounts of nephology. Howard's rubric claimed to name all three cloud genera, as well as the major transitional types, while Lamarck's rubric offered an incomplete listing of numerous types. Howard's rubric was delivered first as a public lecture to an influential London audience, who connected it (and him) to numerous print publication opportunities. In contrast, Lamarck published his rubric in his own small-circulation annual journal—which, like him, was already critiqued and largely ignored by the scientific community, as well as reprimanded by the French Emperor. And, while Howard's rubric was in Latin, the then-international language of science as per Linnaean taxonomy, which offered scientific credibility and international ease of use (even as it generated critique, as will be discussed shortly), Lamarck's rubric was in French. Richard Hamblyn (2001) notes that Lamarck used a "strangely pastoral version of French," which evoked the Napoleonic revolutionary calendar; and, given Napoleon's constant threat of war during the early nineteenth century, neighboring nations would be slow to adopt Lamarck's "linguistic invasion" (147). Whatever the reasons, even as Lamarck's use of

altitude to organize cloud types would become standard practice, Lamarck's cloud rubric remains little discussed.

Meanwhile, Howard's remains championed by scientists, publishers, and readers —sometimes with a bit of nationalist hyperbole. For example, when Hamblyn declares, "Howard named the clouds, for all countries, all peoples, and all time" (345), he echoes, 150 years later, the proud assertion of Howard's descendants W. Dillworth Howard and Eliot Howard in the Preface to the third edition of Howard's *Essay* (1864), "From the time when this nomenclature was first suggested (about 1803), it has been universally adopted by scientific men, and, indeed, by all writers" (vii). In these assertions, Hamblyn and the Howards participate in what Elizabeth Mansfield (2021) describes as the "historiographic fiction" encouraged by Romanticist scholarship that champions individuals who seem to demonstrate a singular "inborn genius and artistic originality" (54), praising them in isolation rather than placing them within currents of inspiration and influence. While popular and influential from its public debut, Howard's rubric was not all-encompassing nor universally practiced. Rather, the spiral of Howard's influences —past and present—would soon complicate and queer the trajectory of cloud science.

Early Revisions and Observations with Howard's *Essay*: 1804—1833

Howard's decision to use Latinate terms for cloud types gave scientific credibility and ease of use across nations to his method, but several reviewers critiqued his use of Latin instead of English—sometimes proposing their own alternative (and English-language) rubrics. In 1804, John Bostock praised Howard's *Essay* in the *Annual Review*, but he complained about its use of Latin instead of "plain English names" for a science which will, he argued, "probably, in a considerable degree, depend upon the observations of the unlearned" (898). This critique, while acknowledged, had little effect on the rising popularity of Howard's rubric, and six years later, in 1810, Bostock complained again—

and, this time, offered an alternative nomenclature that generated a heated public dialogue with Howard. In "Remarks upon Meteorology," published in the March and May 1810 issues of the *Journal of Natural Philosophy, Chemistry, and The Arts*, Bostock asserted that Howard's system was not simply hard to understand but "not entirely correct" (9). To solve Howard's shortcomings, Bostock proposed, though he admitted the terms might be "very uncouth" (8), a ten-part replacement nomenclature (see fig. 1-4).

Arc	"a body of clouds, stretching in nearly parallel lines over a considerable part of the heavens, and converging in a point in the horizon"
Linear arc	"long parallel lines or threads"
Mottled arc	"small rounded clouds, lying side by side or in rows"
A wreathed arc	"resembling a volume of smoke, as it rises from a chimney top"
A feathered arc	"resembling feathers, having a linear centre and lateral branches"
Shaded clouds	"when the clouds are formed into rounded masses of greater or lesser extent, one side of which is very much darker than the other side"
Piled clouds and *Rolling clouds*	"large rounded clouds, which appear as if they were heaped and rolled one upon another"
Tufts	"clouds which resemble bunches of hair, the fibres of which are sometimes disposed in a perfectly irregular manner"
Flocks	"when clouds form larger and compact masses than those which I have called *tufts*"

Figure 1-4. John Bostock's ten-part cloud nomenclature, 1810.

Bostock's terms resemble those of Hooke and the Societas in their subjective descriptions, their tendency to define clouds without noting their relation to (or changes from/into) other cloud types, and their ability to be used alone or in combination. Howard responded to Bostock's nomenclature in the *Journal*'s July 1810 issue with a strong critique of Bostock's "inaccurate and imperfect" terms (214). To Howard, Bostock's terms either replicated Howard's existing cloud types—for the "*mottled* and *wreathed arc*" represents "varieties of cirrocumulus" (214)—or invent vague, non-useful types—like the "*rolling clouds*" that, to Howard, are "attempts to substitute description

for definition" (215). Howard also argues with Bostock's dismissal of Latinate terms, writing, "Surely the unlearned can learn, as they have done before. *Alphabet*, which is Greek curtailed, is as well understood as *a, b, c*; *zenith* and *nadir* are Arabic; and as for *Latin*, our Scotch gardeners can talk it fluently" (216). Indeed, in Bostock's own nomenclature, he uses terms derived from Latin, like *arc* (*arcus*), and Greek, including *parallel* (*parallelus*). Chastised, Bostock apologized in the *Journal*'s August 1810 issue, and the dispute ended.

Whereas Bostock challenged Howard's Latinate terms by offering English-language versions, Thomas Forster, Howard's next challenger, pursued both Latin and English revisions. Forster was a friend and supporter of Howard, publicly defending him against Bostock's claims as well as keeping a "Journal of the Weather" since reading Howard's *Essay* and publishing meteorological work in journals that used (and assisted in spreading) Howard's nomenclature. However, in 1810-11, Forster proposed adding eleven new species and varieties to Howard's rubric: *Comoides* ("from its appearing like a distended lock of hair"), *Linearis* ("straight lines"), *Filiformis* ("a confused bundle of threads"), *Reticularis* ("a beautiful network, consisting of light transverse bars or streaks"), *Striatus* ("composed of long parallel bars"), *Undulatus* ("finely undulated"), *Myoides* ("gives the idea of the fibres of muscles"), *Planus* ("a large continuous sheet"), *Petroides* ("rocklike and mountainous"), *Tuberculatus* ("numerous roundish tubercules"), and *Floccosus* ("divided into loose fleeces"). This addition was reasonable, as all taxonomies are refined, and Forster used Latinate terms that could stand alongside those in Howard's *Essay*. However, these additional types were largely ignored, though some modern varieties (such as *undulatus* and *floccus*) echo these names.

Forster attributed the public failure of his eleven new terms to their challenging Latin, and his subsequent support and proposed revisions of Howard's nomenclature centered on questions of language and translation. In 1813, he published *Researches*

About Atmospheric Phaenomena to further popularize Howard's *Essay*, and his first chapter was titled "Of Mr. Howard's Theory of the Origin and Modifications of Clouds." In a generous tribute, his preface describes Howard as the apex of scientific thought in a lineage moving from ancient Egyptian and Syrian scholars through Aristotle, Virgil, and other canonical Eurowestern scholars. Yet, three years later, Forster published English-language "translations" of Howard's Latin nomenclature in the *Gentleman's Magazine*, translations that would alarm Howard, spread across the British Isles, and generate public controversy. Whereas Howard proposed seven cloud modifications, Forster also proposed seven renamed terms (see fig. 1-5).

Curl-cloud	"The old name in Latin, by Mr. Howard, is Cirrus, a curl; Cirrulus and curl being the diminutive"
Stacken-cloud	"or Cumulus, being from the verb to stack, to heap up"
Fall-cloud	"or Stratus; being the falling, or subsidence of watery particles in the evening"
Sonder Cloud	"or Cirrocumulus, is a sundered cloud, made up of separated orbs. The characteristick of this cloud being the gathering together into a bed, of little clouds, yet so far asunder as not to touch"
Wane-cloud	"or Cirrostratus; from the waning or subsiding state of this cloud in all its forms"
Twain-cloud	"or Cumulostratus; made often by the twining or uniting of two clouds together"
Rain-cloud	"or Nimbus, speaks for itself. So we can have *Storm-cloud, Thunder-cloud, &c*"

Figure 1-5. Thomas Forster's seven translations of Howard's cloud modifications, 1816.

Forster's terms, presented as helpful, easy-to-understand translations of Howard's more obscure Latin terms, were published in the supplement to the sixth edition of the *Encyclopædia Britannica*. Howard, however, spoke against these terms in the preface to his *The Climate of London* (1818-20), for two major reasons: (1) they are "another set of arbitrary terms" and as such both "superfluous" and will "be apt to mislead the learner;" but also, because (2) their rendering of Latin into English negates their "universal language" and counteracts international collaboration toward the ability to "arrive at a

knowledge of the phenomena of the atmosphere in all parts of the globe, and carry the science to some degree of perfection" (xxxiii). Similar to Lamarck's French-language terms, Forster's (and Bostock's) English-language terms, while encouraging national pride in scientific achievement, fail to achieve the international appeal (and status and power) of Latin terms—the more "universal language" of science.[11]

Nevertheless, Forster reasserted his new terms against Howard's critique in the third edition of his *Researches About Atmospheric Phenomena* (1823), and, this time with no reference to Howard's *Essay* or nomenclature, again in *The Perennial Calendar, and Companion to the Almanack* (1824). His translations—now existing as terms in themselves—spread after their publication in the *Encyclopædia Britannica*, though scientific opinion moved to support Howard's nomenclature. In 1844, Henry Stephens of the Royal Society of Edinburgh rejected Forster's terms and praised Howard in *The Book of the Farm* as "the original and ingenious contriver of the classification of clouds" (1:246). Thomas Milner, in *The Gallery of Nature: A Pictorial & Descriptive Tour through Creation* (1846), gave both Howard's and Forster's terms for readers to consider, but admitted a preference for Howard's terms. Likewise, Rear-Admiral William Henry Smyth included both Howard's and Forster's terms, with preference for Howard's, in *The Sailor's Word-Book: An Alphabetical Digest of Nautical Terms* (1867). Given these and other writers' arguments for Howard's terms, Forster's translations were removed from the next edition of the *Encyclopædia*.

The proliferation of classification methods within England and across the continent generated a host of shifting meanings and terms. "Clouds seemed to be

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[11] Similarly, Johann Wolfgang von Goethe would speak against the "'translation'" of cloud species into colloquial terms as short-sighted, unscientific "'patriotic purism of style'" in which "'nothing is gained,'" writing, "'Cirrus, Cumulus, Stratus and Nimbus, I have retained unaltered, convinced that in scientific matters in general a decided laconic terminology by which objects are stamped, proves of the greatest advantage; for just as a proper name separates the man from every other, so do such *termini technici* separate that which is designated by them from everything else,'" as translated by R.C. Cann-Lippincott and read aloud at an 1887 meeting of the Royal Meteorological Society (qtd. in "Suggestions" 163).

plausible candidates for such irreducible particulars," Lorraine Daston (2016) writes, for they are "endlessly describable and obdurately unclassifiable" (52). Numerous scientists and writers attempted to fix—or at least subdue—this expanding network of variable meanings. Forster's translations were deemed unnecessary, a replication of Howard's nomenclature and one less accessible to spreading British-led nephology across the world and securing England's position as a leader in this new field. Meanwhile, Howard also revised his nomenclature in light of additional knowledge and dialogue. In an 1817 Tottenham lecture series, published as *Seven Lectures on Meteorology* in 1837, Howard reordered the cloud types by altitude, like Lamarck, to: (1) cirrus, (2) cirrocumulus, (3) cirrostratus, (4) cumulus, (5) cumulostratus, (6) nimbus, and (7) stratus. He also extended his meteorological work into broader studies of climate over time, publishing an updated version of his *Essay* as well as detailed climate records and research in the two-volume *The Climate of London* in 1818 (vol. 1) and 1820 (vol. 2), with the expanded second edition in 1833 totaling over seven hundred pages. Similarly, George Mackenzie extended cloud discourse into weather phenomena, publishing *The System of Weather of the British Islands* (1821) and encouraging all observers to document their weather patterns and corresponding cloud formations. Such cloud documentation became a pursuit that many observers—including many poets and artists—were glad to follow, now accompanied by a cloud rubric (or several).

Dorothy and William Wordsworth, with Samuel Taylor Coleridge and others in their milieu, read Howard's essay and deepened their practices of cloud observation, documentation, and poetics. We wander lonely *as a cloud* with William Wordsworth in 1804, one year after Howard's pamphlet was published across England. In Wordsworth's *A Description of the Scenery of the Lakes in the North of England* (1822), he lingers on the "skiey influences" of England's Lake District for prospective travelers (34). Inviting each reader "to place himself with me, in imagination," Wordsworth turns from the

expected station of the Romantic sublime on "the top of either of the mountains," arguing instead, "rather, let us suppose our station to be a cloud hanging midway between those two mountains" (3). We no longer wander the skies through the visible apparatus of a simile—*as* a cloud—but we *are* a cloud. The reader and Wordsworth dissolve individuality, even space and time, to become a relational unit, a "cloud hanging midway," with shared sensation and porous borders.

Throughout this guidebook, Wordsworth refers to clouds a generous seventeen times. (He refers to the sun ten times, the sky five times, star[s] twice, and the moon only once.) Later in *A Description*, contrasting with the more scientific, yet still lyrical, register of cloud scientists, Wordsworth moves into ecstatic language when contemplating the district's clouds. He writes:

> Akin to these [vapours] are fleecy clouds resting upon the hill-tops; they are not easily managed in picture, with their accompaniments of blue sky; but how glorious are they in Nature! how pregnant with imagination for the poet! and the height of the Cumbrian mountains is sufficient to exhibit daily and hourly instances of these mysterious attachments. Such clouds, cleaving to their stations, or lifting up suddenly their glittering heads from behind rocky barriers, or hurrying out of sight with speed of the sharpest edge—will often tempt an inhabitant to congratulate himself on belonging to a country of mists and clouds and storms [...]. (45-6)

The clouds of the sky inspire pride in the clods of the ground, and as Wordsworth exclaims, these expressive skies are ideal fields of inspiration for the British Romantic poet as heir to the beauties of both the British ground and sky.

Of course, neither Howard, Bostock, and Forster, nor even Hooke, initiated an awareness of clouds among British poets. As shown in this chapter, clouds have been invoked by British poets for centuries. Furthermore, six years before the publication of Howard's *Essay*, in one journal entry dated 03 February 1798 (and discussed in further detail in Chapter 2), Dorothy Wordsworth described the interconnection of earth and sky, human and cloud, that additional Romantic poets would describe in the coming decades:

> The distant country (which was purple in the clear dull air), overhung by straggling clouds that sailed over it, appeared like the darker clouds, which are often seen at a great distance apparently motionless, while the nearer ones pass quickly over them, driven by the lower winds. I never saw such a union of earth, sky, and sea. The clouds beneath our feet spread themselves to the water, and the clouds of the sky almost joined them. (*Grasmere and Alfoxden* 144)

Clouds are, as Graeme Stephens (2003) writes, "ethereal assemblages of water vapor" (443), and Dorothy Wordsworth attends to the assemblage called *cloud* as a multi-body *union* and *joining*. Had her journal entry been written a decade later, she might have given scientific names to the "straggling clouds" and the "darker clouds," but regardless, she attunes her observations to the porous layers and transformations of cloud that fill a sky. Sacha Kagan (2020) notes how much of queer ecological thought moves "toward an attention to relations rather than substances" (277). Dorothy Wordsworth, like William Wordsworth in the excerpt above, attends to the clouds, and the ecological bodies they move with, as an evolving, collaborative relation.

Inaccurate Predictions and Collaborative Nomenclature: 1830—1894

While Bostock and Forster sought at times to supplant Howard's taxonomy with an alternative of their own creation, meteorologists and cloud observers from the 1830s onward often worked to update, revise, and expand Howard's nomenclature, building a collaborative cloud nomenclature and professional community. Despite the publications of Howard, Bostock, and Forster in the 1820s, as well as the initial formation of the Meteorological Society of London (MSL) in October 1823 (whose founding members included Howard and Forster), meteorology struggled at times to gain a secure, respected, professional public image. The MSL disbanded in May 1824 amid funding troubles and lack of interest, not reforming again until November 1836 with new (and younger) members.

Meanwhile, in the 1830s, many in England were frustrated by meteorology's inaccurate predictions and slow-growing science. While many meteorologists worked

toward (slow, and thus often overlooked) scientific development and accuracy, popular opinion was often dominated by figures such as Patrick Murphy who, like John Pointer and John Claridge of the century before, combined astrology and meteorology to generate weather predictions and almanacs built on supposed folk knowledges. Though popular among general audiences, such almanacs were critiqued in professional venues for how they lowered the scientific credibility of meteorology. Thus, after Murphy published *Murphy's Weather Almanac* (1838), though it sold well, reviewers noticed that Murphy was correct for only one out of every four weather predictions (*Jackson's Oxford Journal*, 1839), and they chastised him as "Murphy, the Meteorological Quack" (*Fraser's Magazine for Town and Country*, 1838), an "occult Philosopher" (*The Athenæum*, 1838), and writer of what was discussed and parodied as a "Humbugological Almanack" (*Bristol Mercury*, 1839).[12]

In 1837, John Ruskin wrote to his father with frustrations about weather predictions and meteorological science, both within the MSL and at large, declaring, "The [Meteorological] Society would be much better employed, instead of listening to anticipations which will never be realised, and prophecies which the weather takes good care not to fulfill, in ascertaining the causes and effects of phenomena which have actually taken place" (*Works* 36:10). At this time, the British Empire was expanding rapidly across the lands and waters of the globe. One could imagine that, through meteorology, the Empire could also seek to colonize the skies. Ruskin addressed the newly reformed MSL in 1839 to praise meteorology's potential—when led and administered by Britain—to achieve these imperial goals. He urges the MSL to use meteorology to power "one Mighty Mind" and generate "one vast Eye" with which literally to *oversee* the world and the growing British Empire, thereby extending "its

[12] I am grateful to Michael Verderame for detailing the history of *Murphy's Weather Almanac* in his dissertation *Science, Politics, and Soul-Making: The Romantic Encounter with Climate Change* (2017).

[explicitly, the MSL's] influence and power to be omnipotent over the globe" (*Works* 1:210). Through (largely British) science, the clouds could be named, and in a re-enactment of the Biblical story of Adam in the Garden of Eden, the one who names the beings is also the one who holds dominion over them.

Yet, predictive 'Humbugological Almanacks' undermine the credibility of the enterprise and, as Ruskin argues, distract from the larger potential value of meteorology: reflecting backward onto causes and effects, with scientific care and accuracy. No wonder, then, that an 1839 article in *Dearden's Miscellany* declared, "Science is wholly at a loss. Really, Meteorology should be expelled from the …ologies and called Meteorignorance" ("Notes" 584). Fifty years later, after significant developments in meteorology and nephology, weather forecasting was still frustrating enough for Thomas Hardy to satirize it in *The Mayor of Casterbridge* (1886). In this novel, the fallible mayor Michael Henchard seeks the advice of a Murphy-esque "weather-prophet," adjusts his agricultural practices according to that advice, and loses much of his wealth (and status, health, and more) when the prediction is wrong. Meteorologists studied the clouds to consider weather patterns and, like Ruskin, the causes and effects of precipitation events. Yet, while meteorology was often frustrated and unable to achieve reliable predictions, cloud nomenclature was refined over the coming decades through international efforts.

Howard's *Essay* offered observers three primary cloud types (*cirrus, cumulus, stratus*) and four intermediate types formed through different combinations of the primary types (*cirro-cumulus, cirro-stratus, cumulo-stratus, cumulo-cirro-stratus/ nimbus*), and scientists in the coming decades would update and expand this initial list of seven cloud types. The first major accepted revision to Howard's nomenclature came in 1840, when Ludwig Kaemtz, professor of physics at the University of Halle in Germany, renamed the *cumulo-stratus* the *strato-cumulus*, an update that worked

within Howard's existing nomenclature. Kaemtz shifted this cloud from the convective cumulus family to the more stable stratus family, more accurately describing the formation, duration, and processes of this cloud type. In the following century, Émilien Renou, director of observatories in Parc Saint-Maur and Montsouris in France, made several accepted updates to the cloud list. In addition to redefining the *cirro-cumulus* and *cirro-stratus* clouds in 1855, Renou added *altocumulus* and *altostratus* as significant cloud species in 1870 and 1877, respectively. By emphasizing altitude in both clouds' names (*alto-* coming from the Latin for *elevated*, and both clouds defined as middle-level clouds), Renou encouraged the use of altitude in defining clouds as had Lamarck in 1802 and Howard in 1817. The tenth cloud type was added in 1880 by Philip Weilbach, secretary and librarian at the Art Academy in Copenhagen: the cumulonimbus cloud, a distinct combination of the cumulus and nimbus that achieves significant vertical growth and produces sudden, heavy rain often with thunder and lightning.

Meanwhile, supported by Ruskin and many others, the MSL was expanding in its importance, role, and scope in orchestrating weather science. From the Meteorological Society of London in 1823/1836, it grew into the Meteorological Society of Great Britain in 1842. Renamed again as the British Meteorological Society in 1850, the Society received more power and prestige after it was incorporated by Royal Charter in 1866 and renamed The Meteorological Society. Here, this society speaks not merely for London, Great Britain, or Britain [and its dependencies], but rather for all international meteorological society. Such growing power of this *mighty mind* and *vast eye* was recognized by Queen Victoria, and upon her granting of the privilege in 1883, the society became the Royal Meteorological Society.

In the 1880s, Hugo Hildebrand Hildebrandsson of Sweden's University Observatory of Uppsala and Ralph Abercromby of England's Royal Meteorological Society recognized a growing need for a standardized cloud nomenclature, and they

partnered to achieve this goal. Both men brought extensive cloud studies to the collaboration; both attended the first International Meteorological Congress in 1873, Hildebrandsson also in 1873 published a cloud observation guide for his students, and Abercromby traveled around the world twice to document what he perceived as the worldwide similarity of clouds (publishing his account in 1888 as *Seas and Skies in Many Latitudes, or, Wanderings in Search of Weather*). After extensive research and meetings, Hildebrandsson and Abercromby published the results of their conversation in the Royal Meteorological Society's *Quarterly Journal* in 1887. In the first article, first read to the RMS on 19 January 1887 and later appearing in the 1887 volume of the *Quarterly Journal*, Abercromby spoke out with "On the Identity of Cloud Forms All Over the World, and on the General Principles by which Their Indications Must be Read."

One month later, after their vigorous assertion was not standardized, Hildebrandsson and Abercromby shifted their tone in their second article, the encouraging "Suggestions for an International Nomenclature of Clouds," first read to the RMS on 16 February 1887 and also appearing in the 1887 *Quarterly Journal*. In this article, Hildebrandsson and Abercromby offered a ten-part system of cloud forms, "compounded of Howard's four fundamental types—*Cirrus, Stratus, Cumulus, Nimbus*" and all organized so as to "fully meet the requirements of practical meteorology" ("Suggestions" 155). Thus, their proposed international system would hold the ten cloud types: Cirrus, Cirro-stratus, Cirro-cumulus, Strato-cirrus, Cumulo-cirrus, Strato-cumulus, Cumulus, Cumulo-nimbus, Nimbus, and Stratus. (Renou's altocumulus and altostratus were declined entry to this list, though their descriptions were echoed in Hildebrandsson's and Abercromby's cumulo-cirrus and cirro-stratus, respectively.)

Following this influential publication, Hildebrandsson, with collaborators Abercromby, Wladmir Köppen, and Georg von Neumayer, led the effort toward the first multilingual cloud atlas. *Wolken-Atlas* | *Atlas des Nuages* | *Cloud-Atlas* | *Moln-Atlas*

(1890) is a four-language cloud atlas (German, French, English, and Swedish) that featured photos, many of which were taken by Abercromby on his overseas travels, and affirmed Hildebrandsson's and Abercromby's ten-part cloud system. Two years later, in 1892, Karl Singer published *Wolkentafeln | Les Formes des Nuages | Cloud Forms*, a three-language cloud atlas (German, French, and English). And, again, two years later, meteorologist and clergyman William Clement Ley expanded the nephological discourse with *Cloudland: A Study on the Structure and Characters of Clouds* (1894), using the increased credibility and knowledge of meteorology to re-examine weather predictions and show how cloud progressions could accurately predict weather—as in how upper atmosphere air movement impacts lower air movements and weather.

Howard had proposed a seven-part cloud system in the first years of the century, and after international contributions, Hildebrandsson and Abercromby sought to formalize a ten-part cloud system in the 1880s. Though their ten-part system was well-received, particularly after the International Meteorological Conference accepted this system in 1891 and urged its many members to align with this system, the nomenclature remained far from standard or consistent. Most cloud atlases included each page in multiple languages. Yet, a Swedish-language reader of Hildebrandsson, et al.'s *Moln-Atlas* (1890), a German-language reader of Singer's *Wolkentafeln* (1892), and an English-language reader of Ley's *Cloudland* (1894) could each define a given combination cloud, like *cirrostratus*, quite differently. Some scholars defined clouds by their height, others by the clouds' composition, others on the clouds' relational to other clouds, and still others on taxonomic conventions. Some, like French meteorologist André Poëy, director of the Havana Observatory in Cuba, argued for giving the same cloud seen at the same moment different names depending on one's perspective. If seeing the cloud from *here*, the cloud is *this*; if seeing the very same cloud from *there*, we name the cloud *that*. Thus, cloud observation depends upon one's individual perspective,

both spatial and imaginative. Wladimir Köppen responded to Poëy's assertion with exasperation in 1887: "Are we really supposed to use five names for one and the same animal, according to whether it's seen from the front, side, back, below, or *above*?" (203). Is a cloud ever, really, *one and the same animal*?

Queer Classifications and the *International Cloud Atlas*: 1887—2017

If the clouds could be named, they could be classified; if classified, they could be known; and this knowing, many argued, would be useful across the arts and sciences. Ruskin, earlier in the century, declared in 1843, "a truth of species is the more valuable to art [...] while the truth of individuals is commonly, in some sort or way, a defect" (*Works* 1:60-1), echoing Howard's argument for a "universal language" of clouds (*CL* xxxiii). In cloud classification, exact and bounded knowing is paradoxical—if not impossible. It may be playfulness, or a jab at cloud atlases' attempts to bound the boundless, that leads Hopkins to begin his poem "That Nature is a Heraclitean Fire" (1888) with a medley of cloud names: "Cloud-puffball, torn tufts, tossed pillows | flaunt forth, then chevy on an air- / Built thoroughfare: heaven-roysterers, in gay-gangs | they throng; they glitter in marches" (ll. 1-2). Even *cloud*, the opening word, operates not alone but in hyphenated, entangled community (as discussed in Chapter 4)—just as how a single *cumulus* might, over an afternoon, swim into parallel lines of separated *cumulus radiatus*, then into conjoined *stratocumulus*, then into separate *cumulus* again, for now.

Such pluralism presented a crisis for this emergent scientific discipline. Linnaean taxonomy seemed to offer a consistent, definite, clear, and knowable classification system—the model for traditional ecology. In contrast, Lamarck, Howard, and subsequent scholars developed cloud classification systems that spiraled into nonhierarchical multiplicity and community—a queer ecology. Even in the final decades of the nineteenth century, scholars were working to standardize classification without

delay, offering such works as Hildebrandsson's and Abercromby's first demanding, and then encouraging, two articles on cloud naming in 1887. Cloud atlases, reckoning with a accumulating field of possible cloud species, types, varieties—a plenum of cloud modifications—sought to prune back the more slippery, nebulous, figurative language and hypotheses from their community of readers, declaring a continued division, or at least the commitment to such a division, between literature and science.

In this gap of a single, declared international authority on cloud nomenclature and descriptions, fifty-two meteorologists met in Leipzig, Germany in 1872 to consider the formation of an international meteorological cooperative organization. As a result, the International Meteorological Congress met in Vienna, Austria in 1873, the following year. Following this meeting, the Congress published a request, drafted by Hildebrandsson, to observatories and scientists to "publish exact representations of the form of clouds considered typical at each location" (*Rapport* 5). Such a statement is much easier to ask than to obey. The Congress continued organizing itself and communicating with international observers, forming the International Meteorological Organization (IMO) in 1879. The IMO remained in organization until 1950, when it revised its name to the World Meteorological Association (WMO). The WMO remains to this day largely considered the international authority on nephology.

Still, even today, the WMO's *International Cloud Atlas* (1975) admits the impossibility of the Congress's 1873 request for exactitude. The 1975 edition of the *ICA* acknowledges, "Clouds are continuously in a process of evolution and appear, therefore, in an infinite variety of forms" (11), echoing the sentiments of Abercromby almost one hundred years earlier in "Modern Developments of Cloud Knowledge" (1888): "Form alone is equivocal, for the true import must be gathered from the surroundings" (18). The initial taxonomy proposed by Howard continues to evolve and expand, for each new edition of the WMO's *International Cloud Atlas*, including the most recent edition

published in 2017, while not always including new *types* of clouds (e.g. cirrus, cirro-stratus), includes new *varieties* (e.g. cirrus *spissatus*, cirrus *intortus*).

The first edition of the *ICA*, released in 1896 to coincide with the Paris meeting of the International Meteorological Organization and the IMO's declared "International Year of Clouds," sought to standardize images and language from Hildebrandsson, et al's *Moln-Atlas* (1890), Singer's *Wolkentafeln* (1892), and other atlases. Following the publication of *Moln-Atlas*, the IMO formed a Cloud Committee in 1890, which accepted Hildebrandsson's and Abercromby's ten-part cloud classification system in 1891 and convened in Uppsala in 1894 to discuss a cloud picture exhibition. After posting a call for pictures in magazines across Europe and North America, and receiving thousands of submissions, the IMO's Cloud Committee chose over three hundred pictures for an exhibition which travelled across North America and Britain; the best of these exhibition photos were selected for the first edition of the *ICA*, which was edited by Hildebrandsson, Hugo Hildebrand, Albert Riggenbach, and Léon Teisserenc de Bort. Alongside these images, the 1896 *ICA* offered a rubric of ten cloud types, classified by altitude and demarcated within each height category as either "*a*. Separate or globular masses (most frequently seen in dry weather)" or "*b*. Forms which are widely extended, or completely cover the sky (in wet weather)" (23) (see fig. 1-6).

A. Upper Clouds, average altitude 9000m. *a*. 1. *Cirrus*. *b*. 2. *Cirro-stratus*.
B. Intermediate Clouds, between 3000m and 7000m. *a*. 3. *Cirro-cumulus*. *a*. 4. *Alto-cumulus*. *b*. 5. *Alto-stratus*.
C. Lower Clouds, 2000m. *a*. 6. *Strato-cumulus*. *b*. 7. *Nimbus*.
D. Clouds of Diurnal Ascending Currents. 8. *Cumulus*; apex. 1800m; base, 1400m. 9. *Cumulo-nimbus*; apex. 3000m to 8000m; base, 1400m.
E. High Fogs, under 1000m. 10. *Stratus*.

Figure 1-6. Cloud rubric of the first edition of the *International Cloud Atlas*, 1896.

In the most recent edition of the *ICA*, released in 2017, the (now-)World Meteorological Organization retains their initial schema of ten cloud types organized by altitude. However, they further simplify this rubric by condensing the altitude categories into three (instead of five), determining altitude categories by cloud base height (rather than average height, apex height, and/or base height), and eliminating the "*a*." and "*b*." designations (see fig. 1-7).

High Clouds, base usually above 6,000m 0. Cirrus (Ci) 1. Cirrocumulus (Cc) 2. Cirrostratus (Cs)
Medium Clouds, base usually between 2000-6000m 3. Altocumulus (Ac) 4. Altostratus (As) 5. Nimbostratus (Ns)
Low Clouds, base usually below 2000m 6. Stratocumulus (Sc) 7. Stratus (St) 8. Cumulus (Cu) 9. Cumulonimbus (Cb)

Figure 1-7. Cloud rubric of the latest edition of the *International Cloud Atlas*, 2017.

With this reorganization into three altitude levels, the WMO also redesignated Howard's *nimbus* cloud as the *nimbostratus* cloud, upon the recommendation of the International Commission for the Study of Clouds in 1930. More recently and following popular demand, the WMO re-numbered the clouds from 0-9, rather than 1-10, to permit the cumulonimbus to remain the ninth cloud. (For, as both the tallest and the highest cloud, the cumulonimbus, as designated in the initial *ICA*, is the cloud who inspired the saying *to be on cloud nine*.)

Despite the streamlined look of the 2017 three-part and ten-cloud rubric, the WMO's full taxonomy of clouds includes these ten genera along with fourteen species and nine varieties. Following Linnaean nomenclature, a group of like clouds are assembled into a genus, but are further delimited by parsing into separate species; and

among these species, any cloud under this genus may be further described as demonstrating a particular variety (or characteristic). For example, under the genus *cumulus*, which holds the familiar rounded, white, cotton-ball clouds, one might see the species cumulus *humilis* (wider than they are tall), *mediocris* (as wide as they are tall), *congestus* (taller than they are wide), or *fractus* (of ragged shape), and any of these four cumulus species might exhibit the variety *radiatus*, if they appear in parallel bands or rays. Some cloud genera are affiliated with only a few additional species and/or varieties (such as the two species and no additional varieties of cumulonimbus: the cumulonimbus *calvus* and the cumulonimbus *capillatus*). Other cloud genera, such as the stratocumulus, may manifest themselves in any of four species (*cumulogenitus, stratiformis, castellanus,* or *lenticulari*) and, even while so doing, transform themselves into any of seven varieties (*translucidus, perlucidus, opacus, duplicatus, undulatus, radiatus,* or *lacunosus*).

Even so, the WMO has sought to standardize and solidify cloud descriptions over the eight editions of the *ICA*. For example, the first edition of the *ICA* (1896) described the nimbus cloud as: "Rain Clouds. — *A thick layer of dark clouds, without shape and with ragged edges,* from which *steady* rain or snow usually falls" (15), and accompanied this description with three photographs (see fig. 1-8).

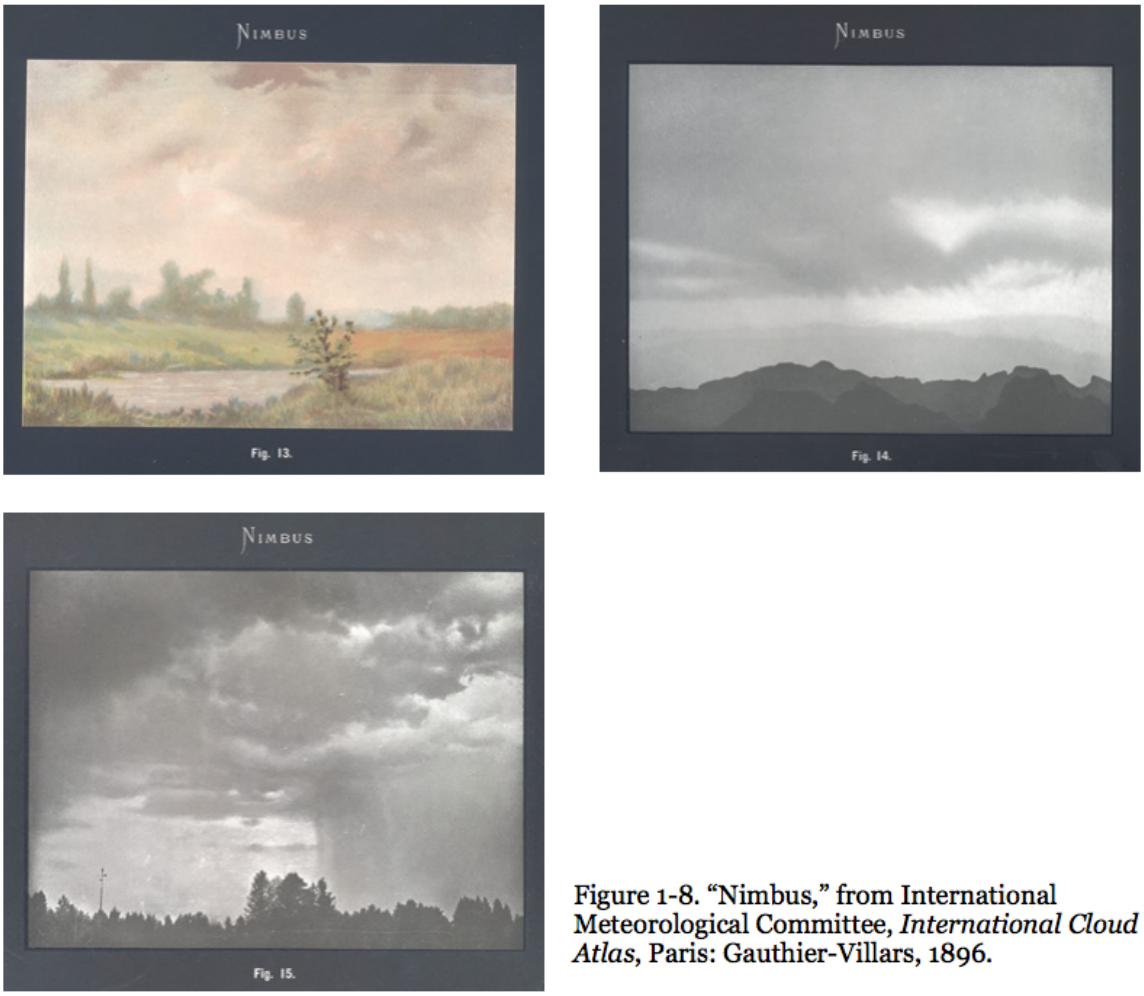

Figure 1-8. "Nimbus," from International Meteorological Committee, *International Cloud Atlas*, Paris: Gauthier-Villars, 1896.

While the nimbus was renamed the nimbostratus in 1930, the above 1896 description of the nimbus remains quite similar to the description of the nimbostratus in the most recent edition of the *ICA* (2017):

> Grey cloud layer, often dark, the appearance of which is rendered diffuse by more or less continuously falling rain or snow, which, in most cases, reaches the ground. It is thick enough throughout to blot out the Sun. Low, ragged clouds frequently occur below the layer, with which they may or may not merge. (17)

Now, this description is followed by one photograph and one cartoon depiction (see fig. 1-9).

Figure 1-9. "Nimbostratus," from World Meteorological Association, *International Cloud Atlas*, WMO, 2017, cloudatlas.wmo.int/en/nimbostratus-ns.html.

Yet, an atlas that even slightly concedes the existence of infinite variety also presumes to gather, organize, classify, and know this (not infinite) variety. For amateur and professional observers, as well as artists and writers, the WMO's cloud atlas provided welcome avenues toward definite knowing. Even before the WMO or the first international cloud atlas, Johann Wolfgang von Goethe celebrated Howard's cloud rubric by writing "Howards Ehrengedächtnis" ["In Honor of Howard"] (1821), a poem included and retitled as "Poem on the Clouds" at the beginning of subsequent editions of Howard's *Essay*. In this generous tribute to Howard, Goethe celebrates Howard's ability to "Bestimmt das Unbestimmte, schränkt es ein, / Bennent es treffend!—Sei Ehre dein!" (ll. 19-20), or as translated by Lorraine Daston (2016), "Determine the indeterminate, rein it in, / Name it aptly!—All honor to you!" (55). After centuries of cloud uncertainty, Howard—to Goethe—at last organized and structured the beings who had remained nebulous for far too long, and international cloud atlases advanced this work.

Even the most scientific descriptions of clouds struggle to determine the indeterminate, however, or to elaborate the sort of fully ordered taxonomy Linnaeus seemed to achieve in his biological classification systems. A rose is a rose; at least, one rose plant who begins life as one of the 350+ rose species will remain a rose of that species until death and will not shift, in hours or days, into another species. Clouds, however, can and do—in a few minutes. Lorraine Daston (2016) describes the sensuous fluidity of clouds in ways that echo queer ecology:

> Imagine all the species of life on earth arrayed together in their dazzling diversity, all circa ten million of them, from the Lesser Antillean iguana to the figeater beetle, from brain corals to black-capped chickadees [...] Now imagine all of these ten million-odd species constantly metamorphosing into one another and into intermediate forms—not just evolution speeded up to cinematic tempo but everything changing into everything else, all at once, not just past forms to present forms but also present to past and this present form to that other one, without regard to taxon or phylogeny. That is variability—the vertiginous variability of clouds. (46)

Likewise, queer ecology celebrates spirals and relations, in contrast to linear and hierarchical models offered by Linnaean taxonomies. While Linnaean taxonomy sought to bring order to—and dominance over—ecological communities, advocates for a similar rubric for clouds were stymied by how questioning, fluctuating, and *queer* clouds presented themselves.

Queer Cloud Language—Queer Cloud Ecology

To dwell with clouds, not to categorize and set aside, but instead to swerve into relation and proliferation, requires a new taxonomy and a new ecology, one that I offer in queer ecology, which celebrates multiplicity and relationship, the spiral and rhizome, in contrast to linear and hierarchical models offered by Linnaean conceptions of ecology and environmental studies. Queer ecology, as Catriona Sandilands (2016) suggests, works across disciplines to develop a "constellation of practices" that "disrupt [... and] imagine" (169). Even Abercromby, despite his 1887 assertion that "clouds always tell a

true story," had to admit this story is "but one which is difficult to read" ("Suggestions" 163). Cloud science, to posit a finite and consistent taxonomy, tended to offer rubrics that orient attention in particular ways. These rubrics focus attention on *these* forms but do not acknowledge *those*. They standardize cloud nomenclature with Latinate terms, and more. Yet, formal and colloquial names for clouds saturate this field with metaphor —as do the descriptions of clouds themselves across artistic and scientific writing.

For nineteenth-century readers, Latinate terms for cloud species and varieties make the metaphoric resonance between etymology and cloud more visible. Joseph Skipsey in "The Seer" (1871) finds that access to poetry and the clouds could let him, "in the Universe external, / The Universe internal read" (ll. 53-4). Skipsey's lines echo Howard's metaphor-rich naming conventions; in his *Essay*, Howard opted for Latin nomenclature over Greek so clouds would be "defined by visible characters" (3). We see this in how the cirrocumulus may appear as *castellanus* (with crenellated tops to its cloudlets), *undulatus* (with wave-like ripples or undulations), or other varieties. But for all readers and beyond the Latinate, we perceive and match clouds to what they suggest. The cirrocumulus cloud is known as *ciel pommelé* (fleecy sky) or *ciel moutonné* (sheep sky) in France; *cielo a pecorelle* (lamb sky) in Italy; *cielo empedrado* (dappled, or cobblestone, sky) in Spain; and *mackerel sky* in England.

But where does *cirrocumulus castellanus* end and *cirrocumulus undulatus* begin? When does a crenellation become an undulation? For Maurice Merleau-Ponty (1969), language exists in "endless proliferation" and in "perpetual movement" (39). There is no pure cloud, and no pure language of clouds, and we need not imagine that lack as a loss. Language and consciousness are not pure objective engagement with the world. Rather, our being in the world is a "swimming in the world of things and overrun by a horizon of things" (52). We cannot pinpoint the moment "when the light of the setting sun turns from white to pink, but there is a moment when I see things pink" (40),

so can we not specify the moment of change when *castellanus* becomes *undulatus* or even, for all viewers, when *cumulus* becomes *stratocumulus*?

As cloud names offered both fixed knowledge and shimmering evocation, observers from the arts and sciences found themselves turning in their cloud descriptions to metaphors that, far from fixing or defining clouds as static objects, loose them as sensuous beings who proliferate through touching and being touched, as discussed in Chapter 3. John Ruskin, in *Modern Painters* (1856), joined the effort to define cloud types through scientific description, including such chapters as "Truth of Skies," "Truth of Clouds," "Cloud-Balancings," and "Cloud-Chariots." In the fifth volume of *Modern Painters*, Ruskin recounts watching the winter sky and counting the "streets" of high clouds visible from his window; he notes seeing 150 distinct streets with an average of sixty clouds per row, thus accounting for about fifty thousand clouds in his full field of sight (*Works* 7:146-47).

Yet, even as he found clouds might be countable, Ruskin joined Howard, Abercromby, Poëy, and other scientists in realizing the impossibility of strict definitions for clouds. While he posits two major species of clouds, the massive cloud and the striated cloud, Ruskin describes how the "fleecy" cloud might vacillate between these species (5:144). Alongside his scrupulous methodical counting of those streets of high winter clouds, he also swerves into lyrical metaphor. Across the sky, clouds are "looped lace as it were, richest point—invisible threads fastening embroidered cloud to cloud" (148) who exist "between the heaven and man" and finding their "life being partly as the falling leaf and partly as the flying vapour" (133). Echoing and inspiring writers across the disciplines in his figurative descriptions of clouds, Ruskin—one of the most important writers in the nineteenth century for his efforts to fuse art, imagination, science, and precision—also finds that the evanescent and mutable nature of clouds seems to require a language that also shifts, flows, pushes beyond.

Clouds, in their names and descriptions, queer binaries of now/then, cause/effect, and art/science; and clouds queer ideas of linear space and time. No wonder, then, that Mary Russell Mitford opens her poem "Song" (1811):

> The fairest things are those which live,
> And vanish ere their name we give;
> The rosiest clouds in evening's sky,
> Are those which soonest fade and fly. (ll. 1-4)

The fairest beings are those who do not stay for categorization, classification, and the deadening of their sensuous relation. The fairest beings, for Mitford, are those who "live" and "vanish," who bloom like roses and also "soonest fade." The perpetual—and recursive—motion of clouds leads many observers to reach toward metaphor. Thus, Howard in his *Essay* describes the stratus cloud as "properly the cloud of *night*," who "comprehends all those creeping Mists which in calm evenings ascend in spreading sheets (like an inundation) from the bottom of valleys, and the surface of lakes, rivers, and other pieces of water, to cover the surrounding country" (7-8). While folding his description into scientific observation (e.g., the stratus often appears at night, in conjunction with humid places, and grows by spreading horizontally), Howard also emphasizes evocation and metaphor: the stratus is "the cloud of *night*," who "comprehends" themselves and their neighbor "creeping Mists," and who moves "in spreading sheets" across "pieces of water."

Cloud description often blurs any binary between the arts and the sciences. Analyzing the accounts of those who witnessed atmospheric effects from Krakatoa's eruption in 1883, Richard Altick (1960) writes, "observers often abandoned scientific terminology in favor of a descriptive style that can only be called lyric—and when the sunsets of late 1883 defied even poetic language the observers resorted at last to pictorial art—they said the sunsets were like those of Turner" (251). Sometimes, one might even wonder whether artistic evocation created the clouds we see and describe. In his provocative essay "The Decay of Lying" (1890), Oscar Wilde writes:

> At present, people see fogs, not because there are fogs, but because poets and painters have taught them the mysterious loveliness of such effects. There may have been fogs for centuries in London. I dare say there were. But no one saw them, and so we do not know anything about them. They did not exist until art had invented them. (233)

Clouds—in this case, the stratus or fog cloud—trouble any notion of definite origin. Clouds disrupt notions of fixed trajectory, bounded identity, and discrete body.

Thus, for poets inspired by nephology, invoking clouds offers new ways to resist conventions and offer alternative, expanded modes of being—a queer ecology of possibility. Alex Carr Johnson (2016) explains queer ecology as an intentional re-orientation by which, "Instead of talking about nonconformity, I want to talk about possibility and unnameably complex reality. What queer can offer is the identity of *I am also*" (313). Queer ecology offers a means to embrace and learn from the fluid, relational entanglement who is *cloud*—who is not singular but an assemblage, *cloud clouding* and queering language, space, and time. Nineteenth-century British poets flex the language of clouds in multivalent and relational ways. These strands of cloud science, cloud poetics, and queer theory assemble in such sensuous, generative ways in Percy Bysshe Shelley's 1820 poem "The Cloud."

Clouds in the Poetry of Percy Bysshe Shelley

Long before Shelley wrote "The Cloud" in late 1819 and/or early 1820, he demonstrated an abiding fascination with clouds, along with the skies and winds. Clouds explicitly appear over two hundred times across Shelley's collected poetry. One of his earliest extant sonnets is titled "To a Balloon, Laden with Knowledge" (1812), and in his nine-canto "Queen Mab" (1813), Shelley uses clouds throughout his opening two cantos to signify a glorious utopia of "silvery," "fleecy," "billowy,""far clouds of feathery gold" who "rolled in glittering billows" (1.69, 1.229, 2.9, 2.16, 2.44). These bright, light clouds generate a sympathetic symbolic atmosphere between sky and (human) mind. Such

cloud symbolism continues with a shift, in the fourth canto, as the atmosphere changes from a bright, expansive utopia into the darkness of foreclosed possibilities when, "Tomorrow comes: / Cloud upon cloud, in dark and deepening mass, / Roll o'er blackened waters" (4.25-27). Shelley uses clouds in "Queen Mab" and elsewhere as symbols for human desire, but he moves beyond symbolism and into relating with—even as—clouds. For example, Shelley identifies via simile with clouds in his 1814 lyric "Mutability," which begins:

> We are as clouds that veil the midnight moon;
> How restlessly they speed, and gleam, and quiver,
> Streaking the darkness radiantly!—yet soon
> Night closes round, and they are lost forever. (ll. 1-4)

Here, Shelley acknowledges the essential mutability of clouds, their existence not as static *types* but, like Howard, evolving *modifications*. Clouds "speed, and gleam, and quiver" (l. 2), like humans viewed from a longer ecological perspective. Also, like Mitford's love of those clouds who "soonest fade and fly" (ll. 3), Shelley prizes the cloud (and human) life who, all too "soon […] are lost forever" (ll. 3-4). Transience is often evoked by British Romantic poets, and Shelley found the clouds a literal and metaphoric representation of this impermeability.

Both Shelley and Howard visited the Italian Alps in 1816, the famous "year without a summer" due to the cataclysmic eruption of Mount Tambora in April 1815.[13] (Unfortunately, no record exists, however, of these two men meeting in the Alps or elsewhere.) Following his visit, Shelley wrote of the skies of the Italian Alps in his 1817-18 dramatic fragment "Julian and Maddalo: A Conversation," marveling how:

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[13] Gillen D'Arcy Wood notes in *Tambora: The Eruption that Changed the World* (2014), albeit burdening his description by attributing malevolent intent to Tambora and focusing on human harm, "After perhaps a thousand years' dormancy, Tambora's devastating evacuation and collapse in April 1815 required only a few days. […] Tambora ensured its volcanic gases reached sufficient height to seriously disable the seasonal rhythms of the global climate system, throwing human communities worldwide into chaos. The sun-dimming stratospheric aerosols produced by Tambora's eruption in 1815 spawned the most devastating, sustained period of extreme weather seen on our planet in perhaps thousands of years" (8).

> [...] half the sky
> Was roofed with clouds of rich embrazonry
> Dark purple at the zenith, which still grew
> Down the steep West into a wondrous hue
> Brighter than burning gold [...] (ll. 70-74)

Attentive to shades of color and texture as well as, in "Mutability," shades of action and agency, Shelley generates poetry that edges toward the metaphor-and-documentation pattern of weather diarists.

When he and his family returned to Italy from 1818 to 1822, during which period he wrote "The Cloud," they rented for a time a house in Livorno topped by a glass tower, in which Shelley spent hours watching the skies and the surrounding bay. In this activity, Shelley resembles the 1703 weather diarist who was inspired by clouds to "ascend on philosophic wings, & build my nest & extend my observatory above ye clouds but heavy dull mortality still checks my soaring & presumptuous flight" (272) though he still seeks the clouds for a "healing influx of spirits, or fluttering expansion of soul" (351). Indeed, around the time of composing "The Cloud," Shelley depicted himself and his family as cloud-like in a letter to the Gisborne family, for, "'we are uncertain people who are chased by the spirit of our destiny from purpose to purpose, like clouds by the wind'" (qtd. in Holmes, *Shelley*, p. 599). For a moment in "Mutability," but throughout "The Cloud," the speaker, the cloud, speeds, quivers, and speaks.

Multiple Identity in Shelley's "The Cloud"

Shelley's "The Cloud," an eighty-four line poem of variable meter spoken from the perspective of a cloud, was published in *Prometheus Unbound, A Lyrical Drama, in Four Acts, With Other Poems* in August 1820. In addition to the ambitious title poem of this volume, "The Cloud" had excellent company in the collection's so-called 'other poems,' which included "Ode to the West Wind" and "To a Sky-Lark," two remarkable poems of air and atmosphere. Though these poems and others from the collection are

widely anthologized today, the volume was not a commercial success in the 1820s, with the revolutionary politics of *Prometheus Unbound* and several shorter poems sparking a number of negative reviews. However, reviewers from 1820 onward often have praised and anthologized "The Cloud," with *The London Magazine* (1820) praising the poem for its "strong and healthy freshness" (306), John Todhunter (1880) declaring "The Cloud" and "To a Sky-Lark" as "the two most popular of Shelley's lyrics" (183-4), and Francis Thompson (1889) asserting "The Cloud" as "the most typically Shelleyan of all the poems" (39). More recently, Desmond King-Hele (1971) prefigures similar praise from Hamblyn and Harris when he describes "The Cloud" as "a scientific monograph, enriched by imaginative invention, warmed by human metaphor" (227). Shelley reaches across the arts and sciences not simply to *depict* clouds but rather to *become* cloud.

As a poem of the ever-changing clouds, "The Cloud" in form mirrors its content. Chiming between meteorological, animal, architectural, and human identities in content, the cloud in this poem also chimes across eighty-four lines and six stanzas in form to weave a sensuous, relational pattern of being. The stanzas, like any gathering of clouds, range in size—12 lines, 18 lines, 14 lines, 14 lines, 14 lines, 12 lines—albeit with symmetrical twelve-line stanzas to bookend the poem and a small parade of fourteen-line stanzas after the poem's longest stanza. Within each stanza, the lines alternate between a longer line of ten or more syllables and a half-line of five to eight syllables. Looking at end-rhyme alone, the longer lines do not rhyme, but each successive pair of half-lines rhyme, forming a pattern of (using a 12-line stanza as an example): *ABCB DEFE GHIH*. However, every longer line holds a double rhyme within itself, as in "I bind the Sun's throne with a burning zone" (l. 59). The rhyme reaches, multiplies, contracts within and exceeds its bounds. Looking again at the opening or closing stanza's rhyme pattern, but including mid-rhyme and end-rhyme, we see: *AABCCB DDEFFE GGHIIH*.

We swerve, become giddy, lose our way, fall into sky, become sky—who becomes us. These are the possibilities of queer ecology; these are the possibilities of cloud poetics.

"The Cloud" questions the constructed divide between singular and multiple identity, between the animate and inanimate, between self and other. Thus, the poem's first stanza:

> I bring fresh showers for the thirsting flowers,
> From the seas and the streams;
> I bear light shade for the leaves when laid
> In their noon-day dreams.
> From my wings are shaken the dews that waken
> The sweet buds to every one,
> When rocked to rest on their mother's breast,
> As she dances about the Sun.
> I wield the flail of the lashing hail,
> And whiten the green plains under,
> And then again I dissolve it in rain,
> And laugh as I pass in thunder. (ll. 1-12)

The speaker of "The Cloud" is offered to readers as a cloud, not a poet commenting upon a cloud or a poet imagining themselves a cloud. In this poem, the cloud holds voice and agency. Shelley sets this poem apart from many Romantic poems where the speaker is a human observer of the ecological being or phenomenon described.[14] From the poem's first line, "I bring fresh flowers for the thirsting flowers," readers are ungrounded in human subjectivity and reconstituted, as Wordsworth invited in his *Guide*, in the sky, as a cloud. Elsewhere in the 1820 volume that included "The Cloud," Shelley describes the bird in "To a Sky-Lark" as a sentient and active, albeit anthropomorphic, agent of creativity in how the sky-lark is "Like a Poet hidden / In the light of thought" (ll. 36-7). Still, however, the bird remains a "thou," and Shelley remains the "I."

[14] See, among many others, Robert Burns's "To a Mouse" (1785); William Blake's "The Lamb" (1789); Charlotte Smith's "To Spring" (1789); William Wordsworth's "The Thorn" (1798); Samuel Taylor Coleridge's "Frost at Midnight" (1798); George Gordon, Lord Byron's "Darkness" (1816); Percy Bysshe Shelley's "To a Sky-Lark" (1820); John Keats's "Ode to a Nightingale" (1819); John Clare's "The Nightingale's Nest" (1825-30); and Laetitia Elizabeth Landon's "The Snowdrop" (1829-35).

In “The Cloud,” the cloud inhabits the “I,” opening four of the six stanzas with the first-person pronoun, and using this pronoun throughout the poem in ways that dispel a reader’s notion that this is a cloud-like human speaking, even as the cloud is often anthropomorphized. Shelley affirms the cloud-ness of the speaker when he closes this opening stanza by affirming the speaker’s ability to “wield the flail of the lashing hail” (l. 9), “dissolve it in rain” (l. 11), and “pass in thunder” (l. 12). Still, Shelley imbues the cloud with anthropocentric characteristics. Would a cloud ‘wield’ a tool? Would a cloud ‘laugh’? Would a cloud, later in the poem, “sleep” (l. 16) or have a “wind-built tent” (l. 55) or a “banner” (l. 62)? On 15 August 1819, Shelley wrote to friend and fellow writer Leigh Hunt about his desire to divest himself of the singular self and become more plural and diffused—more cloud-like, even. He declares, “So much for self, […] *self*, that burr which will stick to one. I can’t get it off yet” (*Letters* 2:108-9). In this poem, Shelley becomes—or attempts to become—cloud, and in so doing, becomes one of the most porous and multiple *selves* in Romantic poetry. This speaker ranges throughout their body, from their “fleece-like floor” (l. 47) to their “skiey bowers” (l. 17) and upward, so that beyond their “tent’s thin roof” (l. 51) they themselves “hang like a roof” (l. 65). Shelley’s use of anthropomorphism and personification complicates a simple ecological reading of his poem to offer more queer ecological reverberations.

“The Cloud” as Relation

Rather than present a delineated consciousness, Shelley moves this cloud through a series of relations that disrupt ideas of static, independent *self*. Thus, the second stanza:

> I sift the snow on the mountains below,
> And their great pines groan aghast;
> And all the night ’tis my pillow white,
> While I sleep in the arms of the blast.
> Sublime on the towers of my skiey bowers,
> Lightning my pilot sits;

In a cavern under is fettered the thunder,
It struggles and howls at fits;
Over Earth and Ocean, with gentle motion,
This pilot is guiding me,
Lured by the love of the genii that move
In the depths of the purple sea;
Over the rills, and the crags, and the hills,
Over the lakes and the plains,
Wherever he dream, under mountain or stream,
The Spirit he loves remains;
And I all the while bask in Heaven's blue smile,
Whilst he is dissolving in rains. (ll. 13-30)

This cloud does not exist in isolation but in relation. From the first lines of the poem, where the cloud introduces themselves through how they relate to others, whether by bringing water to thirsty flowers (ll. 1-2) or shading the dreaming leaves (l. 3-4), through this stanza and onward, the cloud exists and finds identity through connection. They are embedded in ecological processes; they do not merely "sift the snow" but, rather, "sift the snow on the mountains below" (l. 13) which, further, influences the burden and mood of the "great pines" on those mountains (l. 14). Likewise, in the last lines of this stanza, the cloud revels "in Heaven's blue smile" (l. 29). Rather than see only two ecological beings in relation (e.g., the blue sky and the cloud), Shelley triangulates and multiples this relation. So, "he," the blue sky, "is dissolving in rains" (l. 30), with rain a manifestation of both the cloud-speaker and the "Ocean" (l. 21), "rills" (l. 25), "lakes" (l. 26), "stream" (l. 27), and the many other water-bodies invoked throughout this poem.

Playful and even childlike in their predominantly monosyllabic and disyllabic diction, this speaker also swerves across complex relations in an also-complex meter. The diction of "The Cloud," in its syllabic simplicity and vacillating meter, is unlike many of Shelley's other poems. "Lines Written Among the Eugeanean Hills" (1818) might be the closest companion to "The Cloud" in its extended meditation upon the skies, as well as contemporaneous in its date and location of composition. Yet, "Lines Written," even in its extended cloud description that reaches over fifteen lines in one prolific, unspooling sentence, is predominantly polysyllabic:

Through the dewy mist they soar
Like grey shades, till the eastern heaven
Bursts, and then, as clouds of even,
Flecked with fire and azure, lie
In the unfathomable sky,
So their plumes of purple grain,
Starred with drops of golden rain,
Gleam above the sunlight woods,
As in silent multitudes
On the morning's fitful gale
Through the broken mist they sail,
And the vapours cloven and gleaming
Follow down the dark steep streaming,
Till all is bright, and clear, and still,
Round the solitary hill. (ll. 75-89)

While just over half of the eighty-six words in this passage from "Lines Written" are monosyllabic, passages of similar length in "The Cloud" are up to ninety percent monosyllabic.[15] Likewise, while "Lines Written" tends to progress in steady seven- to nine-syllable lines of rhymed couplets, "The Cloud" shifts between longer (ten-or-more syllable) and shorter (five- to eight-syllable) lines, where the longer lines hold mid-line rhyme and the shorter lines rhyme with each other. Further, as King-Hele argues, "The Cloud" is a profusion of possible scansions across almost every stanza or other line grouping, and the first fifteen of the poem's alternate short lines hold at least thirteen different scansions (221). King-Hele links this metrical variability to the material variability of clouds; he argues that Shelley's variable line length serves to "match the varied grouping in bands of altocumulus" and his variable rhyme "reflects the cloud's precarious life" (221). *Cloud*, as both singular and plural, always exists in relation.

Yet, this cloud also seems to revel not only in relationship but in their power over their ecological relatives (and, at times, these relatives' power over them). In the second stanza, they are untroubled that their actions cause the pine trees to "groan aghast" (l. 14), the phrase itself a textured onomatopoeic evocation of the pines' anguished cries. As

[15] King-Hele finds, across the sixty words of lines 9-16, fifty monosyllabic (90%) and ten disyllabic (10%) words. In the second stanza of "The Cloud," a larger sample of 128 words (ll. 13-30), I found ninety-four monosyllabic words (73.4%), thirty-two disyllabic (25%), and only two holding three syllables (1.6%).

the trees are wracked with groans, the cloud-speaker closes the stanza's first rhyming pair (which opens with *aghast*) by noting how they unconcernedly "sleep in the arms of the blast" (l. 16). Later in this stanza, the cloud describes how they "bask in Heaven's blue smile" (l. 29) as they are guided "Over Earth and Ocean, with gentle motion" (l. 21). Yet, at least partly due to their in/actions, in another significant discrepancy of power between the cloud and other ecological bodies, "In a cavern under is fettered the thunder" (l. 19), and this chained prisoner "struggles and howls at fits" (l. 20). Michael Verderame (2017) describes the speaker of "The Cloud" as "boastful [...] claiming immense power over earth, ocean, and air" (92). Earlier, the cloud joyfully dissolves hail and plains with rain (l. 11) and laughs as they create thunder (l. 12), reveling in their sometimes destructive and sometimes nourishing power over others.

Relationship and Power in "The Cloud"

In contrast, Shelley's third and fourth stanzas turn from demonstrating the cloud's effect on phenomena nearer to the ground (and bounded within the earth's atmosphere) to, instead, emphasizing the cloud's relation and subordination to the sun and other planetary phenomena:

> The sanguine Sunrise, with his meteor eyes,
> And his burning plumes outspread,
> Leaps on the back of my sailing rack,
> When the morning star shines dead;
> As on the jag of a mountain crag,
> Which an earthquake rocks and swings,
> An eagle alit one moment may sit
> In the light of its golden wings.
> And when Sunset may breathe, from the lit Sea beneath,
> Its ardours of rest and of love,
> And the crimson pall of eve may fall
> From the depth of Heaven above,
>
> With wings folded I rest, on mine aëry nest,
> As still as a brooding dove.
> That orbed maiden with white fire laden
> Whom mortals call the Moon,
> Glides glimmering o'er my fleece-like floor,

By the midnight breezes strewn;
And wherever the beat of her unseen feet,
Which only the angels hear,
May have broken the woof, of my tent's thin roof,
The stars peep behind her, and peer;
And I laugh to see them whirl and flee,
Like a swarm of golden bees,
When I widen the rent in my wind-built tent,
Till the calm rivers, lakes, and seas,
Like strips of sky fallen through me on high,
Are each paved with the moon and these. (ll. 31-58)

Though Shelley's cloud has declared their power over earthbound phenomena, this third stanza follows the contingency of this power into where it fails or is queered into other relations. The sunrise, unlike other phenomena discussed, does not exist *under* the cloud. Rather, the sunrise "Leaps on the back of my sailing rack" (l. 33), mastering the high clouds like the "eagle alit" (l. 37) on a rocky mountain, who sits secure above the earth who "rocks and swings" (l. 36). Similes proliferate across these stanzas, and Shelley swerves from the expected Romantic simile of the poet as a bird—a simile used in his "To a Sky-Lark" and Keats's "Ode to a Nightingale"—to the sunrise as bird (and, several lines later, to cloud as bird). Rather than the golden, wind-riding, heaven-reaching eagle, however, the cloud is the "jag of the mountain crag" (l. 35), a fixed and, in visual and sonic texture, rougher body to be ridden and subdued by bodies like the sunrise.

Tilting sunrise to eagle and cloud to mountain, Shelley vertiginously shifts the image again—across the poem's only enjambment of stanzas, thus emphasizing the swoop and leap of relations—when the cloud now, at sunset, becomes the bird, "a brooding dove" (l. 44). Yet, this dove's "aëry nest" (l. 43) is not the "lit Sea beneath," where the "Sunset may breathe" (l. 39), nor the sun, but the one "Whom mortals call the Moon" (l. 46). Even as the cloud sits above the sunset upon their nest, upon the moon, the moon simultaneously "Glides glimmering o'er my fleece-like floor"(l. 47). The moon is below, among, and above the cloud; the moon is the nest, walks over the (nest's) floor, and, further, has turned floor into ceiling as they "have broken the woof, of my tent's thin

roof" (l. 51) with their "unseen feet" (l. 49). These slippery positionings make literal meteorological sense. Due to the interaction of air currents with temperature changes, morning clouds often appear toward the horizon and thus below the sunrise, growing over daytime hours across the lower, middle, and higher sky, while evening and nighttime clouds often seem to appear below or above the moon. When waiting for the moon to appear from behind a cloud, one might notice how, when the moon becomes visible so do the stars. Thus, through their "thin roof" (l. 51), the cloud watches the stars timidly "peep behind her [the moon], and peer" (l. 52) before, with another fragment of cloud crossing the sky, the stars then "whirl and flee" (l. 53).

As the fourth stanza continues, the cloud shifts toward a more active orientation; they "laugh" as the stars run away (l. 53), declaring the stars' large and bright bodies to be nothing more than "a swarm of golden bees" (l. 54). Meanwhile, they no longer wait to be acted upon by the sun or stars but instead "widen the rent in my wind-built tent" (l. 55) to become a porous and yet active body. Even as "strips of the sky [fall] through me on high" (l. 57), a remarkable description of a cloud's sensuous intangibility, they are yet able, through figurative language, to perform the tangible act of "pav[ing]" (l. 58) the "rivers, lakes, and seas" (l. 56) with "the moon and these [stars reflected in the water]" (l. 58). They exist below, through, and above; they become shimmeringly insubstantial and, at the same time, pave the also-fluctuating and permeable waters of the world.

Even as this cloud engages dualisms (e.g., active/passive, above/below, land/water, earth/sky), they exist within and through a porousness that complicates and queers these dualisms. The cloud is, within the space of a few lines, both as quiet as a nesting bird and able to rend themselves apart. They are above, below, and through the sun and moon, who are both, at various moments, above, below, and through the cloud. They pave water, an unpaveable surface, with reflection, an intangible material. Some scholars argue, like Verderame, that "Shelley's cloud lacks any agency of its own" (93),

and other scholars, like Harris, that "Shelley's dissolution of the self was also a magnificently expansive replication of the self" (252). A queer ecological reading of this poem, however, attends to the moments of paradox and friction, the moments where, as Alex Carr Johnson (2016) describes, "What queer can offer is the identity of *I am also*," where "I am also alive and dynamic and full of contradiction, paradox, irony" (313). Queer ecology, as Greta Gaard (1997) and Catriona Sandilands (2016), among other scholars, have written, acknowledges dualisms—and proceeds to queer them, to show how phenomena are not *either/or* but, more often, *both-and*. So much becomes vaporous in Shelley's poem; even as the cloud seems to dominate some phenomena, they are also dominated at times, and this construct of 'domination' is embedded within a larger weave of endlessly modifying relation.

Queering the Rainbow

Shelley's fifth stanza would seem to depict the cloud as reveling in their power over other beings, but at the same time, Shelley bends this power dynamic into a more slippery, relational weave through the delightfully queer image of the rainbow:

> I bind the Sun's throne with a burning zone
> And the Moon's with a girdle of pearl;
> The volcanos are dim and the stars reel and swim
> When the whirlwinds my banner unfurl.
> From cape to cape, with a bridge-like shape,
> Over a torrent sea,
> Sunbeam-proof, I hang like a roof—
> The mountains its columns be!
> The triumphal arch, through which I march
> With hurricane, fire, and snow,
> When the Powers of the Air, are chained to my chair,
> Is the million-coloured Bow;
> The sphere-fire above its soft colours wove
> While the moist Earth was laughing below. (ll. 59-72)

This stanza's opening lines could seem to show oppression or support, power or relation; the cloud has the agency and power to "bind" (l. 59) both Sun and Moon, but these bindings are a belt or sash for the sun and a jeweled girdle for the moon—gifts more of

reverence. The following lines do seem to watch, as Verderame writes in his incisive analysis of this stanza, "the cloud marches like a conquering army" (93). The cloud has a "banner" carried by the "whirlwinds" (l. 62), and the effect of this banner causes powerful beings like the volcanoes to "dim" and stars to "reel and swim" (l. 61). Mountains become mere "columns" (l. 66) for the "Sunbeam-proof [...] roof" of the cloud's body (l. 65). The cloud wishes to be a dove and a roof through simile, not metaphor, generating a distance from the desire and identity even while presenting a drive toward them. One could remain a cloud who feels *as if they were* a bird or roof. One could be, simultaneously, both cumulus changing to altocumulus and back again. Further, evoking Napoleon's Arc de Triomphe in word and sound, the cloud regally describes "The triumphal arch, through which I march" (l. 67), which subdues "hurricane, fire, and snow" (l. 68), and even "chain[s]" the "Powers of the Air" (l. 69).[16] And yet, it is hard to imagine a more different, even *more queer*, Arc de Triomphe from Napoleon's fixed stone shape than the shimmering, intangible rainbow.

So, re-reading the fifth stanza from a queer ecological perspective, the cloud might seek to dominate the mountains by using them as "columns" (l. 66) for their roof—or, or rather *and*, the cloud might affirm the relational nature of ecology by not existing in isolation but through essential support and relationship with other ecological beings. The cloud wishes to be a roof through simile, not metaphor, generating a distance from the desire and identity even while presenting a drive toward them. One could remain a cloud who feels *as if they were* a roof. One could be both, simultaneously, cumulus changing to stratocumulus and back again, lingering in the moment of *both-and*. Likewise, the cloud's "banner" (l. 62) carried by the whirlwinds might be a symbol of

[16] Napoleon's desired Arc de Triomphe in Paris began construction in 1806, was completed in 1836, and would have been discussed in newspapers and accounts available to the politically aware and active Shelley when writing this poem in 1820. This Arc is the most contemporaneous to the drafting of "The Cloud" but is only one in a long lineage of "triumphal arch[es]" with which Shelley likely was familiar.

power *and* might be a visual description of the winds' sensuous spray and toss of clouds and sea-surface into shared relation. That the cloud has "chained to my chair" the "Powers of the Air" (l. 69) seems a clear act of domination—but, similar to the earlier metaphor of paving water with reflection, chaining the air is a paradox and a literal impossibility that queers dualisms and challenges beliefs in power-over relations. bell hooks (2014) described "queer" as that which "has to invent and create and find a place to speak and to thrive and to live" (n.p.), and this cloud, in this poem, pushes readers to consider ecology—and relations, more broadly—as queer, as that which often requires paradox and the potential for possible impossibilities to find voice, agency, and life.

This stanza turns to the image of the rainbow, the "million-coloured Bow" (l. 70), as the cloud's possible-impossible and queer "triumphal arch" (l. 67). In this moment of the poem, Shelley affirms, along with writers like Charles Lamb and John Keats, the artistic beauty and mystery of the rainbow, in contrast to Isaac Newton's more material-scientific analysis. In 1819-20, as Shelley was imagining and then composing "The Cloud," Keats wrote of the scientific dissection of the rainbow in *Lamia*:

> [...] Do not all charms fly
> At the mere touch of cold philosophy?
> There was an awful rainbow once in heaven:
> We know her woof, her texture; she is given
> In the dull catalogue of common things.
> Philosophy will clip an Angel's wings,
> Conquer all mysteries by rule and line,
> Empty the haunted air, and gnomèd mine—
> Unweave a rainbow, as it erewhile made
> The tender-personed Lamia melt into a shade. (2:229-38)

Although scientific philosophy might seek to "Conquer all mysteries" (l. 235) and relegate them to "the dull catalogue of common things" (l. 233), Keats argues that the "cold" (l. 230) dismemberment of ecological and metaphysical wonder that would dare attempt to "Unweave a rainbow" (l. 236) is fatal to "all charms" (l. 229) and to Lamia—and, by extension, harmful to other writers, lovers, and beings. (We will return to the ecological necessity of wonder in the following chapter.)

In “The Cloud,” Shelley celebrates the “million” (l. 70) colors of the rainbow and its existence not as parseable parts but as “soft colours wove” (l. 71). King-Hele praises Shelley’s attention to the gradual color-transitions of a sky-housed rainbow, in contrast to the sharp color-edges of a prism-generated rainbow. The rainbow of the sky is more mysterious than the rainbow of the laboratory, and even this cloud acknowledges the impossibility of holding this rainbow. Rather, they move “through” the “triumphal arch” (l. 67). This rainbow may not be an arch of triumph for the cloud as an all-powerful being, but an arch of triumph for the affirmed existence of rainbows, even in a period of intense scientific study and cataloguing. In this way, the rainbow offers an affirmation for not passing *over* or looking *down* upon, but rather existing *with* and “through” (l. 67) sensuous mystery and relation.

“The Cloud” as Poetic-Meteorological Treatise

“The Cloud” occupies a complex space between imaginative encounter and scientific study. By 1820, when he wrote “The Cloud,” Shelley had read Howard’s *Essay*, as well as the writings of Erasmus Darwin, George Gregory, and other scientists, as evidenced in the reading lists included in his journals. Yet, Shelley has been both praised and critiqued by scholars for the height—or the lack—of his scientific awareness. Alfred North Whitehead (1926) celebrates Shelley’s attunement to scientific detail, writing that, if Shelley had “been born a hundred years later the twentieth century would have seen a Newton among chemists” (84). In contrast, F.R. Leavis (1936) laments Shelley’s “weak grasp upon the actual” as an “essential trait” of his work (206). After all, whereas Thompson praised “The Cloud” warmly in his 1889 review, he argues that “The Cloud” is “the most typically Shelleyan of all the poems” not because of its scientific accuracy, but rather because of its “child’s faculty of make-believe raised to the nth power” (39).

Shelley engages scientific detail and imaginative license side-by-side across his work. His earlier poem "Mont Blanc" (1816), written just thirty years after the first known ascent of the mountain and during a period of scientific and popular fascination with geology, considers Mont Blanc's geological life and activities. His mid-career poem "The Sensitive Plant" (1820) details the life and potential sentience of the *Mimosa* plant, and his final (and unfinished) poem "The Triumph of Life" (1822), discusses the essential role of death and decay in larger ecological life cycles. Even so, he does opt at times for loose interpretations of scientific theories and practice. Mont Blanc becomes merely a "naked countenance of earth" (l. 98) for the poet's eye and mind to bring into meaning (as seen, at times, in Hopkins's poetry, discussed further in Chapter 4). "The Sensitive Plant" and "The Triumph of Life," alike, require the vision of a female intellectual beauty, an "Eve in this Eden" (SP 2:2), to spark a consideration of ecological connectedness. After all, in his essay "On Life" (c. 1812-14), Shelley admits, "I confess that I am one of those who am unable to refuse my assent to the conclusions of those philosophers who assert that nothing exists but as it is perceived" (55). After an initial close affinity with materialism, Shelley finds this philosophy incomplete, and he reaches, in his essays and poetry, across art and science toward a blend of what may be sensed and, also, what may be perceived.

"The Cloud" demonstrates Shelley's blended scientific-literary affinity throughout, with a particular attention to scientific detail—as in the descriptions of cloud attributes which several critics link to specific cloud types. This poem affirms scientific verisimilitude also by detailing the "incessant circulation" of the water cycle—a concept, as F.H. Ludlam (1972) writes, that "had barely been formulated in Shelley's time" (508). Thus, the sixth and final stanza of the poem:

> I am the daughter of Earth and Water,
> And the nursling of the Sky;
> I pass through the pores of the ocean and shores;
> I change, but I cannot die—

For after the rain, when with never a stain
    The pavilion of Heaven is bare,
And the winds and sunbeams, with their convex gleams,
    Build up the blue dome of Air—
I silently laugh at my own cenotaph,
    And out of the caverns of rain,
Like a child from the womb, like a ghost from the tomb,
    I arise, and unbuild it again.— (ll. 73-84)

Shelley's similes cascade in the final stanza, joining with metaphors, in a cloud-like proliferation of identities. Opening with two striking metaphors, "I am the daughter of Earth and Water, / And the nursling of the sky" (ll. 73-74), the cloud at once expands and compresses their identity. King-Hele describes Shelley's stanza-opening metaphor as apt scientific description, for "Earth and Water are the parents if a dust particle acts as nucleus for the cloud droplets, or if the water molecules evaporated from land; and even if oceanic water vapour condenses on a salt particle, the salt was originally washed off the land" (224-5). Clouds are born from the friction and relation of land and liquid; clouds indeed "pass through the pores, of the ocean and shores" (l. 75), where they constantly "change" and yet "cannot die" (l. 76). Erasmus Darwin, in his remarkable poem *The Botanic Garden* (1791), wrote of "each nice pore of ocean, earth, and air" (l. 85). This cloud, in Shelley's poem, acknowledges the porous nature of all material, no matter how bounded it seems to be. Ocean, earth, and air alike are porous—and clouds, as both ancestors and descendants of these relations, are porous to the highest degree.

Shelley's assertion carries both scientific skill and religious implications. In declaring that this cloud not only "cannot die" (l. 76) but further, when seemingly dead and buried in "my own cenotaph" (l. 81), this cloud will "arise" (l. 84) and walk out of "the tomb" (l. 83), Shelley raises the metaphysical wonder of the water cycle and finds an ecological parallel to Christian stories of resurrection. In this metamorphosis, the cloud passes beyond tangible form, where they bear witness to and "silently laugh at my own cenotaph" (l. 81), the irony of a monument that does not contain a corpse, before a last—though not final—sequence of rapid evolution: "And out of the caverns of rain, / Like a

child from the womb, like a ghost from the tomb, / I arise, and unbuild it again" (ll. 82-84). At the end of the poem, the cloud compares themselves to a human—to a newborn child, and in the same breath, to a human-after-death—flickering between embodiments and spatiotemporal placements that leave a reader awash in vertigo.

Further, Shelley uses the unusual word "unbuild," rather than the more expected "destroy." Thus, he disrupts the linear trajectory of *build* into *destroy* in favor of a more recursive process. Building becomes unbuilding, and unbuilding could shift back into building, because to take apart—to *unbuild*—is still to make, to build. Words that seem opposites blur their boundaries and take on characteristics of each other. Shelley alludes to atmospheric refraction in the "sunbeams, with their convex gleams" (l. 79), a phenomenon he studied at Eton, as atmospheric refraction was discussed at length in Adam Walker's *A System of Familiar Philosophy* (1802), and Walker taught at Eton while Shelley was a student there. Shelley's word choice of *unbuild* creates a circular process, of *building-unbuilding-building-unbuilding*, that mirrors queer ecology's tendency toward fluidity and non-hierarchical patterns.

"The Cloud" exists with and through creative and scientific meditations, as well as with and through meteorological taxonomies, though numerous scholars have worked to catalogue Shelley's multivalent, proliferating speaker into discrete cloud types. Desmond King-Hele (1971), F.H. Ludlam (1972), J.E. Thornes (1984), and Richard Hamblyn (2001, 2008), while at times acknowledging other influences, claim that Shelley's "The Cloud" was influenced by and illustrates Howard's cloud taxonomy. Hamblyn (2001), for example, describes this poem as "a vivid poetic primer" (298) and "a direct and knowing tribute" (299) to Howard's cloud types. These meteorological literary critics link specific lines of Shelley's poem to specific types in Howard's taxonomy, with Thornes building on the initial proposals of King-Hele and Ludlam to find six of Howard's seven cloud types in Shelley's poem (see fig. 1-10).

Cirrus	That orbed maiden with white fire laden Whom mortals call the Moon, Glides glimmering o'er my fleece-like floor, By the midnight breezes strewn; (ll. 45-8)
Cirrocumulus	When I widen the rent in my wind-built tent, Till the calm rivers, lakes, and seas, Like strips of sky fallen through me on high, Are each paved with the moon and these. (ll. 55-8)
Cirrostratus	I bind the Sun's throne with a burning zone And the Moon's with a girdle of pearl; (ll. 59-60)
Cumulus	I bear light shade for the leaves when laid In their noon-day dreams. (ll. 3-4)
Cumulostratus	[no examples given]
Nimbus	I wield the flail of the lashing hail, And whiten the green plains under, And then again I dissolve it in rain, And laugh as I pass in thunder. (ll. 8-12)
Stratus	From my wings are shaken the dews that waken The sweet buds to every one, (ll. 5-6)

Figure 1-10. Howard's cloud types as, potentially, depicted in Shelley's "The Cloud" (1820).

These scholars make insightful arguments linking these lines with these cloud types, and it is quite possible (given Shelley's interest in science and reading of Howard's *Essay*) that such direct correlations exist.[17] My study, however, is more interested in noticing where cloud poetics overruns the bounds of taxonomic studies and instead swerves toward a more relational, recursive queer ecology. So, it is interesting that none of these scholars found lines relating to Howard's cumulo-stratus cloud type. The cumulo-stratus, discussed earlier, was the first cloud type to be revised: into the strato-cumulus, by Ludwig Kaemtz in 1840. Now, scientists recognize the stratocumulus as the

[17] These and other scholars also offer additional theories of influence. For example, Stella P. Revard (1978) argues that Shelley's inspiration rests more with his study of Greek literature and the poem's similarity to passages of Aristophanes' *Clouds*. Hamblyn (2001) suggests that Shelley was influenced also by the recent translation of the *Mégha Dúta* [*Cloud Messenger*], a fourth-century Sanskrit poem by the Hindu poet Kālidāsa, who some British Romantic poets referred to as 'the Shakespeare of India' (300).

most common cloud type worldwide—and yet, it does not appear in this otherwise (arguably) comprehensive primer to the clouds.

Further, minor and often asynchronous disagreements among these scholars exist. Whereas Thornes and Hamblyn (2008) agree that Shelley signifies the cirrocumulus cloud in lines 55-58, King-Hele suggests that these lines refer to the altocumulus cloud—who was not named by Howard, but instead by Émilien Renou in 1870, fifty years after this poem's publication. Likewise, King-Hele and Hamblyn argue that Shelley's poem makes specific reference to the cumulonimbus cloud (in lines 17-22 or in lines 8-12, respectively), though the cumulonimbus was unnamed as such until Philip Weilbach's naming in 1880. Ludlam, when discussing Shelley's description of a cumulonimbus-powered thunderstorm in "Ode to the West Wind," like King-Hele in his discussion of the exclusion of the cumulo-stratus in "The Cloud," argues for Shelley's greater astuteness in cloud observation and description. Ludlam remarks that "Shelley's description is unrivalled in English literature, even, until very recently, in scientific accounts," while in contrast, "Luke Howard's, published widely at about the same time, was rather vague and caused some confusion" (513). Writing about clouds in the genre of meteorological treatise offers different possibilities and expectations than writing about clouds in the formal genre of poetry; Howard's audiences likely sought different elements to achieve different goals than did Shelley's audiences.

Yet, both Howard's *Essay* and Shelley's "The Cloud" gather under the umbrella of *cloud poetics*, where figurative and literal language generates awareness of clouds and our relations with them. Through queer ecology, we notice how these examples of cloud poetics resist complete categorization but, rather, press on borders, overflow, open new possibilities, and become *both-and*. David Halperin (1995) describes "queer" as "a horizon of possibility whose precise extent and heterogenous scope cannot in principle be delimited in advance," but, rather, by existing in a queer space and/or as a queer

subject, one can "envision a variety of possibilities [...] for restructuring [...] the relations among power, truth, and desire" (62). "The Cloud," in this sense, is a very queer poem. In a different context, Graeme Stephens (2003) asks, when discussing "The Cloud" in the context of Howard's *Essay*, "How could any classification, which by its nature suggests permanence, capture a sense of endless mutability?" (443). Perhaps this line is the cloud speaking as nimbus, and/or as cumulonimbus, and/or as an unclassifiable being existing in a horizon of possibility. Perhaps this line is the cloud speaking as a being not yet named, or a being who has existed for so long that we have forgotten their name. Rarely, if ever, in queer ecology—and in ecological relations more broadly—does there need to be a single answer or a single relation. We could, as we will discuss in the following chapter, dwell with cloud poetics in an orientation of wonder.

Chapter 2 — An Embodied Ecology of Wonder

June among the Appalachian Mountains, and I lie on my back in the meadow at the top of the hill behind our house, where goldenrod threads these blue-green grasses. This morning, altocumulus undulatus stretch in equally spaced parallel rows of clouds that look like strands of fresh wool. How do clouds know to follow each other in straight lines across this expanse of sky? How do they, though they might be 15,000' above, feel close enough to touch? On my back, I look up, down on a fresh-plowed field. What vegetables might grow in such a field? Could a child, now rabbit-size, burrow into these furrows and find seeds? Could the ice crystals hidden in the clouds sprout a winter, here and now, as the sun moves overhead and I close my eyes?

December, years later, among the Rocky Mountains as a parade of distinct cumulus clouds emerges over these western foothills and bubbles over the town to the east. Then, the tufts of cumulus splinter at the edges, reaching toward each other. In what feels like minutes, the clouds above are now a thicker blanket of stratocumulus, multiple cumulus nestling into each other. A tip of vertigo and I could be watching humans assembling for a party, or the always surprising densification of separate travelers in a long line becoming a gathered mass on a train. East, south, west, north: stratocumulus. Without my knowing precisely when, this cumulus sky has turned into a stratocumulus sky. Now, the halo of where sun tracked along the southern sky disappears, as these stratocumulus deepen into stratus, into nimbus, and I now know the weather forecast I doubted this morning is correct. Snow is coming.

Wonder openly welcomes mysteries and their many possibilities, and wonder is often invoked by nineteenth-century writers when describing, interacting, and being with the clouds. Clouds are unlike many other ecological phenomena. They are visible yet almost always out of reach and, save in experiences of fog or mist, often unable to be touched. Through their seeming otherness, clouds' presence in poetry unsettles dominant preconceptions about human independence from the natural world, showing, instead, that we exist in a sensuous immersion in the natural world with whom we are related and embedded. Wonder dissolves the singular (human) self into an ecological community and grants all such community members (animal, plant, topographical, meteorological, and more) animate existence.

In poetics, and literature more broadly, wonder creates an entangled enchantment between ecologies, writers, texts, subjects and audiences. In wonder, writer, reader, text, and the communities invoked suspend preconceived notions to welcome relations and insights as if for the first time. John Sallis (1995) describes metaphysics as often relying on a separation between the intelligible (ideas, language) and the sensible (physical sensations, material world). Because this gap seems increasingly suspect, Sallis encourages us to "return, then, to a wonder placed at an opening from and within the sensible world" (259). Here, we could embody wonder by embodying the queer ecologies of clouds. We float "between heaven and earth, open to the wondrous shining of the rainbow" (259). In the resulting "doubling" of the intelligible, the sensible, and their connections, we would blossom into the sensible's "thickness, its spacing, its opening between earth and sky" (265). In wonder, we fall into the sky who falls back into us. We reorient ourselves to each other and connect in novel and collaborative ways.

Wonder in literature has been discussed, compared, and illustrated since Socrates and Aristotle in the third century BCE, but for nineteenth-century writers, the wide fascination with wonder began to emerge through Edmund Burke's *A Philosophical Inquiry into the Origin of Our Ideas of the Sublime and the Beautiful* (1757), which proposed a binary between *the beautiful*, a relative of wonder, and *the sublime*. The beautiful, to Burke, is experienced in relational sensations including pleasure, harmony, social bonds, interconnection, and love. In contrast, the sublime is experienced in power-based sensations including pain, terror, privation, and isolation. As a result, various versions of the Romantic sublime are often described as large and macroscopic, awe-inspiring, terrifying, and masculine; and these sublimes are often set or experienced in so-called *wilderness* areas depicted as unmastered by human civilization. For example, the sublime emerges in the open sea of Coleridge's *The Rime of the Ancient Mariner* (1798), the Alpine peaks of Percy Bysshe Shelley's "Mont Blanc" (1817), and the polar north of Mary Shelley's *Frankenstein* (1818), as well as, among many examples, the powerful storms at sea painted by Joseph Mallord William Turner, as in his 1842 oil painting *Snow Storm—Steam-Boat off a Harbour's Mouth* (see fig. 2-1).

Figure 2-1. *Snow Storm—Steam-Boat off a Harbour's Mouth*, Joseph Mallord William Turner, 1842, Tate Britain, London.

Thus, the Romantic sublime often results in feelings of separation and intellectual domination.

Burke's binary of the sublime and the beautiful shifted, in G.W.F. Hegel's *Aesthetics* (1835), to a binary between the sublime and wonder, categories elaborated by numerous poets and cloud observers. Nineteenth-century experiences of wonder, both preceding and following Hegel's publication, are often described as small and microscopic, everyday, surprising, and feminine; and encounters with wonder are set and experienced in a wide range of environmental milieus. Consider, for example, the emergence of wonder amid Anna Letitia Barbauld's telescopes in "A Summer Evening's Meditation" (1773) and hot-air balloons in "Washing-Day" (1797), and the sensuous cloud-inspired wonder felt in the pastoral mist of Keats's *Endymion* (1818) and the urban mists of his letters (1818).[18] Wonder, like the sublime, enters many nineteenth-century paintings as well, including John Crome's c. 1818-20 oil painting *Mousehold Heath, Norwich*, which emphasizes the details of small plants and the humans who attend to the particularities of this layered landscape (see fig. 2-2).

Figure 2-2. *Mousehold Heath, Norwich*, John Crome, c. 1818-20, Tate Britain, London.

Wonder often results in feelings of connection, reciprocity, playful uncertainty, and community. Thus, generally, we can paraphrase the Romantic sublime as *I am threatened, and I overcome*, and wonder as *I am connected, and we relate*.

[18] See Alexandra Paterson (2012) for an incisive analysis of mist in Keats's letters.

I acknowledge the troubling implications of a Romantic sublime-oriented perspective, which include the tendency to see ecological relatives as objects for use in one's personal transcendence and the frequent valuation of power over collaboration and community. Working in meteorological studies, I see how this field, as Katherine McKittrick (2019) describes geography, is influenced by "patriarchal, colonial, and imperial legacies," and, further, "the theoretical and methodological purpose of the discipline is twinned with exploration and conquest and European masculinist ways of knowing" (244). As mentioned in Chapter 1, British scientists' drive to name and categorize the clouds on an international scale can be seen as yet another project of domination and empire. In literary meteorological studies, then, the sublime becomes increasingly suspect as a way to advance notions of *nature* as an other to be conquered.

In this chapter, and throughout my work, I focus instead on the potential for wonder to offer more inclusive routes to meteorological, literary, and environmental scholarship. I agree with queer and feminist scholars that, as Patrick D. Murphy (2012) states, Burke's sublime "works against ecological values" (90) and that various versions of the sublime tend to celebrate "an egotistical illusion of mastery" (92). As a result, Greta Gaard (2017), one of the principal ecofeminist scholars, declares that "the sublime is antithetical to an ecofeminist environmental ethic" (107). After all, whereas wonder opens to a nonhierarchical multispecies community, the Romantic sublime often creates a hierarchy of lower environmental phenomena, who can only *be*, and higher human beings, who can *create* and *imagine*. The Romantic sublime can be essential to certain ecological experiences, particularly those of vast scale or imminent danger; it can be difficult at best to describe the power of a thunderstorm, for example, without reaching toward the language of the sublime. However, wonder offers a more inclusive and sustainable practice for readers, writers, and ecological relatives.

Recent scholarship on wonder in nineteenth-century literature, though limited, often highlights the ecological community that wonder can inspire. Theodore Watts-Dunton (1916) declared wonder the *zeitgeist* of the Romantic period, "a great revived stirring in the slumbering movement of the soul of man, after a long period of prosaic acceptance in all things, including literature and art" (237). Almost one hundred years later, Richard Holmes (2008) echoes Watts-Dunton's assertion, terming the Romantic period the "Age of Wonder"—largely due to the rise in scientific advances, lectures, and interdisciplinary applications (of which I count Luke Howard's meteorological lectures to the eclectic Askesian Society, combined and reprinted as his *Essay on the Modifications of Clouds*, as a prime example). Louise Economides (2016) argues, in particular, that the Romantic period's ethos revolved around what wonder—with its "welcoming of novelty, a tolerance for uncertainty and difference, and a celebration of freedom" (14)—offered writers and readers. More broadly, Glenn Willmott (2018) dwells on the ethical and political implications of wonder—which, he argues, is "born of both innate capacities and historical conditions" (10)—and urges us to study wonder amid entrenched Eurowestern traditions of disenchantment and rationalism.

Studying wonder, then, can facilitate greater ecological connection and environmentally sustainable ethics. Students of wonder are inclined to turn away from dominance and mastery and instead pursue relations characterized by humility, compassion, gentleness, and freedom; Katherine Dean Moore (2005) argues that "a sense of wonder impels us to act respectfully in the world" (271), and Cherokee Nation scholar Daniel Heath Justice (2018) finds that wonder serves to "remind us that other worlds exist; other realities abide alongside and within our own" (153). In this period of escalating environmental catastrophe, I turn to wonder largely to affirm, as these scholars have noted, that alternatives exist to dominant colonialist frameworks that present themselves as inevitable. "We can't possibly live otherwise until we first *imagine*

otherwise," Justice writes (156), and in this chapter, I offer the writing of Dorothy Wordsworth and John Clare, two individuals in the nineteenth-century who, in their poetic invocations of clouds, demonstrate how to *imagine otherwise*. Wordsworth[19] and Clare turn from depicting clouds and other environmental phenomena simply as *objects* to be used or controlled. Instead, these writers show their wonder-filled immersion in a dynamic multispecies community.

In this following pages, I consider the embodied ecology of wonder offered in the cloud poetics of Dorothy Wordsworth and John Clare, focusing on Wordsworth's *Grasmere and Alfoxden Journals* (G 1800-03; A 1798) and Clare's *Northborough Sonnets* (1832-37). Raised by various relatives after her mother's early death, Dorothy Wordsworth moved in with her brother in 1795 to a house in Racedown; then to Alfoxden, Somersetshire, where the Wordsworths moved to be closer to Samuel Taylor Coleridge; and to Grasmere, in the Lake District, when Coleridge lived nearby in Keswick. From 1798 to 1828, Wordsworth sporadically wrote journals, letters, and poems, but of particular interest are her Alfoxden Journal (1798), preserved in part from an 1897 transcript, and her Grasmere Journal (1800-03). In both journals, she demonstrates a remarkable attunement to precise, enchanted observation of these new ecologies with whom she, William Wordsworth, and Coleridge were living, writing, and finding wonders.

Following the success of his first poetry collection, *Poems Descriptive of Rural Life and Scenery* (1820), and the combined pressures of dwindling readership for subsequent collections and the needs of a growing family, laboring-class poet John Clare moved from his village of Helpston to the village of Northborough in 1832. In 1837, he

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[19] Throughout this chapter, I refer to Dorothy Wordsworth in short as "Wordsworth," just as I refer to John Clare as "Clare." In so doing, I queer the persistent diminishment of Wordsworth as lesser than her (admittedly more famous and prolific) brother in scholarship that refers to her only by her first name or full name. I give equal respect to her and Clare by following the same naming convention to both writers.

was removed from Northborough and institutionalized in the High Beech private asylum in Epping Forest. He largely remained institutionalized until his death in 1864. For a poet deeply attentive to his home ecologies, both moves (from Helpston and from Northborough) were traumatic. The *Northborough Sonnets* he generated from 1832 to 1837, after he left Helpston and until he was institutionalized, show his struggle to re-home himself in this new land. Across over forty years of writing, Clare composed 638 sonnets, including 230 sonnets in couplet-rhyme patterns (e.g., rhyming *aa bb cc dd ee ff gg*), according to Michael Falk (2017). Excluding sonnets published in *The Rural Muse* (1835) and in his manuscript *The Midsummer Cushion* (posthumously published 1990), Clare's *Northborough Sonnets* holds 213 sonnets—most of which are couplet-sonnets and, thus, comprise the majority of his life's work in this form. Northborough, despite being only a few miles from Clare's former home, was markedly different in landscape. Where Helpston was mostly rolling pasture and forest, Northborough was mostly flat and monotonous fenland. As the form of his environment changes, so does the form of his poetry, and Clare's sonnets reckon with the enclosure brought on by his move to Northborough, his attunement to microscopic observation of the natural world, and the effort to find wonder within profound destabilization.

Wordsworth's and Clare's works may seem an unlikely pairing: Wordsworth's journals are prose reflections and Clare's sonnets are formal poems. Yet, both works compile over two hundred brief lyric observations and fragmentary writings that, taken singly and in this pairing, demonstrate sustained meditations on place and environmental relations. Clare's sonnets are almost always untitled and often read as connected sequences, while Wordsworth's entries are titled by their date and often form brief sequences in their repetition of specific preoccupations across several entries. Ideas, phrases, and lines from Wordsworth's journals resurface in her poetry (in addition to the poems of William Wordsworth and Samuel Taylor Coleridge), and characters and

preoccupations in Clare's poetry resurface in and/or echo similar themes in his natural history prose writings. Further, both Wordsworth and Clare describe the embodied experience of existing in particular ecological milieus; it is no coincidence that their work is now known to us through the place(s) where they resided—Grasmere, Alfoxden, Northborough. Likewise, also, both writers meditate on the role of the poet—and the clouds—in mediating these ecological relationships, making them a generative pair to bring into dialogue. Wordsworth's journals and Clare's sonnets engage and question both wonder and the sublime. Together, Wordsworth and Clare show how cloud poetics often turns away from individualist experiences of the sublime and opts instead for a reorienting, relational, queer ecology of wonder.

To Wander, and To Wonder

Wonder facilitates a relationship with the environment, and with all ecological relatives, that embraces *wandering*—a movement away from individuality, ascent, and achievement and toward communal, horizontal relationship and reciprocity. Instead of answers, we dwell in questions; instead of clarity, we embrace mystery and uncertainty. We wonder/wander amid the smaller details and the quietly marvelous, as do Wordsworth and Clare in their cloud poetics.

On 24 February 1798, Wordsworth describes an immersive ecology of specific embodied detail that queers more expected notions of linear spacetime and human independence toward the interrelation of space, time, and bodies large and small:

> The Welsh hills capped by a huge range of tumultuous white clouds. The sea, spotted with white, of a bluish grey in general, and streaked with darker lines. The near shores clear; scattered farm houses, half-concealed by green mossy orchards, fresh straw lying at the doors; hay-stacks in the fields. Brown fallows, the springing wheat, like a shade of green over the brown earth, and the choice meadow plots, full of sheep and lambs, of a soft and vivid green; a few wreaths of blue smoke, spreading along the ground; the oaks and beeches in the hedges retaining their yellow leaves; the distant prospect on the land side, islanded with sunshine; the sea, like a basin full to the margin; the fresh-ploughed fields dark; the turnips of a lively rough green. (147)

Throughout these descriptive fragmented sentences, Wordsworth invites readers to wander with her from the clouds overhead to the turnips below, and amid all the sensory details that comprise this complex ecosystem in which she is enfolded. Luce Irigaray (1984) describes wonder as essential to an ethical way of being in and of the world, for wonder offers an "*excess*" that resists mastering and complete knowledge (or complete interpretation) and, instead, offers "becoming as a place that permits union and/through resistance to assimilation or reduction to sameness" (74). In this journal entry, Wordsworth meticulously attends to the details of each being noticed and described—wondering at these different bodies in space and time.

Wordsworth opens her entry with the largest bodies of this ecosystem (the hills, clouds, and sea) and closes with the smallest bodies (the turnips), but she does not follow a linear ordering from large to small, disorienting the reader instead through a cascade of bodies in various sizes. One witnesses the sea in the second sentence as a body in color and motion: "spotted with white, of a bluish grey in general, and streaked with darker lines" (147). Spotted and streaked, the sea resembles a reptile or animal, moving their vast body beside and through the also "huge" clouds (likely *cumulus congestus*, or discrete, billowing white clouds taller than they are wide). Wordsworth then swerves, vertiginously, from these large bodies to the often-increasingly smaller bodies of "shores," "farm houses," and "orchards," lingering on the single strands of "fresh straw lying at the doors" before shifting again, larger to the "hay-stacks," smaller to the "lambs," wheeling through different beings and relations in each phrase.

These phrases, like many lines of Clare's couplet-sonnets, stack potentially discrete images into sentences, and in doing so, create depth, retain the individuality of the images, and emphasize the relationship between these various bodies and processes. It is not random, or just to fill out the sentence, that Wordsworth includes the "fresh straw" or the "hay-stacks." Both serve to make a home for the human families in their

"farm houses" and for the families of "sheep and lambs" ranging across the "choice meadow plots." And, further, one cherishes the lively "soft and vivid green" of these meadows more from witnessing, but a few phrases earlier, the "brown fallows" and the "brown earth." Far from discrete, these phrases are interdependent, building with each other a thriving ecosystem.

Wordsworth's wandering descriptions also encourage one to see connections between seemingly disparate bodies, reinforcing the wheel of this ecosystem throughout space. Just as the sea, in her second sentence, was "bluish grey," moving with and folded into the lines of the hills and clouds, so too does this in-land field curve from brown and green into "a few wreaths of blue smoke, spreading along the ground." Such smoke could be the dissipating tendrils of the stratus cloud, when larger bodies of fog begin to break up and scatter, often as the day grows warmer. Poetically and meteorologically, the blue bodies of the sea and smoke conjoin; Wordsworth likely describes, in her "wreaths of blue smoke," the dispersal of advection fog, a form of stratus known also as sea fog and formed, often in spring or early summer, when air moves from a warmer area (over large bodies of water) to a cooler area (over land), generating fog when the air cools. The "huge range of tumultuous white clouds" in Wordsworth's first sentence are far from the only cloud-bodies moving through this journal entry.

The movements of these cloud-bodies also serve to disorient readers in time, pushing them to wonder and to wander in this meticulously described place that bubbles across multiple potential points in time. Wordsworth's verb tense shifts across her entry, from the past tense opening of the "hills capped" and the "sea, spotted [...] and streaked," to the present tense center of her entry, with the "fresh straw lying" and "blue smoke, spreading." She omits verbs in the final three phrases of her sentence, offering rich description without confining the detail or ecology in only one tense or time: "the sea, like a basin full to the margin; the fresh-ploughed fields dark; the turnips of a lively

rough green." *Are* the fields dark, *were* they dark, or *will they be* dark? Perhaps yes, to all. In the immediacy of wonder, and in the proliferating queer ecology of clouds and environmental processes, linear time can seem incomplete and artificial.

Thus, here, in late February, Wordsworth describes images that one might initially associate with winter ("brown fallows"), spring ("sheep and lambs," "a soft and vivid green," "fresh-ploughed fields"), summer ("green mossy orchards"), and fall ("hay-stacks in the fields," "fresh straw," "yellow leaves"). Yet, these images could correspond to late February, for this season is when sheep begin their lambing season, and some regions witness the long-awaited bloom from brown into green. It would be feasible—and would draw an astute observer's gaze—to see, months after their first turning to gold, some trees even now on the edge of spring still "retaining their yellow leaves." Wordsworth attends to the small seasonal details accumulated through closely being with and in a particular place. Rather than describe the scene in broad, even expected, strokes, where February might have only snow, rain, darkness, and cold, reaffirming the discrete point in time known as "February," Wordsworth queers such ideas and presents images that question the notion of any singular point in time. Like the clouds moving overhead and along the ground, Wordsworth's gaze collapses traditional boundaries of space, time, and body to offer a generative, interrelated ecosystem always in motion.

Similarly, in "The cloudy morning brought a pleasant day," Clare generates a slippage of time, place, and perception, a queer disorientation from the known into wonder:

> The cloudy morning brought a pleasant day
> & soon the busy mist was all away
> When first I wandered out & chanced to see
> A wood bine twining round a stoven tree
> That ventured up & formed a busy at top
> & bended leaning till it met a prop
> & overhung with leaves so thick a shade
> You couldnt see the nest the black bird made
> Who fluttered over my head as if from boys
> & soon her partner answered to the noise

The path went closely bye but seldom prest
By passer bye who never saw the nest
The old birds sat & sung in safety sure
& the young brood pin feathered lay secure (ll. 1-14)

Over these fourteen lines, Clare's poet-speaker invites readers to walk with him into a manifold of impressions marked by gaps of time, dis- and re-locations of place, and a shifting horizon of perception. Clare's lack of punctuation, here and across other Northborough sonnets, encourage a perception of non-hierarchical assemblages. For, as Willmott writes, "To wonder is to ask; to wonder at is to wonder about. What is it? How could that be? Why does it come and go like a strange visitor?" (25). In this sonnet, Clare invites us to ask these questions alongside him.

If the standard rhyme scheme of the sonnet helps readers manage a stable sense of time, readers then would expect a couplet rhyme to close the final two lines of the poem. Clare, rather, uses couplet rhymes for the full duration of this poem, propelling readers into a giddy, repeated closing-and-opening that leaves readers in a state of continued openness even after the seventh and final couplet rhyme. Time is also questionable in this poem's content, as in Wordsworth's entry. Clare, like Wordsworth, begins in past tense, where the "cloudy morning brought a pleasant day" (l. 1). It follows, sequentially, that this pleasant day occurs after "the busy mist was all away" (l. 2) and after the poet-speaker "wandered out" into this now-sunny environment (l. 3). However, this poem's temporality begins to swerve soon after. The woodbine occupies both present and past tense, as the plant both is "twining" (l. 4) and has "ventured" (l. 5). Likewise, Clare describes the "black bird" (l. 8) as both overhead in flight and invisible in the nest. When are we, and who are we watching in a given moment? And further, where are we? Through wonder, we question notions of time, place, and positionality, unsettling conventional ideas of linear human independence or exceptionalism in favor of mutual, embedded relations. To return to Irigaray's description, wonder enables one to find "union" even as, paradoxically, one does so by resisting flattening ideas of "sameness"

(74). In Clare's sonnet, as in Wordsworth's entry, wonder opens a means of relating with the world that affirms connection and honors differences. We, and our ecological relatives, *are*, and *were*, and *will be*.

Like its depiction of time, Clare's sonnet also begins more conventionally in place. The poet-speaker moves from inside (ll. 1-2) to outside (ll. 3-14), but this *outside* is also queered. As the clouds obscure the details of the landscape in the beginning of the poem, so do the woodbine and surrounding environment obscure the exact placement of this poet-speaker. The woodbine, or common honeysuckle, climbs from a "stoven tree" (l. 4), or a tree reduced to a stump, upward until connecting with a "prop" (l. 6) that allows enough growth to fully conceal a bird's nest. The speaker writes from the perspective of one underneath the growth—he "couldnt see the nest" (l. 8) though the bird "fluttered over my head" (l. 9). Yet, the one who cannot see the nest is "you" (l. 8)—the only second-person character across the poem. In addition to inhabiting the first- and second-person characters, Clare's poet-speaker also identifies with the third-person experience of the "passer bye who never saw the nest" (l. 12). Though this (other) person does not take the path close to the growth, let alone come closer to look into the leaves, in the poem, Clare's invocation of them could serve to make the "passer bye" (l. 12) of the reader notice these striking environmental details and, in so doing, attend and connect more closely to this milieu.

This character's—all characters'—perceptive abilities are in flux throughout the poem. He "couldnt see the nest" (l. 8), yet he knows the young birds are "pin feathered" (l. 14). He collapses species borders to generate a perpetually open, wondering relationship by repeating words and using rhyme or near-rhyme. He both "chanced to see" (l. 3), "couldnt see" (l. 8), and "never saw" (l. 12). Clare describes the mist, the last remnants of the clouds, with the adjective "busy" (l. 2); and three lines later, the climbing woodbine creates "a busy" (l. 5) to support the plant while climbing toward the eventual

"prop" (l. 6). The path and the (human) traveler resonate in sonic identity, also, for one is a "path went […] bye" (l. 11) and the other a "passer bye" (l. 12). Path and traveler revolve together, "prest" in the close, encircling relation of the rhyme for this couplet: "prest" / "nest" (ll. 11-12). Perhaps the clouds never thoroughly went "all away" (l. 1). Perhaps the clouds open a field of reorienting connection in which Clare "wandered" (l. 3) and *wondered*, for, as Economides opens her book, "To wonder is to wander" (1). With these reorientations in time, place, and perception, and through the tangible spiral of the seven ampersands in this fourteen-line poem—five of which begin lines and, thus, immediately disorient and queer readers away preconceptions—Clare invites us to wander, and to wonder, with him through this environment.

Childlike Wonder (and the Mature Sublime)

Still, in nineteenth-century scholarship, wonder often receives less attention than its arguably grander counterpart, the sublime. Sometimes, critics conflate wonder and the sublime, particularly around the term "awe," often deployed in ways more aligned with the fear- or terror-generating attributes of the sublime.[20] Often, in these critics' work, wonder is subsumed under the umbrella of the sublime or is diminished in its association with daily experience—albeit somewhat elevated or freshened. The sublime, on the other hand, awaits one on an Alpine summit, an open boat in a storm, or another transcendental (and often life-threatening) experience. If one can witness a gentle shower or a hurricane in the safety of the written word, the hurricane seems to offer a more thrilling, memorable experience.

[20] For examples of this conflation, see, among other scholars, Christopher Hitt's (1999) "ecological sublime," Lee Rozelle's (2006) "ecosublime," and Elena V. Haltrin-Khalturina's (2018) "natural sublime." All of these varieties reinterpret the sublime to show the concept as more capacious than Burke suggested, but they still tend to uphold the sublime in its anthropomorphic, alienating, or individualist tendencies.

Both Wordsworth and Clare invoked the sublime at times in their writing, as this way of relating *to* (and perhaps not always *with*) the world can be a relevant, useful means of sharing certain modes of experience. On 18 March 1802, Wordsworth is thrilled by "a Mountain Mass of Black Clouds," from which the moon emerged as she climbed the hill known as "Moss" (81). On seeing the moon, she exclaims, "O the unutterable darkness of the sky & the Earth below the Moon! & the glorious brightness of the moon itself!" The vast scale of the sky, earth, and moon, and the threat of danger presented by the storm clouds (possibly a form of cumulonimbus, the thunderclouds who can grow to over fifty thousand feet in height) sparks fear, awe, and "many exquisite feelings" within Wordsworth. As she watches a small house on an island far below her, surrounded by "the dark & lofty hills" and the looming clouds, she declares, "'That must needs be a holy place,'" and observing this scene "made me more than half a poet." Confronted by the power and scale of these natural elements, particularly when contrasted with the smallness of the house below (and of her own body, on Moss), Wordsworth experiences the religious terror and awe of Burke's sublime, similar to the "dread and awe" discussed by William Wordsworth in "The Sublime and the Beautiful" (1811-12, *Prose* 2:352). When confronted with experiences of the sublime, one often turns toward religious consolation (that this is a "holy place") and/or intellectual consolation (that these experiences make one "more than half a poet").

Likewise, in "Description of a Thunder-Storm," published in his first collection, *Poems Descriptive of Rural Life and Scenery* (1820), Clare also uses threatening clouds to lead readers into an experience of the sublime in an antagonistic environment, which is then negotiated through human religion and intellect. Opening, "Slow boiling up, on the horizon's brim, / Huge clouds arise, mountainous, dark and grim" (ll. 1-2), Clare describes the approaching thunderstorm not through his more frequent metaphors of love, connection, and relationship but instead through metaphors of religious and

military terror and war. The clouds become "the cannon's mouth" (l. 6) from which "threatened vengeance hums" (l. 8) and "rumbling armies" (l. 42) emerge. Far from seeking connection with this ecology, cattle, birds, and humans "hid[e] in fear from the dread boding wrath" (l. 24) of "that almighty Power" (l. 26) that brings "dread" (l. 19) and "doom" (l. 27), and even "the sun drops sinking in its bulging tomb" (l. 39). The thunderstorm climaxes in "an awe-struck monument of hope and fear" (l. 46), combined with "terror" (ll. 47, 54), which pushes one to "trembl[e] at God's majesty" (l. 62) and, at last, to emerge with "a murmur of thanksgiving, mix'd with fear" (l. 70).

The sublime, in Wordsworth's entry and Clare's poem, as well as in numerous other sublime-oriented works of the period, often pushes one toward experiencing fear and terror, interpreting the natural world as hostile, and turning to religious or intellectual consolation to safely master the situation. In a draft of an April 1831 letter to his publisher John Taylor, Clare writes, "what other people often bring forward as speciments of the sublime appear to me nothing more than a series of bomb bursting images taggd together by big sounding words to represent shadows or creations of the terrible but having no more effect on the mind as terrible then the unmeaning rant of a maniac" (*Letters* 539). Emphasizing the disconnection between sublime images and actual environments or relations, Clare prefigures Gaard's critique of the sublime as a "celebration of spectacle over engagement" and the repurposing of "warfare as amusement" (76). Burke's sublime, as Gaard argues, is "incompatible" with ecological feminism and other approaches that highlight interconnection, relationship, and sustainability (76). Yet, the sublime importantly offers ways of perceiving and articulating experiences that might often be otherwise unspeakable. It is understandable why writers including Wordsworth and Clare would turn to Burke's sublime to bring experiences of dizzying heights, threatening clouds, and dramatic thunderstorms into language. Yet, an approach that emphasizes ecological animacy and relationship is

rightfully wary of the sublime. In addition to reinforcing an orientation toward ecological mastery, the sublime also supports an intellectual ascent toward individual mastery—a paradigm that shapes Eurowestern academia.

Not all Eurowestern scholars support an orientation toward wonder, and several scholars argue instead that wonder is a preliminary stage of one's development on the way to achieving the sublime. William Wordsworth writes that "blank and stupid wonder" is "one of the most oppressive of sensations" (*Prose* 2:359). Likewise, Hegel argues that the sublime goes beyond wonder (much as, he argued, Romantic art goes beyond symbolic art) to achieve a self-conscious and self-reinforcing depiction of natural phenomena that, in turn, generates spiritual significance. Two hundred years before Wordsworth and Clare, in "Of the Advancement of Learning" (1605), Francis Bacon dismisses wonder as a sign of one's "broken knowledge" (71). Two hundred years after Wordsworth and Clare, Erica McAlpine (2011) diminishes the importance and skill of Clare's sonnets due to his "wonder that perhaps stops just short of knowledge or 'wisdom'" (94), and Jonathan Bate (2000) admires Clare's sonnets on birds' nests, perhaps somewhat condescendingly, for their "child-like wonder" (158). For generations, as Rita Felski (2008) notes, Eurowestern studies often minimize "enchantment," a term numerous scholars use as a synonym for wonder, as "the antithesis and enemy of criticism" (56).[21] Wonder, for these writers and scholars, is a child's tool—whether wielded by critic or poet.

These critics would argue that, as a child's tool, wonder would be of both limited duration and of limited use in the ascent toward intellectualism and independence. It can be hard to sustain open, receptive, reciprocal wonder in a sociopolitical climate that champions mastery, knowledge, and independence. William Blake, for example,

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[21] See in particular Glenn Willmott (2018), who works with wonder as enchantment across his full book, but for more passing correlations of the terms, see, among others, Jane Bennett (2001), Alan Dyer (2007), Louise Economides (2016), Kerri Andrews (2021), and Stine Krøijer and Cecilie Rubow (2022).

contrasted a childlike wonder and an adult tendency toward the sublime through the contrast of his *Songs of Innocence and of Experience* (1794). William Wordsworth, also, often invokes wonder in his child characters, but his adults often turn to sublimity as compensation, in place of the open-eyed wonder to which they no longer have access. In the earlier books of both *The Prelude* (1805) and *The Excursion* (1814), his poet-speakers dwell close to the ground, embedded in receptive, sensuous ecological wonder. However, in the final books of both *The Prelude* and *The Excursion*, his poet-speakers move to the tops of mountains to gain illumination and knowledge by being physically and intellectually *over* other beings. In *The Prelude*, the poet-speaker climbs Mount Snowdon to receive "The perfect image of a mighty mind, / Of one that feeds upon infinity" (13.69-70), one that is "vast in its own being—above all" (13.73), and one that demonstrated "With circumstance most awful and sublime: / That domination" (13.76-77). Over thirty years after writing the above passage, William Wordsworth again makes the goal of achieving intellectual and physical mastery over the environment through the sublime explicit in "Musings Near Aquapendente. April 1837," when he speaks of climbing as a means for "Obtaining ampler boon, at every step / Of visual sovereignty" (ll. 39-40). Whereas this version of the sublime is often presented as a linear ascension, wonder is often an embedded spiral.

Imagine returning to your perception of the world as it may have been when you were younger, when you felt that summer would last forever, because winter, that fraction of a year a lifetime ago that now five or ten years ago would be, was fainter than memory. Then, you might have found more to study and marvel at now than you ever could before nightfall. Adulthood, then, might be a regression for some of us, where we have closed the possibilities of this wide-eyed communion with the world around us through deciding *what is*, declaring how the world and ourselves *must be*. Adulthood can limit us by enacting what writer and philosopher Aldous Huxley (1954) terms the

"reducing valve of the brain," where we surrender continual fascination with the marvelous for "a measly trickle of the kind of consciousness which will help us to stay alive" (23). We exchange the lush diversity of the ecologies around us, and our wonder, for the linear taxonomy that supports and augments our sense of independent, bounded self. Thus, the child-like can be an attunement where everything, no matter how everyday or mundane some might term it, opens a field of enchantment and wonder.

Dorothy Wordsworth, in an 02 June 1802 journal entry, enfolds her perception in a state of wonder through an openness to recursive imagination that may seem childlike —but this child-resemblance affords not limitations, but rather opportunities for connection. She writes:

> The clouds of the western sky reflected a saffron light upon the upper end of the lake—all was still—We went to look at Rydale. There was an alpine fire-like red upon the tops of the mountains. This was gone when we came in view of the Lake. But we saw the Lake in a new & most beautiful point of view between two little rocks, & behind a small ridge that had concealed it from us.—This White Moss a place made for all kinds of beautiful works of art & nature, woods & valleys, fairy valleys & fairy Tairns, miniature mountains, alps above alps. Little John Dawsom came past us from the woods with a huge stick over his shoulder. (104)

Moving from the "clouds of the western sky" billowing above to the miniature panorama of moss between "two little rocks, & behind a small ridge," and layering both imagined and observed details upon details, Wordsworth spirals an enchanted ecology and invites the reader to observe and marvel alongside her. Her diction uses smaller words to describe the details of this smaller ecology; her two longest words in terms of syllable count, "beautiful" and "miniature," stress charm and wonder, not intellectual mastery or domination. She swerves, like the clouds, from naturalist observation of the light as "saffron" and "alpine fire-like red" to vivid imagination of the moss as holding "fairy valleys & fairy Tairns," even "alps upon alps." In this entry, Wordsworth offers ecological wonder that whirls and blends "art & nature," these two terms physically conjoined with the queer spiral of the ampersand. And, in the final sentence of the entry, a child appears from within this magical environment, and Wordsworth draws attention to his smallness

as “Little John Dawsom” carrying “a huge stick.” Yet, we are not positioned as larger than or above this child. We too have been immersed in the “small” and the “miniature,” potentially on our hands and knees to see the “miniature mountains” nestled in a small patch of moss. Through the childlike openness to marveling and mystery, Wordsworth offers a space for nonhierarchical, sensuous relationship that facilitates not mastery but, rather, being-with.

After all, we are never autonomous. We are always embedded within an ecological network of relations. Wonder accentuates this network and celebrates “beauty’s pleasurable affirmation of communal ties,” as Economides writes (36), while the sublime tends to focus on one’s effort to achieve independence from others and, that achieved, dominance over others. Wonder is sensuous, relational, and responsive to relationship, making wonder a compelling ecological orientation. Andreas Weber (2014) describes ecology as “an interconnected system of reciprocal inspiration, dependency, penetration, and the persistent search for freedom” (7). In a state of wonder, we celebrate this interconnection, much as a child marvels that the sky houses this cloud who houses rain who nourishes the grasses who tickle and pad their own bare feet playing in the falling rain. “There is no life without contact,” Weber writes (16). While adults are often more successful at pretending we are self-contained islands, others of us (and especially children) acknowledge the need for contact across all senses, from dancing in that rain to burying their faces in flowers, a dog’s fur, a warm embrace.

Embodying Wonder

We see such an embodied ecology of wonder in many of Clare’s *Northborough Sonnets*, including “The wild duck startles like a sudden thought.” Clare writes:

> The wild duck startles like a sudden thought
> & heron slow as if it might be caught
> The flopping crows on weary wing go bye
> & grey beard jackdaws noising as they flye

The crowds of starnels wiz & hurry bye
& darken like a cloud the evening sky
The larks like thunder rise & suthy round
Then drop & nestle in the stubble ground
The wild swan hurrys high & noises loud
With white necks peering to the evening cloud
The weary rooks to distant woods are gone
With length of tail the magpie winnows on
To neighbouring tree & leaves the distant crow
While small birds nestle in the hedge below (ll. 1-14)

Here, Clare emphasizes wonder's embodied, multispecies connection. He declines to use the first-person pronoun and instead offers a whirling manifold of ecological consciousnesses—and primarily those of birds, who can sometimes fly through clouds and/or be obscured by them. In fourteen lines, he invokes the activities and voices of at least ten species of birds, all of whom are surrounded by (and become) the queer ecological network of a cloud. Clare queers spatiality through the multitude of bird sounds and the permeable boundaries between species, where the birds' calls sound like thunder—and the birds themselves transform into clouds and back again. This cloud blooms through the center of Clare's poem, first appearing obliquely through simile, as the birds (and poet-speaker) are "like a cloud" (l. 6), then appearing explicitly as "the evening cloud" (l. 10). In the space of four lines, the birds and poet-speaker become cloud and look at cloud, queering the edges of species and sentience.

Further, this couplet-sonnet uses the same rhyme across multiple couplets, enacting the overflowing ecological profusion seen in the content of this poem. Clare rhymes "bye" / "flye" (ll. 3-4) with the following couplet, in part by repeating "bye" in this new couplet of "bye" / "sky" (ll. 5-6). The first instance of "cloud" in this sixth line foreshadows the upcoming two-couplet rhyme, with "round" / "ground" (ll. 7-8) leading into the following couplet of "loud" / "cloud" (ll. 9-10), where the "high […] loud" sounds of the swan (l. 9) develop, in image, sound, and language into the "white […] evening cloud" (l. 10). The bird becomes the cloud, and the loud-ness grows into a cloud. Likewise, in the penultimate line, Clare's poet-speaker extends the ecological possibilities

of “leaves” (l. 13) to offer a phrase that could mean (a) the magpie travels away from the crow, (b) the crow nestles into this tree’s leaves, or, though unlikely, (c) there is a magpie, there is a tree with leaves, and there is a crow, all acting independently.

In the first seven lines of this sonnet, Clare offers four similes (l. 1, 2, 6, 7), showing how one species is *like* another, as when the starnels “darken like a cloud” (l. 6) or the “larks like thunder rise” (l. 7). These similes draw the reader's attention to surprising equivalencies in a more nonhierarchical way than permitted by metaphor. Whereas a metaphor asserts that one (leading) item grasps and consumes the identity of another (subsequent) item, a simile allows both entities to dwell together in a shifting, destabilized field of meaning. Clare does not assert that the larks *are* thunder, where, in this metaphor, thunder would only exist as a means to describe the more important being at hand. Rather, Clare offers a simile, proposing that the larks *[are] like* thunder. Here, the larks both are and are not thunder, just as thunder is and is not a gathering of larks. Neither being is privileged over the other in the simile’s back-and-forth, and Clare’s use of simile holds the capacity for simultaneous difference and sameness open; if the larks *are* thunder, these bodies’ identities are subsumed into sameness, but as the larks *[are] like* thunder, they are at once the same and distinct. The sonnet's final four lines hold neither simile nor metaphor, showing how Clare's poet-speaker attends even more closely to the ecological network at hand, and its manifold wonders, without the need to intellectualize, however respectfully and sensuously, whom he finds there.

Likewise, Wordsworth also offers similes, equivalencies, and multispecies connection in the embodied ecology of wonder of her 31 January 1802 journal entry, which, like Clare’s poem, delights in gentle disorientations and the quietly marvelous:

> We [William Wordsworth and Dorothy Wordsworth] amused ourselves for a long time in watching the Breezes some as if they came from the bottom of the lake spread in a circle, brushing along the surface of the water, & growing more delicate, as it were thinner & of a *paler* colour till they died away—others spread out like a peacocks tail, & some went right forward this way & that in all

> directions. The lake was still where these breezes were not, but they made it all alive. (61)

Here, while Wordsworth unlike Clare uses the first-person pronoun, like Clare she foregrounds the activities of multiple bodies—including the breeze, lake, and flower, three ecological relatives many readers in nineteenth-century England would have argued were less likely than Clare's birds to be sentient or even animate. However, Wordsworth generates a textured, animate community through her descriptions of the breezes as reorienting and queering linear space. These breezes are "brushing" and "growing" as they "spread" and "died." They prefer spiral to linear trajectories in space and in species. They move "in all directions" and they awaken the lake, this earth-touching pool of past and potential cloud, from "still" to "all alive." These breezes, and the clouds and other ecological bodies they touch and influence, animate the scene Wordsworth observes.

Wordsworth also uses similes throughout this passage to reinforce nonhierarchical relations between these various ecological relatives. The sensuous meeting of the breezes on the surface of the lake creates a shape "like a peacocks tail." Neither the breeze nor the lake *is* a peacock's tail, literally, but through simile where these bodies *[are] like*, the breeze and the lake are and are not a peacock's tail, just as a peacock's tail is and is not the interplay of the breeze on the lake, a destabilized field of meaning where wind, water, and bird coexist equally. Likewise, in another simile, Wordsworth attends to the breezes "as if they came from the bottom of the lake," another queer spiral of space that permits the breeze to exist, potentially, both above and below the water, destabilizing notions of *above* and *below* in favor of a nonhierarchical community, and without arriving at full understanding (or presupposing that such a state could be reached).

In addition to her similes, Wordsworth also uses the subjunctive verb form to open multiple coexisting possibilities of sensuous relation. As the ripples on the water

become gentler, Wordsworth describes them as "growing more delicate, as it were thinner & of a *paler* colour." While the ripples are indeed becoming "more delicate," stated by Wordsworth as a direct observation of fact, she shifts into the subjunctive *were* when noting that the ripples have also become "thinner" and "paler." The subjunctive verb form denotes the hypothetical, the not-yet-realized, and the imagined; in this way, the subjunctive opens queer ecological possibilities, queering notions of fixed and independent identity into the *both-and* and the *what-might-be*. Thus, perhaps these ripples are thinner and/or paler, perhaps they are not yet so but could be, perhaps they may only be so in the observer's imagination, and perhaps, simultaneously, all or none of the above. Wordsworth and Clare share scenes of exuberant, lyrical wonder, described by an observer-participant immersed in and relating with a fascinating environment. Without the need to master or intellectualize their ecological relatives, Wordsworth's and Clare's passages of wonder communicate and embody world and relationship.

Relations that Unfold and Reorient

Perhaps because of clouds' otherness when compared to most ecological relatives —they can be seen but not touched, and they are rarely felt, save as mist, rain, or snow (phenomena to be discussed later in this chapter)—clouds are well-suited to disrupting linear notions of mastery or independence in favor of queer spirals and recursive meditations that more often support community and connection. In numerous journal entries, Wordsworth attends to these queer lines of relation, both explicitly in her content and writing form, as well as implicitly in how one's position as a body in space influences (and is influenced by) all that is observed.

Across her journals from Grasmere and Alfoxden, Wordsworth describes her body's motion in space as walking "backwards & forwards" twenty-one times. For example, on 17 March 1802, she writes, "There were high slow-travelling Clouds in the

sky that threw large Masses of Shade upon some of the Mountains. We walked backwards & forwards between home & Olliffs till I was tired William kindled & began to write the poem" (80). Pamela Woof (2008), editor of these Grasmere and Alfoxden journals, describes walking "backwards & forwards" as a favorite compositional method of William Wordsworth, and the siblings appear to use it to this or similar effect in this passage. However, in numerous instances across the journals, Dorothy Wordsworth walks "backwards & forwards" alone or with other companions than her brother. Such a phrase queers and reorients space and time. She does not begin by moving *forwards*, as in the more common (then and now) phrase *forwards and backwards*. Rather, she begins by moving *backwards*, inviting a seeming regression into mystery, uncertainty, and perhaps into the childlike that is then carried *forwards* into the experiential moment. By beginning in an invitation to uncertainty, Wordsworth's physical motion echoes that of the clouds overhead. Just as these "high slow-travelling Clouds" leisurely bounce "Masses" of light and shade upon the mountains, so too do the Wordsworths slowly move and bounce images and language amid the landscape until material gathers into the mass of a "poem." Cloud and poem emerge in a spiral.

Wordsworth further queers and reorients linear, bounded notions of space in favor of recursive, slippery wonder through her persistent use of the ampersand for almost all uses of "and" in her Grasmere journals (as in the phrase "backwards & forwards"), which emphasizes nonhierarchical and sensuous relation. The boundaries of body and direction blur more when one walks *backwards & forwards* in comparison to walking *backwards and forwards*, for the connective unit between the two entities is a visual spiral (*&*) rather than a linear progression of sequential letters (*and*). Like cumulus merging into conjoined stratocumulus, or layers of cloud folding into a textured fabric where separate edges dissolve, Wordsworth's ampersands blend bodies in space throughout her journals.

In an undated but early January 1803 entry, she writes, "It was a gentle day, & when Wm & I returned home just before sunset, it was a heavenly evening. A soft sky was among the hills, & a summer sunshine above, & blending with this sky, for it was more like sky than clouds. The turf looked warm & soft" (136). Wordsworth uses five ampersands across these forty-six words, blurring—and, to use her word, "blending"—the bodies of herself and her brother ("Wm & I"), convergent physical sensations ("warm & soft"), and multispecies ecological community (the day and the siblings; the sky, hills, and sunshine; and the sunshine and sky). Similar to the simile, the ampersand also facilitates multidirectional, egalitarian motion of bodies and perspectives. Wordsworth does not argue that the hills are more important than the sunshine, but that this "soft sky" is created through the interaction—or the *intra-action*, as Karen Barad (2006) would argue—of "the hills, & a summer sunshine above, & blending with this sky." Like the clouds, who exist here as a nebulous film (for this sky is "more like sky than clouds"), this ecosystem is in motion, a wondrous folding and unfolding of connection. The ampersand, in Wordsworth's cloud journals as well as in Clare's couplet-sonnets (e.g., the aforementioned "The cloudy morning brought a pleasant day" [88], with its seven ampersands across fourteen lines, five of which are used to begin lines), visually generates a queer swirl of relation and wonder.

This relational openness moves us toward wonder. Gabriel Marcel writes in "On the Ontological Mystery" (1933) that a "mystery is a problem which encroaches upon its own data [...] transcending itself as a simple problem" (19). We often see the phenomena of the world as organized in problems. We fix the problem through breaking it—this *it* is intentional—into parts. We analyze it, replace its dysfunctional parts, and put it back together. The critic analyzes a text. A scientist describes the sky. Yet, phenomena are not *problems*. They are *mysteries*. A mystery is a queer problem in that it disorients and reorients data, re-evolving components to create a denser core of uncertainty that erupts

on us and entangles us (a phenomenon discussed further in Chapter 4). A mystery is more *&*, more ampersand than *and*. Through the relational wonder modeled by Wordsworth's journals and Clare's couplet-sonnets, we can play with the mystery (and let the mystery play with us) until we elide ourselves into a kaleidoscope of meaning. A cloud is not a static object to be interpreted. Rather, we look to the cloud as the cloud opens the sky of us; we find meaning in the cloud which brings meaning to life which changes cloud and life in ways that reverberate beyond language.

Across numerous journal entries, Wordsworth attends to the clouds and the colors of particular environments, noticing how these colors are influenced by where one's body is when they are noticing these colors—in other words, how even the perception of color itself is more a process of wonder and mystery. Color is less fact than interpretation. Whereas William Wordsworth summarily wrote of the color green in "Lines Composed a Few Miles Above Tintern Abbey" (1798) as simply "one green hue" (l. 13), and the sky above as simply "the blue sky" (l. 99), Dorothy Wordsworth held, as Pamela Woof (2013) describes, "a sensitivity to transient shades of changing, fading, 'melting' colour" (20). Blue, to Dorothy Wordsworth, could be "perfectly calm blue" (23 January 1798, p. 141), "pale greyish blue" (26 March 1798, p. 147), "the natural sky blue" (13 June 1802, p. 108), and "a chastened but rich yellow fading into pale blue" (20 June 1802, p. 112), among other descriptions. Wordsworth brings this attention to the clouds, the bodies they touch, and the changing colors, perceptions, and orientations these wondrous relations bring to the ecologies around her.

Thus, when Wordsworth relates how she and her brother, on 26 August 1800, "went on the other side of Rydale, & sate a long time looking at the mountains," she notices that these mountains "were all black at Grasmere & very bright in Rydale—Grasmere exceedingly dark & Rydale of a light yellow green" (18). These mountains, who appear a similar or identical color from other moments or perspectives (as witnessed in

other journal entries) are, here, of strikingly different color because of the viewer's perspective. Rydal Mount, where the Wordsworths moved after Grasmere, sits higher than Grasmere (which is in a valley), making her description of the differing light at sunset both lyrical and topographically attuned. Because she is "on the other side of Rydale," these mountains reveal themselves to her as "exceedingly dark," for Grasmere, and as "very bright," for Rydale. Similarly, on 29 January 1802, Wordsworth notices how sunlight manifests itself in very different colors depending on the surface with which it intra-acts; she sees, in the same instant, light as "a rich yellow upon the fields, & a soft grave purple on the waters" (60). Here, the different embodiments of light—conjoined here with the queer swirl of the ampersand—are not only "rich yellow" nor only "grave purple," but both colors at the same time.

Phenomena always extend beyond the borders of our perception. Maurice Merleau-Ponty, in *The Phenomenology of Perception* (1945), describes how one can never perceive the world in its entirety; thus the work of embodied phenomenology is not to declare how something is in entirety, but rather to describe how this something appears in this moment, to this observer, in this milieu. Wonder occurs when we sense this boundless potential for connection and are overwhelmed—not into a confrontational orientation of terror, isolation, and/or domination, as often witnessed with the sublime, bur rather into reciprocal relationship with the beings and mysteries that excite our enchantment.

A Wondrous Ecology of Snow

Wonder sparks and strengthens ethical engagement with our ecological relatives, and attuning ourselves to wonder, and thus to love and contact, can help us shift away from detachment or exploitation. "It's harder to engage in practices that result in wholesale environmental degradation [...] or extractive exploitation," Justice writes,

"when you approach the world as a network of peoples, many of whom are related to you, and to whom you owe reciprocal and respectful obligation" (89). Relationship and felt personal connection, often inspired through experiences of wonder, nurture compassion and love, which Justice describes as "the binding cord that links us to the world" (69). Likewise, Jane Bennett (2001) also declares that we must "love life," and this love is what will enable us to "care about anything" (4). Love fosters a sense of *being with*, rather than *being above* or *being on*, and love, in all of its messy, challenging aspects, helps reveal ourselves as porous and interconnected, like the clouds.

It is no coincidence that many of Clare's sonnets and poems, across his career and during his Northborough years, begin with or include the phrases "close by" or "I love." Yet, during his Northborough period, when Clare was exiled from the ecology in whom he was born and raised, his poems often turned toward loneliness. "It is a lonely place indeed" begins one sonnet (21), showing its isolation in its contraction to eight-syllable lines; and the loneliness threatens to overwhelm as it cascades through the opening line of "Close by a lonely place that seems so lone" (97). Wonder, in addition to profound connection, also can hold profound loneliness. Rachel Carson (1956) described wonder as, at times, "a sense of lonely distances" (48), and Moore, invoking Irigaray, writes, "Loneliness turns to yearning, a kind of love, [...] the desire to hold forever to the object of our wonder, to be part of it, united with it; and mourning, knowing that the object can never be possessed" (268). To wonder is both to reach toward love and to recognize the limitations of our abilities to connect.

Even amid deep loneliness, Clare persistently turns to love, and thus to the joyful wonders of ecological connection, in his *Northborough Sonnets*. Four sonnets in this collection open with "I love[d]": "I loved the pleasant way to school" (48), "I love thee casterton & often tell" (61), "I love to hear the evening crows go bye" (67), and "I love to wander by the ivy bank" (40), a poem that opens again the playfully queer slippage of

wander / wonder. In all four sonnets, Clare reaches not to objects, abstract notions, or other humans as the impetus for his love; he reaches to the ecology around him, and the environment reaches and touches him back.

Clouds, however, seem to elude the physical, sensory contact we can seek with almost every other animal, plant, topographical, and meteorological being with whom we share the world. Even the invisible wind brushes against our bodies and the far-distant sun dapples our skin in heat in ways that clouds, so often seen as tens of thousands of feet above us, seem unable to. However, all clouds are made of water. We, water-bodies also, exist with clouds where, as Astrida Neimanis (2016) writes, "We live at the site of exponential material meaning where embodiment meets water" (1). The faint wisps slanting downward from the high cirrus clouds are ice crystals, suspended sixteen to forty-five thousand feet above the ground. The pillows of the cumulus clouds appear opaque white due to the 350 billion water droplets per cubic foot of the cloud scattering light off their bodies and in every direction.

Yet, we can and do touch clouds with every breath, as condensed water vapor, and with the porous surface of our skin, as fog, mist, rain, and snow. As Karen Barad (2012) writes, "Matter is condensations of response-ability" (215), and indeed, clouds matter (and clouds' matter matters) in this way. When rain or snow falls, the clouds send themselves, albeit in different form, to the ground, and we feel the wet drops, the dry or sticky flakes, on our skin and in our hands. We know that snowfall happens when moisture in the air collects to form ice crystals, when crystals continue to collect and become heavy enough to fall, and when the air is cold enough, from cloud to ground, for the snowflakes to reach us. Still, snowfall is a magical and wondrous event.

Snow can transform the everyday known world into a surprising, new world of wonder. Snow appears across nine of Clare's *Northborough Sonnets*, often generating a surprising disorientation from the known or everyday world. In "The boy that goes to

fodder with supprise" (8), for example, *up* and *down* giddily reverse after a large snowfall. A boy walks across, then falls chin-deep into the "hugh hills of snow" (l. 7), and in the sonnet's final lines, the "little birds" (l. 12) deep under the snow, in their nests, dream as the poet-speaker marvels that they "little feel boys oer their heads" (l. 14). Clare's embodied ecology of wonder disorients birds, boys, and readers from more familiar notions of placement in space, eliciting the "instability of levels" that leads to what Merleau-Ponty describes as "the vital experience of giddiness and nausea, which is the awareness of our own contingency" (228). By destabilizing these levels of existence, in placing birds in nests *under* the snow and *under* the walking paths of boys, Clare's sonnet turns the familiar world askew—queering our sense of bodies and relations. As Clare writes in this poem, "The novel scene emboldens new delight" (l. 5), and this delight emphasizes connection.

Turning to even more minute and magical aspects of snowfall, Clare wonders through the interactions between the snow and small flowers in his sonnet "Open Winter":

> Where slanting banks are always with the sun
> The daisey is in blossom even now
> & where warm patches by the hedges run
> The cottager when coming home from plough
> Brings home a cowslap root in flower to set
> Thus ere the christmass goes the spring is met
> Setting up little tents about the fields
> In sheltered spots — primroses when they get
> Behind the woods old roots where ivy shields
> Their crimpled curdled leaves will shine & hide
> — Cart ruts & horse footings scarcely yield
> A slur for boys just crizzled & thats all
> Frost shoots his needles by the small dyke side
> & snow in scarce a feather's seen to fall (ll. 1-14)

"Open Winter," like many of Clare's poems, is narrated without a first-person speaker. In this way, Clare diminishes the "I" as the lyrical persona who crafts, directs, and manipulates nature to suit a mood, instead offering an assemblage of ecological beings with whom this unspecified speaker can intra-act more seamlessly. All third-person

pronouns in this poem are given to non-human ecological beings: "primroses when they get" (l. 8), "[t]heir crimpled curdled leaves" (l. 10), and "Frost shoots his needles" (l. 13). He acknowledges the agency of these particularized, small beings. Human characters pass through this sonnet, from the "cottager" (l. 4) to the "boys" (l. 14), but these figures are more transient than the snow and flowers on whom Clare lingers. "Touching is a matter of response," Barad (2012) writes, and to exist is to be part of a multitude of "entangled relations of becoming" (215). When one touches, one is also touched (as discussed in Chapter 3). In touch, one is not above or beyond the world but co-constituted with it.

Clare, in this sonnet, depicts such an environment entangled in relationship. His poet-speaker is familiar with this place—he knows what fields "are always with the sun" (l. 1), and where one can find "warm patches by the hedges" (l. 3), even in the shortest days of winter. He knows where and when one can find the first appearances of the daisy, cowslip, and primrose, and he attends to the relational preferences of each species. The daisy prefers long, direct sun with the banks, while the primrose prefers the "little tents" (l. 7) and "sheltered spots" (l. 8) of shade offered by ivy. Clare's attention to particular ecological details is what Mina Gorji (2012) terms Clare's "sign of love" that "evokes a sense of intimacy with the landscape" (90). Clare's poet-speaker does not depict these beings in isolation; he recognizes the interconnectivity of ecosystems and that all life needs interaction and contact with others to exist and to thrive.

Throughout this poem, Clare alliterates and echoes across lines (and species). Among others, we encounter the "banks" (l. 1) and "blossom" (l. 2), the "patches" (l. 3) and "plough" (l. 4), the cowslip "root" (l. 5), "primroses" (l. 8) and tree "roots" (l. 9), the "crimpled curdled" primrose leaves (l. 10), "Cart ruts" (l. 11), and "crizzled" boys (l. 12), and the "Frost" (l. 13) and snow "feather" (l. 14). The opening couplet of "Open Winter" offers a cascade of *S* sounds—"Where slanting banks are always with the sun / The daisey

is in blossom even now" (ll. 1-2)—to generate a queer slippage of season, orientation, and scale that brings one from the fields and sun down to this particular daisy, at this particular moment. Willmott describes wonder as often enacting "a play of scale that springs open trap doors in certainties" (34), much like the questioning, vertiginous nature of queer ecology. Clare's poet-speaker glides into this play. In "Open Winter," the *S* sounds in the opening couplet open into the *W* and *A* sounds of the following line—"& where warm patches by the hedges run" (l. 3)—as the landscape, speaker, and reader alike relax and open to the wonder of welcome warmth, here, in the depth of winter. Meanwhile, his speaker attends to the smallest ecological relatives around him: the "little tents" of the primroses (l. 7), the "needles" of frost (l. 13), and the "feather" of snow (l. 14). Through this web of music, Clare enhances our awareness, and our capacity to wonder alongside this poet-speaker, at such robust ecological relationality.

The poet-speaker of "Open Winter" also recognizes the impact of his human species upon this ecosystem. He knows other humans are also attuned to the ecology of these flowers even when they are hidden in snow. He knows the cottager who "[b]rings home a cowslap flower to set" (l. 4) and sparks a touch of spring in his home, even at the expense of eliminating a plant from the field and future reproduction. Clare alludes to this plant's premature end by depicting the cottager's taking of the plant and the resulting force-bloomed "spring" (l. 5) just after Christmas in the sonnet's only couplet-rhyme, a rhyme conventionally reserved for the poem's final lines but coming prematurely, here. He knows where the frost "shoots his needles" (l. 13) and falls thickest, and he knows where the road or path will deteriorate most and in lasting visible ways. In this way, "Clare's intense awareness of humanity's power to affect the natural world," as Cassandra Falke (2020) observes, "is complemented by his awareness of the world's effect on us" (180). In "Open Winter," Clare shows a way of being in the world

that moves not toward independence or domination, but toward a relational and cooperative wonder that sparks love and respect for life.

The Wound of Wonder

Even though wonder facilitates a closer, richer, more sensuous and embodied relational connection with our ecological communities, the experience of wonder is not always comforting or joyful. Howard Parsons (1969) notes that "wonder" comes from the Old English *wundor*, which converges with the German *Wunde* or "wound" (85). As a wound, wonder shocks and punctures that which we held certain. In so doing, wonder opens new possibilities, including the vertiginous sense of queer ecology where, as Falke describes several of Clare's poems, "all of the orientation clues are relative" (182). Wonder generates a gap between *what we thought* and *what is*. If we remain in wonder, without turning toward rationalization or self-affirmation, we remain in the gap, in the wound that opens and invites us to linger in the mystery—the wound that offers, though sometimes through pain, an opening and a connection.

Scientific advances throughout the nineteenth century forced many to reorient themselves in the world and revise concepts many had held as fact. In 1808, John Dalton's atomic theory revealed the material world as constituted of tiny particles; in 1859, Charles Darwin's theory of evolution unsettled long-held Judeo-Christian notions of creation; and in 1873, James Clerk Maxwell's physics revealed light to be an electromagnetic wave. Meanwhile, the cloud science of Jean-Baptiste Lamarck (1802) and Luke Howard (1803) launched a robust international effort to name—and tame—the skies who many had believed were hopelessly manifold. Some writers responded to this scientific and artistic flux with the sublime, seeking alpine heights, thunderstorms, and vast landscapes so as to "form the grander passions," as Burke writes (51). However, the sublime, as Immanuel Kant (1790) describes, "gives us the courage to measure ourselves

against the apparent all-powerfulness of nature" (144-5) and, in so doing, "reveals a capacity for [...] a superiority over nature" (145). Such an orientation toward the sublime often reproduces anthropocentric knowledge. Yet, these and other writers also responded to the flux with wonder, allowing a more sensuous stance of reciprocity and sustained indeterminacy, even when this openness feels like a wound, even when remaining becomes painful.

Many entries in Wordsworth's earlier Alfoxden journal follow the clouds (and other weather phenomena) with wondrous but also ominous imagery, where she carefully observes how bodies conceal and break through each other. On 25 January 1798, Wordsworth writes:

> The sky spread over with one continuous cloud, whitened by the light of the moon, which, though her dim shape was seen, did not throw forth so strong a light as to chequer the earth with shadows. At once the clouds seemed to cleave asunder, and left her in the centre of a black-blue vault. She sailed along, followed by multitudes of stars, small, and bright, and sharp. (142)

In this scene, a thin film of cloud covers the sky and moon, then dissipates enough to let one see the moon and stars. Wordsworth brings her close attention to detail and her capacity for wonder to this scene, for she emphasizes (as befitting an orientation toward wonder) how ecological bodies exist in relationship, the manifold details of sensation, and the unknowable mysteries of the bodies and processes she observes. This cloud, for example, is "one continuous cloud" brightened by the moonlight but still "dim" enough not to "chequer the earth with shadows." From these details, despite similarities between the altostratus and the cirrostratus, one could identify this cloud as altostratus, even *altostratus translucidus*, for Wordsworth sees the corona (or circle of light) around the moon but cannot see shadows on the ground, two details untrue of the cirrostratus.

To glimpse the moon directly can be a magical, wondrous experience, as it seems for Wordsworth in this journal entry, but the wonder becomes more of a disorienting shock than a comforting embrace. Here, "At once the clouds seemed to cleave asunder,"

a sudden and literal puncturing (or *wounding*) of the seamless cloud, and the moon is "left" alone in the sky, which Wordsworth ominously describes as a "black-blue vault." While describing the sky as a "vault" is a familiar image for generations of poets, that this is a "black-blue vault" amplifies the sudden darkness and depth of the sky, who had until a moment ago shown a comforting milky ceiling. Meanwhile, even the stars also transform into agents of puncture, for these "multitudes of stars" chase after the moon in their "small, and bright, and sharp" bodies. The sky was low; now the sky is both high and of limitless depth. The moon was shrouded in cloud; now the moon is bared and chased by sharp stars. Wonder, as a wound that punctures what we once held certain, invites us into the flux and into new possibilities for perception and connection.

Two days later, Wordsworth describes a similar scene, where the moon breaks through a cloud layer, pushing the observer into the wound of wonder. On 27 January 1798, she writes:

> Only once while we were in the wood the moon burst through the invisible veil which enveloped her, the shadows of the oaks blackened, and their lines became more strongly marked. The withered leaves were coloured with a deeper yellow, a brighter gloss spotted the hollies; again her form became dimmer; the sky flat, unmarked by distances, a white thin cloud. The manufacturer's dog makes a strange, uncouth howl. (142)

As in her 25 January 1798 entry, Wordsworth falls into wonder through a visceral experience of disorientation as the moon "burst" through a soft, filmy cloud (here an "invisible veil"). While on 25 January the cloud separates, allowing the moon and stars to come into increasing (albeit ominous) focus as Wordsworth's observation continues, here, on 27 January, the moon is the active party who breaks the cloud, but who does so just for a moment, before falling back into the "white thin cloud." Wordsworth is pushed into an unsettling vertigo. Once the moon "burst through" the cloud, the "shadows," "lines," and leaf color of the surrounding oaks, as well as the "gloss" on the hollies all change in disturbing ways. The oaks become almost ghoulish, as their "shadows [...] blackened" and their "lines became more strongly marked," as if the flesh were falling

from their skeletons. Drawing upon contemporaneous uses of "yellow" to signify sickness and decay, she describes the already "withered" leaves as turning in this sudden moonlight into "a deeper yellow." While glossy berries and leaves can signify vitality, Wordsworth sees the hollies' "brighter gloss" as only "spotting" the plants in an incomplete health.

Yet, when the moon falls back behind the cloud, the scene does not resolve into a homely or comforting experience of wonder; rather, Wordsworth remains in the gap, the wound, of vertiginous wonder. "The sky," rather than opening into the depthless "black-blue vault" of 25 January instead becomes "flat, unmarked by distances, a white thin cloud." Wordsworth's punctuation joins these three phrases equally, without distinction, generating vertigo in her readers. Perhaps "the sky flat" is another phrase for "unmarked by distances," which is in turn another phrase for "a white thin cloud." Perhaps, if the center phrase is set off by commas to signify a grammatically unnecessary clause that simply provides additional context, Wordsworth presents as synonyms "the sky flat" and "a white thin cloud." But how can a cloud exist in a "flat" sky, and how can one know a cloud is "thin" if the sky who houses them is "flat"?[22] It might be more unsettling to have a vast depth suddenly open above one's head—"the moon burst through"—then close again, leaving one aware that, no matter how "flat, unmarked by distances" the sky and/or cloud above might seem, that vast depth remains there, ready to emerge again at will. After all, in her closing sentence to this passage, Wordsworth further demonstrates this scene as discomfiting, for amid these unsettling ecological relatives and their relations to each other and to her, a "dog makes a strange, uncouth howl." Rather, even in this space

[22] Wordsworth's journal entries discussed here, on 25 January and on 27 January 1798, among others, may have inspired Samuel Taylor Coleridge's "Christabel" (started 1797, published in fragmentary form 1816), as Pamela Woof and other scholars suggest. Coleridge writes, "The night is chilly, but not dark. / The thin gray cloud is spread on high, / It covers but not hides the sky. / The moon is behind, and at the full: / And yet she looks both small and dull." (Part I, ll. 15-19).

of mystery and uncertainty, to reach for what seems *definite* or *fact*, Wordsworth lingers in the gaps of the "strange," the mysterious, the wounds of wonder.

While the sudden emergence (and/or disappearance) of the moon from (and/or into) clouds demonstrates the gaps and disorientations of ecological wonder as in Wordsworth's journal entries, another means by which we sensuously interact with clouds, with the capacity to spark wonder, is when the cloud-bodies themselves descend to our earthbound level. Stratus clouds, the lowest-forming of all clouds, sometimes touch the ground, and when they do, we call them *fog* or *mist*. We move into a ground-level stratus cloud, and the world outside the cloud disappears, our senses sharpened to the visible quarter-mile around us, the visible fifty feet. As we continue walking, moving through this cloud, we breathe them in and they breathe us, rub against us, over us, coat our clothes in a wet sheen that makes more porous the distinction between human and cloud. In several of Clare's *Northborough Sonnets*, such sensuous encounters with clouds as mist or fog can offer an important disorientation from the distinct, known world and a reorientation to a queer ecology of permeability, reciprocity, and wonder.

Thus, in "The shepherds almost wonder where they dwell," Clare acknowledges how wonder can bring wounding and queer ecological disorientation. Yet, through clouds and mist, topographical and environmental detail, and a succession of human characters, he finds the space to continue in the wounds, gaps, and mysteries of wonder:

> The shepherds almost wonder where they dwell
> & the old dog for his night journey stares
> The path leads somewhere but they cannot tell
> & neighbour meets with neighbour unawares
> The maiden passes close beside her cow
> & wonders on & think her far away
> The ploughman goes unseen behind his plough
> & seems to loose his horses half the day
> The lazy mist creeps on in journey slow
> The maidens shout & wonder where they go
> So dull & dark are the november days
> The lazy mist high up the evening curled
> & now the morn quite hides in smokey haze
> The place we occupy seems all the world (ll. 1-14)

Clare's poet-speaker again largely refrains from using the singular first-person pronoun (until the final line, in this instance), but this poem includes a series of emotive responses from its characters that construe the narrator as similar to a mist that flows, and registers the emotional valences of, through human and environmental beings alike. Thus, he knows the neighbors meet "unawares" (l. 4) and the mist is "lazy" (l. 9, 12). Like this mist, the poet-speaker "creeps on in journey slow" (l. 9) through the poem. In a space of nebulous self-identity, he blurs boundaries between species. The "they" of the third line can refer to the shepherds, dog, and/or path. Likewise, the other "they," in the tenth line, can refer to the mist, maidens, and/or November days. We exist in the world through our perception of the world, as Merleau-Ponty describes. While our perception may not create or comprise the world, we relate to the world through a sensuous perception that embeds all beings in relationship. He writes of how the "world is not what I think, but what I live through. I am open to the world" (xviii). Clare weaves such a sensuous openness—a sensuous mist—of perception and relationship in this sonnet.

Despite the tenuous perception of fellow beings gathering in an ecological community, Clare's word choices throughout the poem show the gaps and wounds of staying open in wonder. The most significant gap occurs with the word *wonder*, which appears three times across the poem: "The shepherds almost wonder" (l. 1), the maiden and/or cow "wonders on" (l. 6), and "The maidens shout & wonder" (l. 10). Each *wondering* could also be a *wandering*. Clare's play between wondering and wandering creates a web of relationship between his speaker, this environment, and their multispecies community. Meanwhile, the earth-touching, precipitating clouds of mist and haze move through this poem like the permeable, receptive connections sought by the poet-speaker.[23] This sonnet is wrapped in "mist" (ll. 9, 12) and "haze" (l. 13), with

[23] Paterson also describes atmospheric mist as generating wonder by existing as an in-between space of relationship among the bodies enclosed. The shared sense of simultaneous lost-ness and found-ness in mist, Paterson argues, echoes the Romantic experience of reading and writing.

little clear vision or knowledge. Neighbors cannot recognize each other, the "old dog" (l. 2) and the "maidens" (l. 10) alike are disoriented in space, and the normally close physical relation of horses to plough to ploughman is filled instead with gaps: "The ploughman goes unseen behind his plough / & seems to loose his horses half the day" (ll. 7-8). Meanwhile, Clare begins five lines of his sonnet with the disorienting spiral of the ampersand, blurring boundaries between lines and queering one's notion of a clear grammatical starting-point into the mist and haze that pervades the atmosphere of this poem. Clare's wonder and uncertainty connects his speaker to the environment. As in Wordsworth's entries, even as the environment of Clare's poem is vaporous and intangible, the speaker connects not through the definite *what is*, but through the wounds and the gaps of what *could be* or *might be* or *seems*.

What a realization in the final line of Clare's sonnet: "The place we occupy seems all the world" (l. 14). The plural first-person "we" makes its first appearance in this poem's final line. In this line, the "we," found through dwelling in the wound of wandering and wondering through this lonely yet vibrant place, is capacious enough to hold all the beings we have encountered, and to hold the speaker, and reader and other ecological bodies as well, not as an egotistical "I" but as a communal "we." Here, together, the environmental milieu with whom we co-exist *seems* all the world and, also, *seams* all the world, rending and knitting together at once. We stop longing for a place anywhere but in these "dull & dark [...] november days" (l. 11). We surrender to the cloud, the mist who becomes us, who enwraps the expanse of our world into the local, the particular, the passing of humans, livestock, dogs, and light. We wonder into a place, and we realize the ecosystem who holds us is more than we could ever know—is "all the world" (l. 14). This turn is the gift of the wound of wonder. The uncertainty and openness of the wound of wonder invites us, alongside the beings in Clare's sonnet, to step inside and dwell.

The Queer Ecology of Wonder

Through the wonder-filled invocation of clouds in Dorothy Wordsworth's *Grasmere and Alfoxden Journals* and John Clare's *Northborough Sonnets*, we encounter ways of engaging with the ecological world with whom we are related and embedded: through wonder. Wordsworth and Clare model a queer ecological relationship of wonder with the environment that is collaborative, nonhierarchical, and often dis- and re-orienting. Across Wordsworth's entries and Clare's sonnets, the queer ecology these writers model does not privilege the human or the affirmation of human selfhood over fellow environmental beings. When Wordsworth falls into the depths of the "black-blue vault" of the sky, as in her 25 January 1798 entry, or when Clare's poet-speaker merges with the mist, as in "The shepherds almost wonder where they dwell," speaking through a multispecies "we" in the sonnet's final line, we connect and engage. When we witness the marvelous flux and dynamic relationships of the ecologies around us, including the meteorological ecologies of the clouds, we choose wonder, and in doing so, we choose humility, and respect, reciprocity, and connection.

What would it mean to approach our fellow ecological beings through a commitment to wonder? We would welcome the queer ecological slippage away from praising independent human intellect and reifying clear divisions of power between (and often within) species. Instead, we would welcome a nonhierarchical multispecies community and questions without final answers. Such a turn toward wonder would require us, also, to re-evaluate our ethical responsibilities toward our fellow beings. We could not, in a stance of wonder, abuse our fellow beings as industrial capitalism seems to require without seeing how this use frays and destroys our multispecies web of connection. Willmott argues that environmentalists, including Rachel Carson, often feel

this "ethical urgency of wonder" (1), and Carson writes of this importance of wonder in "Help Your Children to Wonder," her 1956 article for *Woman's Home Companion*:

> If I had influence with the good fairy who is supposed to preside over the christening of all children I should ask that her gift to each child in the world be a sense of wonder so indestructible that it would last throughout life, as an unfailing antidote against the boredom and disenchantments of later years, the sterile preoccupation with things that are artificial, the alienation from the sources of our strength. (46)

At the time of her death in 1964, Carson was planning to expand this article into her next book, tentatively titled *A Sense of Wonder* and beginning, as an outline to her agent discloses, with the section "The Sky." *Look Up and See Wonders*, as Thomas Dekker titled his 1628 meteorological pamphlet. Look down for those wonders, too, and around, and among.

What a different world it would be if we could help all children—young and old—to wonder. Now, elementary school children can recognize hundreds of corporate logos but only a handful of local plant or animal species, as Kevin Armitage (2010) has found. Now, the *Oxford Junior Dictionary* has deleted environmental words from each of their recent editions—in 2007 alone, the *OJD* deleted over 115 environmental words, including *acorn*, *buttercup, dandelion, heather*, *kingfisher, lark, primrose,* and *sycamore*. In wonder, we disrupt anthropocentric tendencies and, instead, foster awareness of the mysterious and the respectful language of love. "Wonder changes us and changes our world," observe Kānaka Maoli scholar Brian Kamaoli Kuwada and Japanese/Okinawan/Chamorro scholar Aiko Yamashiro (2016), for it is through wonder that we gain the capacity to marvel at "ourselves in the most connected and expansive sense, that is, we as individuals, as activists, as communities, as past and future ancestors, as gods, as mountains and rivers and ocean" (20-1). When we acknowledge the porous borders between bodies, our interdependence, and our ecological relatives as meaningful and wonder-full, we move, as Wordsworth, Clare, and numerous contemporary scholars have shared, toward relationships of reciprocity, care, and respect. Through wonder, we

pursue opportunities for more inclusive language, and in so doing, we model more inclusive connections with our ecological relatives. As global environmental crises rise alongside the loss of many humans' connections to the environment, wonder as modeled in Dorothy Wordsworth's *Grasmere and Alfoxden Journals* and in John Clare's *Northborough Sonnets*, in their reorientation toward ecological community, fascination, and love, is one of our best hopes.

Chapter 3 — The Poetics of Touch

Another spring, and this trail follows the Rocky Mountain foothills for hours, before these hills open into a higher valley and small lake, all wrapped within a stratus cloud. At the trailhead, visibility extended for miles, but now, barely fifty feet. Stratus from strātus*, the past participle of* sternere*: to spread, to lay down. The trail rises, and this low cloud folds upon us, thick and horizontal, almost uniform in their grey sheen. The stratus cloud, the fog, quiets vision and hearing—the traffic of the nearby road is gone. From a scruffy shrub, a jay jumps into the air and disappears without a sound.*

I can see myself, and I can still see the shrub, but this earth-touching cloud filters my perception through their hovering droplets. While I could imagine that I am in a bubble within this cloud and am untouched, I stretch out my arms and turn in a slow circle. My sleeves and hands glisten with moisture in this semi-arid climate. Cloud around me and upon me. I keep going and am billowed on the trail by pockets of cooler air when the fog contracts around me, holding me in a closer circle. I want to stroke my arms through the air as if I am swimming. The air so thick and so wet.

On Earth, we are always moving through water. Humidity is not an idle measurement. But, today, this cloud heightens and delights this awareness. My skin dampens my clothes—body generating a mist, a fog, who reaches toward the mist of this cloud's larger body. Cloud within me. The temperature low enough, the air wet enough, my breath plumes as I breathe in the fog who breathes in me. Cloud in my mouth, in my lungs—cloud who questions this pronoun "my."

Everyone, and everything, we perceive is connected to us and perceives us in some way. Every body becomes porous when we try to trace them back to a discrete source. The stratus cloud, like the cumulus, cirrus, and other species of cloud, becomes visible when the air cools to an extent that condenses some of the air's water vapor into liquid droplets. Unlike the cumulus cloud, who forms through convection and the movement of thermal currents that cool individual air pockets, the stratus forms through the cooling of a large and stable mass of air. Luke Howard, in his *Essay* (1803), describes the stratus as "a widely extended, continuous, horizontal sheet, increasing from below upward" (5). *From below upward*. Cloud returns to their earliest English-language name, *clúd i*nto *clod* into *cloud*, rising from rock into hill into sky but remaining close, a porous body blurring the transition from earth into sky.

If we tried to say where this stratus cloud begins, or where their borders are, we fall into a nonlinear queer tangle. Perhaps this cloud formed when this air makes contact with that body of cooler air, and as this air folds over that air, the smooth low body of this stratus becomes visible. But *becoming visible* is not necessarily synonymous with *beginning*. Where was this cooler air before coming here? And when the stratus dissolves from sight, are they truly gone? And when I move into and with this cloud, breathing them as they breathe me, can we not say that I add visible condensed air to this stratus cloud, and they fill my lungs with stratus clouds in miniature? Astrida Neimanis (2016), describing the material movement of water, writes, "in a water world of queer time and space, we can never track the trickle, definitively, back to its source" (37). Given enough time, this cloud will become that cloud, the water in this (human, cloud, or other ecological) body will flow toward and join that (human, cloud, or other ecological) body. We are all porous. We all come into and dissolve being in embodied relationship that extends long before and after any one visible body's existence.

Ecology, and especially queer ecology, is a study of *touch*. Biology often emphasizes the study of living organisms: specifically, the physiology, behavior, and other qualities of a particular organism or class of organisms (e.g., the life-cycle, feeding, and range of the mountain jay). Yet, to study ecology is not to study discrete beings in isolation but to study the relationships across and within beings—the trajectories and patternings of their touch. How do the altocumulus lenticularis, ponderosa pine, and mountain jay, among other beings, co-create a sustainable, vibrant ecosystem in these Colorado foothills? What other species and beings touch (and are touched by) these relations, themselves generating this ecosystem? Ecology foregrounds these sensuous relations. This lenticular cloud is who they are because of their relations with other beings in this particular ecosystem—this cluster of foothills who lift air currents upward, this level of humidity in this area and in this part of the year. So, too, you and I are who we are because of our relations. As Rarámuri scholar Enrique Salmón (2000) writes, "all life, spiritual and physical, is interconnected in a continual cycle," leading to an acknowledgement of *ecology* as *kincentric ecology* (1328). Like kincentric ecology, queer ecology heightens Eurowestern ecology's emphasis on relations by combining academic discourse with sociocultural activism to disrupt false binaries between multispecies organisms embedded in a weave of relationship.

Queer ecology's attention to touch amplifies the embodied ecology of wonder discussed in the previous chapter. In her article "Help Your Child to Wonder" (1956), referenced in Chapter 2, Rachel Carson encourages her child to wonder through inviting him into the pleasures of interspecies touch and contact. "It is not half so important to *know* as to *feel*," Carson writes (46), and her article is a manifold of touch-encounters that revel in "the lasting pleasures of contact with the natural world" (48). To wonder and connect—and as I would add, to build responsive relations—with our ecological relatives, is for Carson "a matter of becoming receptive," where one embraces mystery

and where, rather than seeking to *know* or *dissect*, one is "learning again to use your eyes, ears, nostrils and fingertips, opening up the disused channels of sensory impression" (47). This erotic—or *sensation-oriented*—ecology of wonder, heightened by queer ecology's readiness to challenge binaries and paradigms that privilege certain (human) beings above all other beings, moves us towards embodied relations with the world that emphasize porous kinship with our ecological relatives: including the clouds.

In this chapter, I advance Chapter 2's discussion of the embodied ecology of wonder by focusing on the role of touch in fostering attention to our intra-active relations with and ethical responsibilities toward our cloud relatives—and the larger ecosystem networks we co-create and co-inhabit. To discuss this sensuous phenomenon of touch, I analyze the cloud poetics of Luke Howard and early cloud scientists, Alfred Lord Tennyson, and "Edith" and Ellen Johnston, in light of contemporary research in queer ecology, ecofeminism, and material ecocriticism. The linguistic hybridity of Luke Howard's (and his successors') cloud taxonomies, the hydro-erotics of Tennyson's "Tithonus," and the weathering of Edith's and Ellen Johnston's exchange "Lines by Edith to the Factory Girl" and "The Factory Girl's Reply to 'Lines by Edith'" shows how touch—among clouds and their embodiments as watery bodies, and these diverse cloud bodies and human bodies—provides a way for nineteenth-century British writers to witness the poetic and ethical erotic potential of multispecies touch.

In *Essay on the Modifications of Clouds* (1803), Luke Howard describes clouds as gathered constellations of material, not as bounded and discrete entities, an assertion praised and questioned by cloud scientists throughout the nineteenth century, including Ralph Abercromby, Hugo Hildebrand Hildebrandsson, and André Poëy. All four writers, in their scientific treatises on clouds, reckon with clouds' plurality through their approaches to naming these clouds—all employing, in different ways, the hyphen as a portal of erotic touch between terms and bodies. Howard's descriptions of clouds

evolving via erotic touch exist together with his creation of hyphenated compound names for cloud types (e.g., cumulo-stratus). Through lyricism and linguistic mechanics, Howard demonstrates the porous interconnections between clouds that disrupt notions of independent or discrete bodies. Such an erotic ecology of clouds, here, offers a study of the fluid relations of touch, touching, and being-touched—of contact—that generate and sustain these interconnections.

Throughout the nineteenth century, additional cloud observers and scientists sought to nuance and modify Howard's cloud taxonomy. As previously noted, frequent collaborators Abercromby and Hildebrandsson expanded Howard's nomenclature to include several compound cloud types whose terms may appear in reversible order (e.g., the cumulo-stratus and the strato-cumulus). While Abercromby delineates precisely what determines the cumulo-stratus from the strato-cumulus, Hildebrandsson permits more ambiguity, though both scientists agree that a cloud is, for example, *either* a cumulo-stratus *or* a strato-cumulus. Meanwhile, other scientists, like Poëy, queer the notion that a perceived cloud must have only one name, hyphenated or not. These scientists offer ways of studying the clouds that resemble traditional practices of biology (Abercromby), ecology (Hildebrandsson), and queer ecology (Poëy). Yet, while these scientists take various approaches to naming and describing the clouds, these names and descriptions always hold the capacity for plural, overflowing, and overlapping identities. The poetic mechanics of these scientific cloud writings foreground how linguistic choices can queer traditional notions of singular bodies in favor of a sensuous commingling.

After examining select moments from these cloud treatises across the nineteenth-century, I heighten the attention to the erotic potential of clouds and touch by analyzing the hydro-erotics of Alfred Lord Tennyson's "Tithonus" (1860), first written as "Tithon" (1833) soon after Arthur Henry Hallam's death in September 1833 and set aside for the next twenty-six years. In 1860, Tennyson described the 76-line "Tithonus" to the Duke of

Argyll as "a little poem of mine [...] originally a pendent to the 'Ulysses' in my former volumes" (*Memoir* 1:459), leading many critics to overlook this poem as but an inferior "pendent," or companion, to "Ulysses." However, this poem's depiction of eroticism between human and aqueous bodies, heightened in its revisions from the earlier "Tithon," offers an ecofeminist and queer ecological reading that destabilizes Eurowestern models of embodiment and sexuality.

"Tithonus" exemplifies Jeremy Chow's and Brandi Bushman's (2019) theory of "hydro-eroticism," inspired by Karen Barad's (2006) intra-action and Astrida Neimanis's (2016) aqueous potential. Hydro-eroticism studies how watery bodies (including, I argue, clouds) are lively, connective, and sites of queer community, eroticism, and multispecies intimacy. Multispecies bodies in "Tithonus" flow together to create new bodies and intimacies that amplify plurality, fluidity, and queer kinship. In particular, hydro-erotics emphasizes three themes, all present and discussed in "Tithonus": (1) how watery bodies house both queer community and queer punishment, (2) how watery bodies also associate with the multivalent female body, and (3) how multispecies intimacies (particularly human and more-than-human intimacies) are embodied and voiced in watery bodies. The hydro-erotics of "Tithonus" models receptive, respectful relations between humans and our watery relatives.

Finally, I shift from the hydro-eroticism of Tennyson's "Tithonus" to discuss poetic weathering in "Lines by Edith to the Factory Girl," written by "Edith," the pseudonym for a middle-class Scottish writer, and Scottish working-class poet Ellen Johnston's response, "The Factory Girl's Reply to 'Lines by Edith,'" both first published on the front pages of Glasgow's *Penny Post* in 1866 and reprinted in Johnston's sole volume, *Autobiography, Poems and Songs of Ellen Johnston, 'The Factory Girl'* (1869). Across these two poems, which engage cloud and meteorological imagery, both Edith and Johnston merge human and meteorological bodies into an erotics of shared

embodiment where *the body*—of poem, poet, cloud, spirit, and atmosphere—becomes a site of porous relations and repetitions. Edith's and Johnston's personae touch and are touched through the "weathering" witnessed across these two intertwined poems. The weathering of Johnston's and Edith's poetic exchange becomes more apparent when studying their exchange less as "Johnston's poem" distinct from "Edith's poem" but as a multiple and an emergent weather-body, existing in queer multiplicity as these voices touch each other, and the human- and cloud-bodies they describe, across space and time.

Weathering, named by Astrida Neimanis and Rachel Loewen Walker (2014), and like hydro-erotics also influenced by ecofeminism and intra-action, describes the co-becoming of human and weather (such as clouds) into an intra-active assemblage of weather bodies. Weathering, then, is the "mutual worlding" of human and weather/climate that occurs "in a common space, a conjoined time," where we all—cloud, reader, writer—become "weather bodies" (560). Johnston's and Edith's poetic epistolary exchange extends the theory of weathering to poetics, as could be said about numerous works discussed in this dissertation, but Johnston's and Edith's dialogue heightens our awareness of the role of touch in this process. Taken as two intertwined and dialogic entities, Edith's and Johnston's poems model the sensuous merging of human and weather with the merging of poetic voice, form, and content. In this way, Johnston and Edith demonstrate the potential of when a poem—and its readers, writers, ecologies, and subjects—becomes a weather-body. The immediacy and felt impact of this poetic weathering, the erotics of touch that result, shows touch as a means of porous kinship and a needed alternative to emotional distance from our weathery kin—an alternative that can inspire us toward more ethical ecological relations.

Sensuous Lyricism in Howard's *Essay on the Modifications of Clouds*

A cloud is never a singular cloud-body. Clouds make physical and visible the continual intra-active touching of phenomena to levels less common in other ecological relatives. The stratus cloud with whom this chapter opened is not a bounded experience of mist or fog in themselves. Instead, the material coming-into-being of stratus is an assemblage of numerous bodies and phenomena who co-create stratus and who, given the addition and/or subtraction of various elements in space and time, co-dissolve stratus. In short, stratus clouds form when a large area of air cools, resulting in (largely invisible) water vapor condensing into (largely visible) liquid droplets. Already, the stratus cloud needs the touch of air and water to come into visible existence, but more bodies join in this co-formation. This large area of air cools through contact with other bodies of cooler air, and this air remains cool through the stable flows between itself and adjacent—*touching*—bodies of air, land, ground-water, and air-water. If, as Karen Barad writes, meaning does not pre-exist relationships but rather is formed within and because of them, clouds are assemblages of intra-actions, forming meaning through touch—like humans, multispecies alliances, and poetic writings.

These sensuous intra-actions then lead to the emergence of the stratus who, if additional embodied processes of touch occur, may then be who the World Meteorological Association (2017) lyrically describes as "hydrometeors consisting of a suspension of particles in the air" (*ICA*, Section 3.2.1.1), or whom we term *mist* or *fog*, depending on how the range of a human's horizontal visibility within the cloud (over one kilometer is *mist*, and less than one kilometer is *fog*). Advection fog, who forms over water, and radiation fog, who forms over land, in addition to numerous other types of fog,[24] can disperse when joined and scattered by warmer air currents, warmer ground temperatures, wind, and/or drier air, lifting them to the higher stratus (at up to 6,500'

[24] Other forms of fog include freezing fog, evaporation fog, upslope fog, hill fog, frontal fog, and ice fog (*ICA*, Section 3.2.1.1.1).

above ground). If these intra-active parties continue to engage, they can disperse the stratus from a large blanket into clumps of stratocumulus, into a thin sheen of altostratus or cirrostratus, or into an ever-present host of other possibilities.

No wonder, then, that Howard does not describe "cloud" in *Essay on the Modifications of Clouds* (1803) as a singular bounded entity but rather as a "suspended" gathering of particles (1): "the aggregate of minute drops called a Cloud" (3). *Cloud* is neither singular nor bounded, but multiple, sensuous, and porous. In his opening argument, Howard refers to clouds in ways that continually evoke their plurality and touching. For example, he writes, "it may perhaps be allowable to introduce a Methodical nomenclature, applicable to the various forms of suspended water, or, in other words, to the Modifications of *Cloud*" (2). Here, he parallels "the various forms of suspended water," a phrase plural in its use of *various* and *forms*, with "the Modifications of *Cloud*," a plural-and-singular phrase in its combined lack of an article or determiner before *Cloud* (e.g., *A Cloud* or *All Cloud*) and lack of pluralized *Clouds*. This phrase thus offers *Cloud* a multiple-singular fluidity between possibilities similar to other biological terms that remain the same between the singular and plural (e.g., *deer*).

As his *Essay* continues, Howard refers to clouds as "Aggregate" (3) and cloud forms as "Modification" (5), terms that also hold open continual plurality and possibility. An aggregate exists in a perpetual state of flux across the three distinct modifications of the cloud's formation: (1) the cloud's increase to the fullest demonstration of their form, (2) the cloud's decrease, and (3) the cloud's disappearance. Clouds, and other beings who exist not as a bounded unit but as a porous aggregate and not in stable forms but in perpetual modifications, are queer beings who arise from, within, and through touch. Clouds, like the other queer beings that Sara Ahmed (2006) describes, are "oblique" or "out of line" (161); so too, as Howard writes, clouds are "indeterminate" and "oblique" beings (5) who move "irregularly" (6) and create "multiplied reflections" (7). Always

shifting, touching, and being touched by the numerous other influencing bodies of land and sky, and the sensuous meeting-places between, clouds do not follow a linear trajectory. As Howard writes, some clouds, like the cumulus, "partake of the vicissitudes of the atmosphere: sometimes evaporating almost as soon as formed; at others suddenly forming, and as quickly passing to the compound modifications" (7). Clouds—or, rather, the manifold spiral of relations known as *Cloud*—hold no single stable identity.

While Howard invokes scientific mechanics in his descriptions of cloud bodies and modifications (as well as devoting pages of his *Essay* to such topics as the relevance of the cirrus cloud to electricians, and the probable causes of evaporation), his descriptions of clouds moving into and between modifications is often a lyrical meditation on erotic touch. Consider his description on the formation of the stratus:

> In this state of things the vapour arising from the heated earth is condensed *in the act of diffusing itself*: the cold particles of water thus formed, in *descending*, meet the ascending stream of vapour, and condense a portion on their surfaces. If they touch the earth they are again evaporated, which is not necessarily the case if they alight on the herbage. In this way an aggregate of visible drops is sooner or later formed [...] (24)

In this erotic encounter, water vapor, air, and earth meet, touch each other, touch themselves, and commingle, exchanging temperatures. These bodies move up and down, generating friction on their surfaces in contact until a body forms who is both newly visible and an *aggregate* of all bodies gathered and co-creating this encounter. "In a touch," Karen Barad (2012) writes, "an infinity of others—other beings, other spaces, other times—are aroused" (206). In the touch of water, air, and earth, in the coupling that generates the stratus, a vast range of meteorological possibilities gather, arouse, coalesce, and become, for a time, a lively being-space-time convergence who we know as the stratus.

After forming, the stratus continues to exist and move through erotic touch; Howard writes that the stratus "commonly rests on the earth or water" and "comprehends all those creeping Mists" (7). To no longer be stratus is, to Howard, to no

longer merge with and rub one's cloud-body along ground-bodies. He describes the common modification out of stratus and into cumulus as less a change within the cloud-body, and more a change from sensual coupling to decoupling with their co-participating ground-bodies: "the level surface of this Cloud begins to put on the appearance of Cumulus, the whole at the same time separating from the ground. The continuity is next destroyed, and the Cloud ascends and evaporates, or passes off with the morning breeze" (8). The stratus, to become cumulus, must *separate* from their ground partner and *destroy* the *continuity* of their erotic touch—albeit in favor of a different erotics with the breeze, who dissolves or propels the emergent cumulus into new relations.

In response to the continual intra-action and variability of *Cloud*, Howard offers a cloud nomenclature that employs a poetic mechanics of touch through hyphenated compound terms. His full list of cloud types includes both one-term and multi-term, or *compound*, modifications: "Cirrus, Cumulus, Stratus, Cirro-cumulus, Cirro-stratus, Cumulo-stratus, and Cirro-cumulo-stratus, or Nimbus" (14). The linguistic components and hyphens of Howard's terms make visible how clouds, even the most discrete tuft of cumulus, continually join a network of other queer beings who embed themselves in multiple relationships and multiple selves. Cumulus may touch other air currents, temperatures, water droplets, cloud-bodies, and topographies, rising to become the small high cloudlets of cirro-cumulus; or expanding and merging to become the mighty cumulo-stratus; or joining cirrus and stratus in a constellation of conditions to enfold their bodies into the often-precipitating and multiple cirro-cumulo-stratus or nimbus.

Such transitions between modifications, as well as transitions that bring modifications into being (as seen with the stratus), comprise erotic transitions of touch: being touched and touching. Thus, the intimacy Howard records as bringing a cumulo-stratus into being:

> When the Cumulus increases rapidly, a Cirro-stratus is frequently seen to form around its summit, reposing thereon as on a mountain, while the former Cloud

> remains discernible in some degree through it. This state of things continues but a short time. The Cirro-stratus speedily becomes denser and spreads, while the superior Cumulus extends itself and passes into it, the base continuing as it was, while the convex protuberances change their position till they present themselves laterally and downward. More rarely, the Cumulus performs this evolution by itself, and its superior part then constitutes the incumbent Cirro-stratus.
>
> In either case a large lofty dense Cloud is formed, which may be compared to a Mushroom with a very thick short stem. (10).

Even without the closing reference to the thick-stemmed mushroom, Howard's description of the emergent cumulo-stratus is a description of aroused and intimate touch. One body curls around another body for "but a short time," until their energies are excited, changing these bodies' shapes. One body "spreads" as another body "extends itself and passes into it," and both bodies develop "protuberances." Maurice Merleau-Ponty (1964) describes the inseparable sensation of touching and being-touched as "chiasm" or "intertwining" (*VI* 130), where one is "touched-touching" as one "encroaches" and "intersects" (261) with other bodies (as will be discussed in Chapter 4). In Howard's description, this touched-touching encounter opens space for "a large lofty dense Cloud" who is, like the stratus, at once a new body and an intra-active blossoming of the bodies once known as *cumulus* and *cirro-stratus*. This emergent *cumulo-stratus* holds elements of both cloud-bodies who joined in their making (see fig. 3-1).

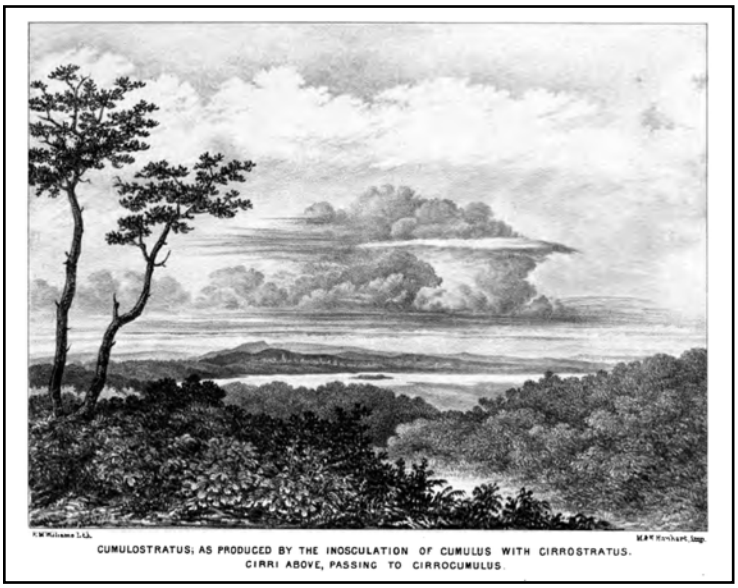

Figure 3-1. "Cumulostratus, as produced by the inosculation of cumulus with cirrostratus. Cirri above, passing to cirrocumulus," from Luke Howard; *Essay on the Modifications of Clouds*, London: S.I. Taylor, 1803. 3rd ed., 1864.

In this erotic and intimate encounter of the cumulus and cirro-stratus, reproduction is far from heteronormative: this reproduction is nonlinear and queer. Of the two contributing cloud-bodies, both are active participants described through active verbs, and the touch of both bodies—their intra-action, in other words—is required for the cumulo-stratus to come into being. At the same time, however, the cumulo-stratus can emerge from the auto-erotic practice of the cumulus, who "performs this evolution by itself" upon occasion, creating a version of the cirro-stratus from a "part" of their own body. Quantum theories of touch, which Barad describes as "radically queer" (209), also make visible bodies' capacity for generative, vital "self-touching" (213). Classical explanations for the physics of touch often discuss how no being ever touches another directly, as our sensation of touch is simply the electromagnetic repulsion of our atoms' electrons and the electrons of the other being's atoms (and electrons cannot come into direct contact). In contrast, quantum physicists see that an electron emits a photon, thus creating a positron-electron pair, which then vanishes into a new photon that is reincorporated into the electron. In other words, touch is "a particle touching itself, and then that touching touching itself, and so on, ad infinitum" (212)—a horizon of infinite possibilities.

The self-touching of particles (and thus of clouds, too) destabilizes classical explanations in physics and offers instead a playful, fluid, "polymorphous," and queer mode of intimacy (213). A cumulo-stratus formed by the self-touching of the cumulus is not lesser than a cumulo-stratus formed by the touched-touching of the cumulus and cirro-stratus. (And meanwhile, even the cumulus's self-touching to become cumulo-stratus is dependent on the co-participation and touch of (1) warm, moist air, (2) strong tropospheric winds, and (3) an unstable atmosphere of warm updrafts and cold downdrafts.) Touch, even self-touch (if "self"-touch can be said to exist), is an intimate communion with openness and indeterminacy.

Howard, in his language and grammar, acknowledges clouds' capacity for disorientation and reorientation, or what I call their queer ecology, in how Joshua Russell (2021) describes queer beings as "unstable, unpredictable, or unexpected" (2). Howard admits that a cloud who forms and passes into a modification as one type, might, in their next modification, pass into another type altogether. A cloud might even, in sensuous touch, "continue for a considerable time in an intermediate state, partaking of the characters of two Modifications" (3). In naming these modifications, Howard used a hyphenated system that, echoed in the terms' abbreviations, accentuates the inter-relation of cloud forms across multiple modifications (see fig. 3-2).

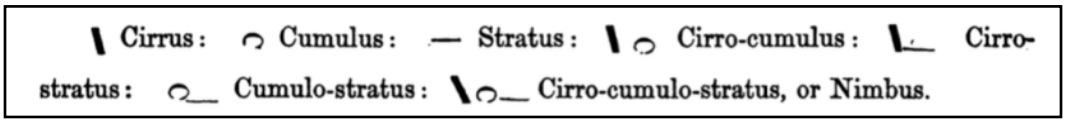

Figure 3-2. "System of Abbreviations," from Luke Howard; *Essay on the Modifications of Clouds*, London: S.I. Taylor, 1803. 3rd ed., 1864.

Howard's nomenclature of cloud modifications offers three single-term modifications (Cirrus, Cumulus, Stratus) and four compound modifications: three joining two terms (Cirro-cumulus, Cirro-stratus, Cumulo-stratus), and one both joining three terms and offering one combined term (Cirro-cumulo-stratus, or Nimbus). All terms, and all modifications or cloud-bodies, then, contribute to numerous other cloud-bodies; none exist in isolation, nor only in their names or abbreviations. At a glance, a reader can see that the stratus, represented by a long dash, reappears amid and as three additional modifications: the cirro-stratus, cumulo-stratus, and cirro-cumulo-stratus. Just as the cumulo-stratus discussed before comes into visible existence through the erotic touch of the cumulus and the cirro-stratus, so too can one see the visual curl of the cumulus and the slash-dash of the cirro-stratus enfolded and, touching-touched, becoming the combined-and-new curl-dash of the cumulo-stratus.

Howard's use of the hyphen for all compound modifications heightens the impact of the linguistic touching of these clouds across multiple modifications. The hyphen is perhaps the most sensuous and erotic punctuation mark. The hyphen touches both terms and brings them into contact as a single term with the thin weft of grammatical fabric and space still glimmering between them—a term, in other words, that exists simultaneously as singular and multiple. The cumulo-stratus is a *particular* modification —*the* cumulo-stratus—and, at the same time, is a *commingling* of modifications—the space where *cumulus and stratus* meet and intra-act to offer themselves as a body not *cumulus-plus-stratus* but as *another being*: where one plus one equals one, or two, or ten, all at once.

Howard was proposing new terminology, admittedly, and the English-language convention for most new words that could be seen as combinations of pre-existing words is to offer them first as hyphenated words then, after increased acceptance and use, shift them to non-hyphenated or closed words, and cloud nomenclature has largely followed this convention. Howard's *cirro-cumulus* and *cirro-stratus* have become, after retaining their hyphens for close to a century (with some revisions in the punctuation of these and other clouds' names), our *cirrocumulus* and *cirrostratus*. In the most recent *International Cloud Atlas* (2017), the World Meteorological Association avoids hyphens in all ten cloud types, including the (now) seven compound-term cloud types.

Similarly, several once-hyphenated terms for queer identities, such as *non-binary* and *gender non-conforming*, are now often spelled without hyphens. Alex Kapitan (2021) admits that "the spellings non-binary and non-conforming make these words sound less real and accepted," but as a person within these communities, they prefer the hyphenated terms as a way to "practice care and honor nuance and complexity in communication" (n.p.). Julia Serano (2016) also opts for continued hyphenation of the increasingly unhyphenated "trans-misogyny," sharing that, "I stick to my hyphenated

version both for consistency, and to stress that it involves the interplay of transphobia and misogyny" (n.p.). Howard may have used hyphens as a matter of linguistic convention when introducing new terms. He may also, or instead, have used hyphens to accentuate the sensuous interrelation and agency of cloud forms across and within multiple modifications, as Abercromby's and Hildebrandsson's linguistic choices with hyphens and compound terms later in the nineteenth century also will interrogate.

Abercromby's and Hildebrandsson's Hyphenated Nomenclature

Toward the end of the nineteenth century, after Eurowestern scientists and observers had pursued over eighty years of cloud research following Howard's *Essay*, Ralph Abercromby still admits in "Suggestions for an International Nomenclature of Clouds" (1887) that, "sometimes it is difficult to see the difference between the driving scud of nimbus and the rising mist of fine weather stratus" (154). Just as Howard, eighty-four years previously, described clouds as continually shifting modifications, Abercromby concurs that "clouds are reproduced in endless modifications" (156)—much as one also might argue for the multiple modifications, or revised versions, of Tennyson's "Tithon" and "Tithonus" in this chapter. Abercromby and his fellow scientist and collaborator Hugo Hildebrand Hildebrandsson agree on the inherent multiplicity of clouds. Through their use of the hyphen and proposed compound cloud types in a revision of Howard's and subsequent taxonomies, they extend clouds' linguistic commingling—their multidirectional touched-touching—arguably to an even queerer, even more erotic extent than did Howard.

In Abercromby's "Suggestions" (1887), he lists "ten principal varieties on which I am agreed with Professor Hildebrandsson," as well as seven additional minor varieties (157); across these seventeen varieties, eleven are hyphenated compounds. Of these hyphenated varieties, several pairs use the same two terms—but create different varieties

when the order of these terms is reversed. Thus, the "Cirro-Cumulus" is a "Fleecy cloud," while the "Cumulo-Cirrus" is a "Low fleecy cloud." The "Cirro-Stratus" appears in the "High" sky, while the "Strato-Cirrus" appears in the "Middle" sky. Further, both the "Strato-Cumulus" and the "Cumulo-Stratus" appear in the "Low" sky. A single sky might hold both Cirro-Cumulus and Cumulo-Cirrus, and in their continual evolution across the sky and with each other, these modifications might touch and embody other and compound varieties.

In Abercromby's hyphenated and reversible-term cloud varieties, not only are the cloud varieties erotic through their hyphenated touch, but the terms are also both capitalized and they may appear in either order depending on the nuances exhibited by the modification. Both of these erotic attributes are unlike Howard's nomenclature, which capitalized only the first letter of the first term (e.g., Cumulo-stratus) and which, while combining terms, do not reverse the hyphenated terms to offer an additional variety of cloud. Capitalizing both terms witnesses a more nonlinear, egalitarian, and queer relationship between these intra-acting bodies. The hyphen becomes less the connective tissue between a dominant and a subordinate party and more a balanced slide between two important and present terms. As Abercromby writes, the Strato-Cirrus "is simply a denser and lower form" of the Cirro-Stratus (159). Though the first term in the compound is in adjectival form (e.g., *Strato*-Cirrus, rather than *Stratus*-Cirrus), the reversible compound terms often denote the same or similar cloud, just at differing heights. The Cumulo-Cirrus is "identical" to the Cirro-Cumulus, and this term "is introduced simply as an easy way of expressing low cirro-cumulus" (159).[25] Abercromby outlines in his article what constitutes each of his seventeen cloud varieties, complete with visual details, altitude, and geographic range. A reader can leave the article

[25] In his article, Abercromby sometimes varies his capitalization practice, as in this instance of the lower-case "cirro-cumulus." Nevertheless, this term in all-lowercase retains the egalitarian relationship of an all-capitalized term, and Abercromby may have placed this term at this moment into full lowercase to emphasize the diminished altitude of this "low cirro-cumulus" (159).

confident they could identify (and Abercromby would agree) that, for example, *this* cloud is a Strato-Cirrus while *that* cloud is a Cirro-Stratus.

Hildebrandsson, in "Remarks Concerning the Nomenclature of Clouds" (1887), further queers the erotic potential of the hyphen and these cloud types by permitting more ambiguity between the reversible-term cloud varieties. Rather than asserting one consistent order (as per Howard) or explicit guidelines for what determines that this cloud is *A-B* as opposed to *B-A* (as per Abercromby), Hildebrandsson declares that the order of terms depends on a context which is more- and less-subjective. Thus, if a cloud, meeting other criteria, is "cotton-like, floating in somewhat denser masses," the cloud is "Cumulo-cirrus instead of Cirro-cumulus" (154). But if a cloud, again meeting other criteria, becomes "dark and threatening," Hildebrandsson argues that the cloud is "Strato-cirrus instead of Cirro-stratus" (154). In this way, the hyphen—as we have seen in Howard's and Abercromby's work—continues to serve as a portal and balance point; but in Hildebrandsson's work, the hyphen becomes even more an erotic vortex of touch. The terms on either side are subject to different flux and weight. A cloud might not just be cumulus into cumulo-cirrus into cirrus, as Howard asserted (albeit with exceptions), but a more recursive and sensuous being. A cloud might touch other atmospheric and/or topographical bodies to shift from cumulus into cumulo-cirrus into cirro-cumulus and back and forth, perhaps leaping toward either cumulus or cirrus, or another form altogether, depending on the context.

Still, Abercromby and Hildebrandsson both place limits on how erotic and ambiguous this terminology might become, while other meteorologists were more welcoming of multiple, overlapping, subjective terms. André Poëy, director of the Havana Observatory in Cuba, published *Comment on Observe les Nuages pour Prevoir le Temps* [*How to Observe the Clouds to Predict the Weather*] (1879), a controversial book on cloud forms and science that moved further toward an early form of queer

ecology, or even of quantum physics as will be discussed in Chapter 4. Poëy argued that the same cloud, witnessed by two different observers, could be two different forms at once, depending on the observer's perspective. He allows for multiple possibilities as our embodied perceptions each reach out, touch, and intra-act with the cloud to determine their best name for this observer in this moment of time and place, foreshadowing the embodied phenomenology of Merleau-Ponty in the coming century.[26]

Imagine that you and I stand a mile apart, or I stand on the ground while you stand on a tall building, and we look at the same cloud in the same sky. Howard would designate the cloud cirro-cumulus. Abercromby would use altitude to declare whether the cloud is cirro-cumulus or cumulo-cirrus. Hildebrandsson might allow more flexibility into the designation, permitting us to call the cloud either cumulo-cirrus or cirro-cumulus, but we must both choose one name. Poëy would allow—even encourage, if we observed closely and felt it best—you to call the cloud cumulo-cirrus and me to call the same cloud cirro-cumulus, or further, for me to call the cloud cirro-cumulus and you to call the same cloud cirrus. Poëy's queering of singular universal nomenclature extends the work of Howard, Abercromby, and Hildebrandsson toward a lyric erotics of touch that welcomes indeterminacy, contact, and fluidity. Likewise, the hydro-erotics of form and content in Alfred Lord Tennyson's "Tithonus" emphasizes a sensuous relationship of touch across humans, clouds, and other watery relatives that acknowledges co-participants' agency and demonstrates the erotic relations that may then emerge.

Tennyson, "Tithon" and "Tithonus," and Hydro-Eroticism

Alfred Lord Tennyson's "Tithonus" (1860), first drafted in 1833 as "Tithon," reaches—not unlike the sensuous hyphen discussed in the work of Howard, Abercromby,

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[26] In "Suggestions," Abercromby reports that he and Hildebrandsson "consulted" Poëy's book; while they found some limited use in it, he devalues the text and the nascent strands of queer ecology therein by declaring: "in many points it was so manifestly wrong that they resolved to discard it altogether" (165).

and Hildebrandsson—across the middle of Tennyson's life and career. After the sudden death of his beloved friend Arthur Henry Hallam at the age of twenty-two in September 1833, Tennyson drafted the 64-line "Tithon" in October 1833, as well as "Ulysses" and the beginning of *In Memoriam A.H.H*, but he then set "Tithon" aside until 1859, when he was invited to submit a poem for the *Cornhill Magazine*. In response, Tennyson revised "Tithon" in late 1859, and the 76-line "Tithonus" first appeared in the February 1860 issue of *Cornhill*, then, following additional revisions, in Tennyson's 1864 collection *Enoch Arden*. Scholarship on both "Tithon" and "Tithonus" remains sparse, especially in comparison with work on two other poetic responses to Hallam's death, *In Memoriam* and "Ulysses," both also begun in 1833. Not until 1949 was "Tithon" reproduced from manuscript in a scholarly journal (*PMLA*, transcribed and analyzed by Mary Joan Donahue). "Tithonus," which scholars including Henry Weinfield (2012) and J. Hillis Miller (2019) describe as "one of the most richly harmonious and richly textured poems in the language" (Weinfield 359), continues to be understudied.

"Tithonus," like "Tithon," is a dramatic monologue depicting relations of touch between environmental and atmospheric phenomena—such as clouds, mists, dews, and the porous ground. In the classical myth, which Tennyson invokes, Tithonus is the human male lover of Eos (or Aurora), goddess of the dawn. After he is granted eternal life without eternal youth, making him, as Tennyson writes, "immortal age beside immortal youth" (l. 22), complications ensue as his body ages. I queer earlier heteronormative tendencies in scholarship to suggest that "Tithonus" imagines watery bodies, like clouds, as co-participants in sensual and sexual erotic intimacies. Reading "Tithonus" alongside its earlier embodiment as "Tithon" and Jeremy Chow's and Brandi Bushman's (2019) theory of hydro-eroticism unsettles notions of a singular, bounded body in favor of a more reciprocal entanglement of bodies and affections. Chow and Bushman propose hydro-eroticism as "an ecofeminist and queer ecological reading of

water" (96), whereby three strands of inquiry—all relevant to and present within "Tithonus"—are pursued: (1) how watery bodies house both queer community and queer punishment, (2) how watery bodies also associate with the multivalent female body, and (3) how multispecies intimacies (particularly human and more-than-human intimacies) are embodied and voiced in watery bodies. A hydro-erotic reading of "Tithonus" notes how sexuality, gender, embodiment, and interspecies relations are queered throughout the form and content of Tennyson's poem.

Queer Community and Queer Punishment in "Tithonus"

Throughout the seven stanzas of "Tithonus," and amplified from the initial briefer draft of "Tithon," poetic form and content touch, mingling to create queer bodies and intimacies, which offer opportunities of both community and punishment to Tithonus, Eos, and the watery bodies with whom they coexist and co-participate in these intimacies. From the opening lines of "Tithonus," the species and embodiment of the speaker is queered and indeterminate, less *individual* than *community*:

> The woods decay, the woods decay and fall,
> The vapours weep their burthen to the ground,
> Man comes and tills the field and lies beneath,
> And after many a summer dies the swan.
> Me only cruel immortality
> Consumes: I wither slowly in thine arms,
> Here at the quiet limit of the world,
> A white-hair'd shadow roaming like a dream
> The ever-silent spaces of the East,
> Far-folded mists, and gleaming halls of morn.
>
> Alas! for this grey shadow, once a man—
> So glorious in his beauty and thy choice,
> Who madest him thy chosen, that he seem'd
> To his great heart none other than a God!
> I ask'd thee, 'Give me immortality.'
> Then didst thou grant mine asking with a smile,
> Like wealthy men, who care not how they give.
> But thy strong Hours indignant work'd their wills,
> And beat me down and marr'd and wasted me,
> And tho' they could not end me, left me maim'd
> To dwell in presence of immortal youth,

Immortal age beside immortal youth,
And all I was, in ashes. Can thy love,
Thy beauty, make amends, tho' even now,
Close over us, the silver star, thy guide,
Shines in those tremulous eyes that fill with tears
To hear me? Let me go: take back thy gift:
Why should a man desire in any way
To vary from the kindly race of men
Or pass beyond the goal of ordinance
Where all should pause, as is most meet for all? (ll. 1-31)

The opening lines hold no personal pronouns, leaving the speaker's body and voice ambiguous as each weighted line drips through the four-line first sentence of the poem. Instead of one human speaker, as might be expected, Tennyson opens "Tithonus" with a host of ecological relatives: the "woods" (l. 1), "vapours" (l. 2), "ground" (l. 2), "man," (l. 3), "field" (l. 3), and "swan" (l. 4), all of whom condense and pour, eventually, not only "to" (l. 2) the earth surface but "beneath" (l. 4) them, layering into watery bodies and queer community. The vapors, for example, do not merely *touch* the ground or *press* themselves upon the ground. They "weep" (l. 2) to the ground, accentuating the penetrated-penetrative vitality of this cloud-borne moisture, which like a wound seeps and intermingles across porous membranes of bodies. Here in this "soil of the sensible," as Maurice Merleau-Ponty describes in "Eye and Mind" (1964), Tithonus's body blurs into a state of being where self and world are intra-active and entangled (160). So, too, does "Tithonus" formally weep across lines in this watery community. Of these first thirty-one lines, only five lines are end-stopped, while most lines hold an end-line pause of a comma (itself a visual droplet of water falling, with the reader's eye, from one line to the next).

These opening lines are more weighted and earthward, wrapping readers in repeated sounds and words, than the opening lines of Tennyson's earlier draft. "Tithon" begins, "Ay me! Ay me! the woods decay and fall, / The vapours weep their substance to the ground" (ll. 1-2). In "Tithonus," Tennyson increases the erotics of touch from the first line by repeating "woods decay" twice across the sensuous pause of the mid-line caesura,

thereby heightening the surprise and inevitability of the downward movement of "fall" (l. 1), placed at the physical plunge of the first line into white space. "And fall" pushes readers, after the gathering repetition (six of eight words in this first line are repetitions), into a small death, itself repeated in the following deaths of the vapors, man, and swan in the three following lines. Tennyson reinforces the downward motion in his revision of the more abstract "substance" in "Tithon" to the heavier (and, by association, musical) "burthen" in "Tithonus (l. 2). He removes the melodramatic and self-reinforcing "Ay me! Ay me!", where as Jacob Jewusiak (2021) notes, "Ay" coexists sonically with *I* and *eye* to focus attention on Tithonus's personal, singular body. By removing the opening "Ay me! Ay me!", as well as reducing the use of this phrase from three appearances in "Tithon" to one in "Tithonus," Tennyson opens "Tithon" in favor of a more sensuous commingling of ecological bodies in their watery environment. He sediments the reader first in place and milieu—opening the possibility that this speaker, too, might be more *community* than *I*.

While the speaker coalesces through the introduction of personal pronouns in the second sentence—both "Me" (l. 5) and "I" (l. 6)—, they integrate neither as one single nor human body. Rather, they describe themselves as a "white-hair'd shadow" (l. 8) and a "gray shadow, once a man" (l. 11). As Michael E. Greene (1980) notes, Tennyson uses the words "man" and "men" six times across the poem, but the speaker never refers to themselves as currently a man.[27] Rather, they were but "once a man" (l. 11). In the remaining five instances of man/men (ll. 3, 17, 28, 29, 70), four of which appear in the first third of the poem, the speaker describes these bodies as abstract and distant from themselves. The first "man" of the poem (l. 3) is more abstract than "the field" he works (l. 3); given no prefatory article, unlike *the* field, this "man" is a stand-in for all "Man[kind]." At the same time, he is the unstressed opening syllable of this iambic line. Following the stresses of this line, more important than his particular body is that he

[27] For this reason, and the poem's gender-fluid elements, I refer to Tithonus as "they," not "he."

"*comes* and *tills* and *lies* be*neath* (l. 3, italics for emphasis). Tithonus, though, is a shadow separated from these actions and "the kindly race of men" (l. 28) at large. Instead of cultivating the fields, they are a shadow percolating through the watery lines of this poem as through the watery bodies of this atmosphere. They are more *be-ing* than *body*, more verb than noun.

Yet, while Tithonus is pluralized in ecological queer community, "Tithonus" opens with images of downward motion and death; these images of decay—a phenomenon that holds both gathering and dissolution—emphasize relations and percolations between and throughout bodies. As *one* decays, they become *many*; a body dissolves into the larger multispecies milieu and community. Tithonus's embodiment as a percolating shadow reminds readers that time, particularly in watery ecologies, is less linear than recursive, for Tithonus is "beyond the goal of ordinance" (l. 30). As a queer shadow, Tithonus is not bound by what is "most meet for all" (l. 31), for they are no longer *meat*. They exist as the queer paradox of "immortal age" (l. 22), held in the porous and fluid multiplicity of Eos's "tremulous eyes that fill with tears" (l. 26), in an atmosphere textured with clouds in various embodiments who touch and are touched. Like the fog or mist of the stratus cloud, Tithonus also is "white-hair'd" (l. 8) and "grey" (l. 11), "gleaming" among the "Far-folded mists" (l. 10) and witnessing the "vapours" (l. 2) who themselves "weep" moisture through their bodies and into the earth (l. 2). As a shadow folded within the watery ecologies of clouds and their shadowed bodies, Tithonus queers borders and edges. Grey—itself rhyming with *decay*—is not static but always multivalent and circumventing notions of linearity in favor of a spacetime that returns, pools, eddies, swirls, and touches adjacent bodies. Tithonus shifts from the definite "white" (l. 8) to the proliferating "grey" (l. 11), where he remains for the duration of the poem alongside Eos's "silver" (ll. 25, 76), "red" (l. 36), crimson" (l. 56), and

"ros[e]" (l. 66). Grey entangles colors and bodies with and into themselves, as the grey shadow and mist of the stratus cloud blurs definite edges into an erotic commingling.

Tennyson uses consonance, assonance, and repetition across this first third of the poem, generating a sensuous erotics of sound that recalls Howard's cloud descriptions: here, a thick atmosphere of "Far-folded mists" (l. 10) that surrounds the reader. Within single lines of the first stanza, Tennyson repeats "*d*" sounds, in *decay, decay* (l. 1) and *white-hair'd, shadow, dream* (l. 8); and "*m*" sounds that sometimes slide into "*w*" sounds, in *many, summer, swan* (l. 4) and *mists, gleaming, morn* (l. 10). These sounds pour over and touch multiple lines, as when the "*m*" and "*w*" sounds of "many a summer dies the swan" (l. 4) slides into "Me only cruel immortality" (l. 5). So, too, the "*s*" sounds of the fourth line swirl into the "*s*" sounds across the two lines closing the first stanza: *silent, spaces, East* (l. 9) and *mists, halls* (l. 10). Visually, Tennyson's line structure creates equivalences between terms, as in line-opening "Man" (l. 3) and the subsequent line's closing "swan" (l. 4), two terms Weinfield calls "symmetrical entities" (202). This symmetrical multispecies erotic is heightened by the stanza's play across "*m*" and "*w*" sounds formed by letters that are themselves symmetrical and upside-down images of each other. In both opening stanzas, the repeating "*a*" sounds lead into repeating "*i*" sounds; in the first stanza, for example, the *decay, vapours, and, after, many, swan* of the first sentence shifts into the *immortality, wither, thine, quiet, limit, hair'd, silent, mists* of the second sentence. Meanwhile, Tennyson repeats words and phrases in close proximity to thicken the touched-touching nature of these lines and bodies, as when he uses "immortal" three times across just two lines, ending both lines with the larger phrase "immortal youth": "To dwell in presence of immortal youth, / Immortal age beside immortal youth" (ll. 21-22).

And yet, through this ecological community offered by these diverse watery bodies, queered in an erotic commingling, Tithonus's own body, contrasted with that of

the beloved Eos, is "Immortal age" (l. 22)—a profound punishment. In "Tithon," the speaker must reckon with how, "Being immortal with a mortal heart, / To live confronted with eternal youth" (ll. 12-13). In "Tithonus," Tennyson increases the repetition of "immortal" (revising "mortal" and "eternal" to do so), which heightens Tithonus's sense of punishment. Their immortality is not simply body-sans-heart, as in "Tithon," but felt throughout their porous embodiment. They are not only "confronted" by Eos's "eternal youth" (l. 13) but are folded into community with her, "dwell[ing] in presence" of her (l. 21) and "beside" her (l. 22). This erotic community brings punishment, however, and Tithonus is "Consume[d]" (l. 6), "beat," "marr'd," and "wasted" (l. 19), "maim'd" (l. 20), and left "in ashes" (l. 23) to "wither slowly" (l. 6). Hydro-eroticism, as Chow and Bushman write, "combine[s] affection, violence, consent, and violation" (111). Tithonus cherishes Eos's "beauty" (l. 24) and "thy love" (l. 23), a mutual affection shown as the poem continues. Tithonus made the direct, consenting request, "'Give me immortality'" (l. 15), though the violent effects of that "gift" (l. 27) now leaves them violated and asking Eos, "hear me? Let me go: take back thy gift" (l. 27). Within this multispecies milieu, Tithonus experiences both queer community and queer punishment.

"Tithonus" and the Multivalent (Female) Body

As a "shadow" (ll. 8, 11), and as a gender-fluid being, Tithonus merges with the also-multivalent watery bodies of Eos and this ecological milieu. These characters, as well as the poem itself, become a body of water, a cloud touching (and touched by) another cloud and unloosing precipitation that is *both* just as much as *another*. "Our own embodiment," Neimanis writes, "is never really autonomous. Nor is it autochthonous, nor autopoietic; we require other bodies of other waters (that in turn require other bodies and other waters) to bathe us into being" (3). In the sensuous touch of "Tithonus," Tennyson depicts this erotic co-becoming:

A soft air fans the cloud apart; there comes
A glimpse of that dark world where I was born.
Once more the old mysterious glimmer steals
From thy pure brows, and from thy shoulders pure,
And bosom beating with a heart renew'd.
Thy cheek begins to redden thro' the gloom,
Thy sweet eyes brighten slowly close to mine,
Ere yet they blind the stars, and the wild team
Which love thee, yearning for thy yoke, arise,
And shake the darkness from their loosen'd manes,
And beat the twilight into flakes of fire.

Lo! ever thus thou growest beautiful
In silence, then before thine answer given
Departest, and thy tears are on my cheek.

Why wilt thou ever scare me with thy tears,
And make me tremble lest a saying learnt,
In days far-off, on that dark earth, be true?
'The Gods themselves cannot recall their gifts.' (ll. 32-49)

Hydro-eroticism illuminates how watery bodies house and manifest the multivalent female body, and in "Tithonus," Tennyson depicts Eos's and Tithonus's bodies and minds as plural, gender-fluid, and queerly erotic. Tithonus, as discussed, is a *shadow*, and Eos, also, is described not through female (nor human) images but instead through porous, watery bodies. These watery bodies—within and through which both Eos and Tithonus move and touch themselves and each other—create a multispecies hydro-erotics that queers notions of acceptable human sexuality at large and in prior scholarship on the poem.

From the first lines of the poem, where the "vapours" (l. 2) touch other ecological bodies in a watery erotics that folds wetter and drier bodies into the porous kinship medium of the earth, Tennyson depicts a queer ecological erotics of possibility. Critics often comment on the sexual eroticism of "Tithonus," with Greene describing "Tithonus" as "one of the more erotic poems of the nineteenth century" (293). Yet, critical opinion often depicts these erotics as heteronormative—human-with-human, and male-with-female. These critics assert that "Tithonus" depicts heterosexual erotics, even as such a definitive heteronormative reading is untenable due to the stretched logic and

assumptions it requires, like the reaching that strictly autobiographical readings of this poem (e.g., Tithonus as Tennyson, and Eos as Hallam) also require and for which they have fallen out of favor.

Rather, through the generative milieu of watery bodies, and alongside the multivalent embodiment of Eos and Tithonus, Tennyson's poem depicts a queer and multispecies erotics. (The mythic milieu of this poem, too, aids in a reading of multispecies erotics, as mythological figures often transform across species and gender borders.) In these stanzas, almost any mammal of any (or multiple, or no) gender could embody the physical attributes described, for almost all mammals have "brows" and "shoulders" (l. 35), a "bosom" (l. 36) and "cheek" (ll. 37, 45), and "eyes" (l. 38) and "tears" (ll. 45, 46). Further, these bodies touch in ways that transcend the *human* or the *mammal*, let alone humans of particular gender assignments. Their erotic encounter is weft through with a "soft air," and the receptive body at this moment in the encounter—who may be, but is not required to be, a female body—attunes and opens themselves to this air as a "cloud" (l. 32). Clouds are *both-and*, enfolding and intra-acting with the bodies they touch and are touched by, dissolving borders and edges in favor of a more reciprocal porosity. Thus, in "Tithonus," one body seeks to "glimpse" (l. 33) while another seeks to "glimmer" (l. 34), both words stemming from the Middle High German *glim*. To glimpse is to glimmer—to shine faintly, through water and wetness, and to have this light received—to touch with light and water and, in turn, to be touched. As Hallam wrote in "On Sympathy" (1830), "It is an ultimate fact of consciousness, that the soul exists as one subject in various successive states" (137). Regardless of Eos's or Tithonus's particular embodiment, their encounter transcends the heteronormative for a multispecies erotics.

These watery and multivalent erotics allow these bodies to overflow both gender and species across these lines. Across multiple lines, these bodies drip with "tears"(ll. 45,

46) and with the sensuous repetition of "*g*" sounds: *glimpse, glimmer, gloom, growest, given*, in these stanzas alone, as well as the earlier *gleaming* and the later *glow, glimmering, grave*. These "*g*" sounds' frequent pairing with "*i*" sounds, as in *glimpse* and *glimmer*, accentuate how, as these bodies move together in light and water, a touching-touched that generates the dawn, so too do the skies—who are Eos's and Tithonus's bodies, who are also clouds—respond and co-participate in this erotic encounter. Thus, the cloud-body who is "fan[ned…] apart" (l. 33) is also Eos's body who "growest" (l. 43). Eos's multivalent body queers heteronormative sexual binaries of male/female and action/passivity. Eos's body is both the one who embodies the "silence" (l. 44) of the fourth stanza and who enacts (in herself or due to her actions) almost all verbs in the third stanza, making her sometimes-silent, sometimes-receptive body also the body who drives the action of these stanzas. Eos "fans" and "comes" (l. 32); her body "steals" (l. 34), "beat[s]" (l. 36), "begins to redden" (l. 37), and "brighten[s]" (l. 38). Her "wild team" (l. 39)—traditionally, the horses who pull Eos's chariot into the sky at sunrise, but potentially also the ecstatic elements of her multivalent body in the moment of erotic encounter—"arise" (l. 40), "shake" (l. 41), and generate "flakes of fire" (l. 42) from the friction and touch instigated by her actions.

Tennyson's revisions to "Tithon" heighten the formal sense of this erotic friction across these stanzas. "Tithonus" visually accentuates the touching of multiple components more so than "Tithon" in this section, which increases from fourteen lines and one stanza in "Tithon" (ll. 27-40) to eighteen lines and three stanzas in "Tithonus" (ll. 32-49). The shift from one to three stanzas (two of which, the tercet and the quatrain, are the shortest stanzas of the poem), push the reader into more visceral suspension-and-release in the white space between stanzas. From the iambic pentameter of the third stanza, the reader aurally falls through trochaic meter in the closing image of the horses who "beat the twilight into flakes of fire" (l. 42) into white space. Rather than land in the

subsequent stanza by resuming the regular metrical pulse and soothing alliteration seen in "Tithon," whose next line (sans stanza break) opens, "Tis ever thus" (l. 38), Tennyson jars the reader not with the soft "Tis" but with "Lo!". The sudden ground contact of this exclamation forms an opening-line spondee that lurches back into the iambic meter of the remaining line; however, this line could be read as one spondee and four iambs (if "ever" is scanned as one syllable) or one spondee, one unstressed syllable that further jars the rhythm, and four iambs that provide tenuous affirmation of the regained meter. Likewise, Tennyson follows the conclusion of the next stanza, "thy tears are on my cheek" (l. 45)—the line that ends this section in "Tithon"—with another bout of white space followed by a stressed syllable, an interruption to the iambic meter, and the struggling recovery of the meter before the close of the line: "Why wilt thou ever scare me with thy tears" (l. 46). Here, Tennyson repeats "tears" (ll. 45, 46) across the stanza break, as well as the rhyme of "thy" (ll. 45, 46) with "Why" (l. 46), emphasizing the physical touch of these watery bodies at the same time as their distance.

Emphasizing these hydro-erotics of touch, "Tithonus" uses more evocative aural and visual repetition in this section than "Tithon." Tennyson rubs the lines of "Tithonus" together in sensual touching, like the repetition of similar terms on both sides of the hyphen in the cloud names proposed by Howard, Abercromby, and Hildebrandsson (e.g., *cumulo-stratus* and *strato-cumulus*). The "bosom throbbing" of "Tithon" (l. 32) becomes the "bosom beating" of "Tithonus" (l. 36), heightening this consonance by opting for alliteration here. He orchestrates a lusher ecology of sound, and creates a more visceral image, in the following line by making the reverse choice: the alliteration of the abstract and familiar "begins to bloom" in "Tithon" (l. 33) becomes the internal assonance of the concrete and embodied "begins to redden" in "Tithonus" (l. 37). All three lines of the last sentence of this section of "Tithon" begin with a brief phrase set off from the remainder of the line by a colon or comma:

Tis ever thus: thou growest more beautiful,
Thou partest: when a little warmth returns
Thou partest, and thy tears are on my cheek. (ll. 38-40)

Tennyson's lineation heightens a reader's awareness of the repetition "Thou partest" (ll. 39, 40) to open the final two lines of the stanza, which both move in regular iambic pentameter. The repetition of "Thou partest" emphasizes the distance between Tithon[us] and Eos, particularly as the potential contact zone of each new line begins with this reminder of distance. Yet, the phrase can also seem a metrical placeholder that, despite the moment of enjambment across lines 39-40, keeps this final sentence of the section more static and box-like.

In contrast, the corresponding three-line sentence in "Tithonus" moves more sensuously across and within lines, substituting some end-line punctuation for mid-line punctuation and shifting the taller, blockier hurdles of the colon for the falling droplet of the comma:

Lo! ever thus thou growest beautiful
In silence, then before thine answer given
Departest, and thy tears are on my cheek. (ll. 43-45)

Whereas in "Tithon," Tithon[us] observed Eos from greater physical and emotional distance, giving her a pronoun (*thou, thy*) to designate each of her actions, in "Tithonus," Eos embeds herself with action and embodiment. "Thou partest" (l. 40) becomes, simply, "Departest" (l. 45), merging body with action in time, as when Tennyson's emphasis on her increasing beauty in "Tithon," when "thou growest more beautiful" (l. 38), shifts to an emphasis on her continuance across time, when "ever thus thou growest beautiful" (l. 43). Eos's multivalent body—a body of "immortal youth" (ll. 21, 22) and a body of watery, proliferating ecologies—exists "beyond the goal of ordinance" (l. 30), outside of hegemonic linear structures. Eos can *ever […] growest*, because her body is not bound to linear notions of age, gender, sexuality, or embodiment. Eos is more stratus than cumulus, more vapor than droplet, in her hydro-erotic body and relations.

Multispecies Erotics in "Tithonus"

Through their gender-fluid and multispecies commingling, Eos and Tithonus build a queer community of erotic touch, enhanced by Tennyson's formal choices. The sexual hydro-erotics of "Tithonus" continues into the penultimate stanza, and the poem closes into an multispecies erotics charged with both community and punishment:

> Ay me! ay me! with what another heart
> In days far-off, and with what other eyes
> I used to watch—if I be he that watch'd—
> The lucid outline forming round thee; saw
> The dim curls kindle into sunny rings;
> Changed with thy mystic change, and felt my blood
> Glow with the glow that slowly crimson'd all
> Thy presence and thy portals, while I lay,
> Mouth, forehead, eyelids, growing dewy-warm
> With kisses balmier than half-opening buds
> Of April, and could hear the lips that kiss'd
> Whispering I knew not what of wild and sweet,
> Like that strange song I heard Apollo sing,
> While Ilion like a mist rose into towers.
>
> Yet hold me not for ever in thine East:
> How can my nature longer mix with thine?
> Coldly thy rosy shadows bathe me, cold
> Are all thy lights, and cold my wrinkled feet
> Upon thy glimmering thresholds, when the steam
> Floats up from those dim fields about the homes
> Of happy men that have the power to die,
> And grassy barrows of the happier dead.
> Release me, and restore me to the ground;
> Thou seëst all things, thou wilt see my grave:
> Thou wilt renew thy beauty morn by morn;
> I earth in earth forget these empty courts,
> And thee returning on thy silver wheels. (ll. 50-76)

Though Tithonus begins the penultimate stanza with "Ay me! ay me!" (l. 50), the only instance of this exclamation kept from the three such instances in "Tithon," this play on *Ay/I/eye* and *me* becomes ironic, for Tithonus distances themselves from such singular human male embodiment in their following phrases. They wonder, "with what another heart" (l. 50) and "with what other eyes" (l. 51) they used to observe Eos.

Further, Tithonus questions their connection not just to the physical parts of *heart* and *eyes* but to the entirety of that past observer, for "I used to watch—if I be he that watch'd" (l. 52). Just as Tithonus refers to the being who was "once a man" (l. 11) earlier in the poem, describing him through third-person pronouns (ll. 11-14), and depicting their own present embodiment as "this gray shadow" (l. 11), so too does Tithonus again question "if I be he" (l. 52). Tennyson expands Tithonus's questioning of their heart, eyes, and body from "Tithon," where Tithon[us] simply wonders "with what another heart" (l. 41). Returning to this poem after twenty-six years, Tennyson perhaps could accentuate Tithonus's distance from their earlier self by also witnessing how changes across time and space might, as Gregory Tate (2009) writes, "so alter identity that past and present selves become separate subjects requiring separate pronouns" (75). Tithonus does not only have "another heart" (l. 50) and "other eyes" (l. 51) than their earlier self. They are another *self* altogether with other pronouns—an *I* (and *eye*) who is no longer one human *he*, and they reach awareness of multi-embodiment in hydro-erotic multispecies relations with Eos.

In the penultimate stanza, Tithonus and Eos gather amid the watery bodies of themselves and of this ecological milieu, where Tennyson describes them (without the distance of the simile) as touching and touched beyond crisp edges or species borders. Eos is multivalent, a manifold of both herself and the "lucid outline forming round thee" (l. 53). Like clouds nestling other clouds to become *one* and *many* at once, or like the ripples of a body of water, Eos also is a circular, porous watery body whose "curls kindle into sunny rings" (l. 54), whose body is myriad, one of "presence and [...] portals" (l. 57) more than specific or bounded parts. Her embodiment is plural, cloud-like in its "mystic change" (l. 55) and "mist" (l. 63). Eos echoes the mist of the stratus cloud and, thus, the "vapours" (l. 2) who open the poem and co-embody Tithonus. Meanwhile, Tithonus also dissolves and constitutes themselves within the watery bodies of this hydro-erotic

encounter. As Eos begins to glow, echoing the mist-like, semi-transparent "mysterious glimmer" (l. 34) earlier in the poem, so too does Tithonus "Glow with the glow" shared by Eos (l. 56). His body condenses, "growing dewy-warm" (l. 58), in the arousal of touch.

Miller declares the poem, and this stanza in particular, "as explicit and vividly physical a description of heterosexual intercourse as any I know in Victorian poetry" (284), but while the stanza might, with some tenuous moments, depict heteronormative relations, the imagery is far more multivalent than that single interpretation. Eos's active kisses are like "half-opening buds / Of April" (ll. 59-60), and Tithonus, described in a passive position, "lay[s]" (l. 57) and becomes watery in response, "dewy-warm" (l. 58)—a reversal of more heteronormative imagery. "Hydro-eroticism can push against both Western culture and heteromasculinity," Chow and Bushman write (99), and Tennyson depicts Tithonus as a co-participant in these sensual intimacies, but not as the (heteronormatively) single active or dominant male party acting upon a passive female partner in a linear trajectory toward (his) pleasure. Rather, both Eos and Tithonus move, touch, and billow together as sensual clouds, mist, and other watery bodies. In this way, the sexual erotics of "Tithonus" resembles the expansive, nonlinear *ecosexuality* described by Annie Sprinkle (1991), who observes, "I am beyond bisexual—meaning I am sexual with more than just humans. I literally make love with things like waterfalls, winds, rivers, trees, plants, mud, […]" (103). Water here joins Eos and Tithonus as an erotic companion and milieu, for the stanza and the description of this erotic encounter ends with an image of Ilion who, "like a mist[,] rose into towers" (l. 63). This encounter generates not just one phallus of note, as Miller argued, but a body-proliferation: a many-populated city, a plurality of mist, and multiple towers—a shared experience of queer touch across watery bodies of multiple species.

When considered from a queer ecological and a hydro-erotic perspective, "Tithonus" demonstrates, in content as well as form, a plurality of erotic possibility

across species. Again, Tennyson heightens the repetition of words and sounds in these stanzas as compared both to prior stanzas and to the corresponding stanzas of "Tithon," generating more sensuous touching and being-touched across the lines and the bodies they depict. Numerous words appear at least twice in the same line or near lines, including "Ay me" (l. 50), "another"/"other" (ll. 50, 51), "watch" (l. 52), "dim" (ll. 54, 69), "change" (l. 55), "glow" (l. 56), "song"/"sing" (l. 62), "thine" (ll. 64, 65), "cold" (ll. 66, 67), "happy" (ll. 70, 71), "die"/"dead" (ll. 70, 71), "see" (l. 73), "morn" (l. 74), and "earth" (l. 75). Often, repeated words are used once for Tithonus and once for Eos, as when *see* first appears when Eos "seëst all things," a description of her independent powers, but on the other side of the mid-line comma caesura, she "wilt see my grave" (l. 73), a *seeing* that uses language and image to link Eos with Tithonus. Similarly, Tennyson's parallel grammatical structures help Tithonus reach across time, space, and mortality to join with Eos. As Eos will continue to rise "morn by morn" (l. 74), for example, Tithonus will continue to descend "earth in earth" (l. 75), the two phrases but one syllable apart—but separated by the visual plunge into emptiness of the linebreak and the additional visual caesura of the first-person pronoun *I*.

Despite the aural repetition that, like tidal flows or the rich bog of the wetland, gathers and knits together the bodies within, Tithonus knows it is an unanswerable question—or, at least, an impermanently answerable question—when they ask, "How can my nature longer mix with thine?" (l. 65). Hydro-eroticism, as conceived by Chow and Bushman, witnesses "the queer unification of the human and nonhuman creature made possible only through immersion and the violation of the body" (107). The repetition throughout the poem escalates in these final stanzas, as Tithonus realizes their desire for community with Eos—pairing words as a formal parallel to the pairing of bodies—and the violence and violation such a continued community would necessitate. When Tithonus realizes that "happy men that have the power to die" (l. 70), and happier still

are the already-dead (l. 71), the final lines pull toward porous immersion and reincorporation with the earth. The "*g*" sounds, dominant across the poem, encapsulate Tithonus's evolving wish throughout this final stanza: *glimmering, grassy, ground, grave, forget*. The violence of Tithonus's inability to avoid physical aging, and the violence of the deteriorating body, demonstrate the queer intimacies Tithonus is able—and unable—to join.

Unlinked from the touch of their bodies, Tithonus may at last find community in the touch and welcome violence of decay. Again, the iambic pentameter stutters in the final lines, opening with a stressed syllable or spondee (ll. 72, 73, 74, 75) before staggering back into the regular iambic heartbeat. The final seven lines all hold end-line punctuation (the highest count of such lines across the poem), and six of these seven lines hold complete phrases or sentences, which slows the reading pace, elongates the end-line pause, and increases the burden of leaping from one line to the next. Hydro-erotic time, then, becomes queer, shifting from the linear to the cyclical, the fleeting present to the continually renewing present, which speaks to the queer time of clouds and the watery bodies—human and ecological—they touch.

At last, Tithonus, like the trees, vapors, man, and swan of the poem's opening lines, is "restore[d…] to the ground" (l. 72), and not simply *to*, but "in" (l. 75). They merge with ground, water, and air in the wet, enveloping touch of the grave and hydro-eroticism. In the classical myth, Tithonus is eventually transformed into a grasshopper, but in his poem, Tennyson avoids such consolation and instead percolates Tithonus, eternally, in the glimmering watery bodies of this sensuous ecology. Tithonus does not shift from one species to another, in Tennyson's poem, but instead remains queerly undifferentiated as "once a man" (l. 11), then a multivalent shadow (ll. 8, 11), and at last one of the many decaying and watery bodies "in earth" (l. 75). At last, Tithonus is openly porous and many, like Eos.

Johnston and Edith, Poetic Exchange, and Weathering

In this way, the hydro-erotics of Tennyson's "Tithonus" resonates with the body-and-language erotics of weathering in Edith's and Ellen Johnston's exchange, "Lines by Edith to the Factory Girl" and "The Factory Girl's Reply to 'Lines by Edith.'" In contrast to Tennyson, working-class poet Ellen Johnston and middle-class writer Edith, one of Johnston's poetic correspondents, were and remain little-known beyond a brief flare of popularity in the 1860s. Johnston was born in Hamilton, Lanarkshire, and remained in Scotland for most of her life. She began factory work at the age of eleven, and in 1865, she began publishing poetry in Glasgow's *Penny Post*, signing her first *Penny Post* poem as "The Factory Girl, Cheapside Factory, Dundee." Editor Alexander Campbell became an enthusiastic supporter of Johnston's poetry, often featuring her verse on the paper's front pages, in the "Notices to Correspondents" section. This placement, with Campbell's advocacy, brought Johnston's work to subscribers, publishers, and correspondents, for the *Penny Post*'s high circulation (about thirty thousand copies in 1863) made Johnston's serial readership one of the largest across the British Isles at the time.

In 1867, Johnston published her sole volume, *Autobiography, Poems and Songs of Ellen Johnston, 'The Factory Girl'* (1867), which appeared in a revised second edition in 1869, making her the only Scottish factory woman to publish a book of poetry in this period. She received awards of five pounds from Queen Victoria and fifty pounds from Prime Minister Benjamin Disraeli, patronage not granted to a working-class poet since Stephen Duck, about 150 years earlier. Meanwhile, her prominent placement in the *Penny Post* generated many extended letter-poems to Johnston from readers, and Johnston's epistolary answer-poems—the exchange "Lines by Edith to the Factory Girl" and "The Factory Girl's Reply to 'Lines by Edith,'" both first published in the *Penny Post* (1866) and then in Johnston's book (1867), being a significant example. However, a

decline in popular interest, Campbell's retirement, and her ill health led to her believed death in a poorhouse in 1873 and the continued obscurity of her work.

Like Poëy's awareness that a cloud might be of this or that variety (or even species) depending on the observer and their perspective, "Lines by Edith to the Factory Girl" and "The Factory Girl's Reply to 'Lines by Edith'" defy easy categorization or a singular universal version and instead offer multiple intra-active bodies *weathering*, or gathered in material touch. Edith, one of six women poets who corresponded with Johnston through poems in the *Penny Post* in the 1860s, was Johnston's most extended writing partner.[28] Their exchange was more prolific, personal, and detailed than Johnston's exchanges with "Elspeth," "Glasgow Lassie, C.R.," "Isabel," "Jessie, A Book Binder," or "The Ploughman's Wife," Johnston's five other *Penny Post* correspondents. Half of these correspondents modeled Johnston's sobriquet ("The Factory Girl") in their own, signaling class or geographical identity. Edith uses a common first name, however, generating more commingling between these two women and poetic voices. Both the working-class "The Factory Girl" and the middle-class "Edith," their named identities in the title of these two poems under discussion, are created characters who speak for and with their lived counterparts in gender and class—even as they queer specific details of embodiment in favor of a more sensuous erotics of both (human, ecological, and poetic) body and language.

The queer proliferation of Edith's and Johnston's poetic voices and bodies, together with their attention to the assemblage of human-body and meteorological-body into an intimate, shared milieu, brings this exchange into generative conversation with

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[28] I follow Johnston's and Edith's poems, and the work of scholars including Judith Rosen (2001), Monica Smith Hart (2015), and Florence Boos (2017), in situating Edith as the pseudonym for a middle-class woman. Poetic identity may not parallel one's lived identity, but as these scholars note, Johnston's poems foreground her poetic-lived identity with biographical details, and Edith's poems seem to as well. Thus, I take as evidence of Edith's middle-class status her sharing, in "Edith's Reply to the Factory Girl" (1867), that she was taken on "holiday" (l. 49) to River Clyde and scenic Cloch Point. I also note Edith's affiliation with the middle class in her "Welcome and Appeal for the 'Maid of Dundee,'" the final poem in Johnston's book, where she addresses the "fair young ladies" (l. 13) as a "*we*" (l. 20) who "went with me" (l. 31).

Astrida Neimanis's and Rachel Loewen Walker's (2014) theory of "weathering." From the perspective of weathering, there is no individual *me* sealed and independent from *you*, but we co-create *us, you,* and *me* as we are "mutually caught up in the whirlwind of a weather-world, in the thickness of climate-time" (561). Weathering notices how humans and clouds intra-act in a "mutual worlding" across species to coexist together as "weather bodies" (560). Writers, readers, poems, and clouds are weather bodies, and works like Johnston's and Edith's poetic exchange make visible these co-worldings. The erotic synergy of "Lines by Edith" and "The Factory Girl's Reply" invites us into weathering in three major ways: (1) poetic, human, and meteorological bodies whirl together and queer notions of discrete forms; (2) the touch of these relating weather-bodies fosters a sensuous kinship, and (3) this resulting kinship becomes various sites of porous relations and repetitions. In these poems, humans, ecological relatives, and poetic form co-participate in bringing a shared world into existence and sustaining that world. This co-worlding merges human body, ecological body, and poetic voice and form into an erotics of a shared, multifaceted embodiment. The erotics of touch that results from this poetic weathering demonstrates how touch offers a route into porous kinship and intimacy with our weathery kin, which can in turn inspire more ethical ecological relations.

Weather-Bodies and Erotics in "Lines by Edith to the Factory Girl"

Edith's "Lines by Edith to the Factory Girl" guides readers' attention to both The Factory Girl and Edith as beings who, like the clouds invoked in Edith's poem, move between and through borders, queering the notion of *the body* from discrete individuals toward a touching-touched of human, meteorological, and poetic bodies. Touch becomes a body-language encounter, where material embodiments and poetics expand beyond a single hyphen (as in Howard, Abercromby, and Hildebrandsson) into a constellation of manifold possibilities and, simultaneously, actualities. Edith's poem, thirty-six lines of

nine quatrains in iambic tetrameter rhymed ABAB, begins with an invitation to The Factory Girl to describe why she sings in such hard circumstances. She swerves soon after into idyllic imagery of a pastoral world and a "Spirit" (l. 9) who, in sensuous mist, "diffuse[s]" (l. 11) both The Factory Girl and Edith in erotic touch:

> They ask me, girl, what made thee sing
> 'Mid din of shuttle and of loom—
> 'Mid steam and dust and ceaseless ring
> Of cotton wheels in factory room.
>
> What made thee sing? Ask first the thrush
> That haunts the woods 'bove fair Dundee,
> And on her hills the breezes hush
> Till bird and breeze explain to me.
>
> Hail, Spirit of the Golden Muse!
> Thou soul of beauty, that dost fill
> The earth, and air, and dost diffuse
> On some thy soft revealings still. (ll. 1-12)

After invoking the challenging materiality of The Factory Girl's workplace throughout the first stanza, with its "din" (l. 2) and "ceaseless ring" (l. 3), Edith repeats her direct question—"What made thee sing?" (l. 5)—and, after a gap of several spaces, shifts from the "factory room" (l. 4) to the idyllic imagery of "fair Dundee" (l. 6). While Edith and The Factory Girl are the only humans embodied across the full poem, Edith's pastoral scene invokes many ecological relatives, from the thrush, woods, hills, breezes, earth, and air of these opening stanzas to, in subsequent stanzas, waterways, leaves, the moon, a meteor, clouds, and blossoms. Neimanis and Walker describe weathering as "a mutual worlding through material overlap and transit, incorporations and excorporations" (565), and Edith, in contrasting the factory with the pastoral, heightens readers' awareness of how these seeming-disparate worlds overlap in The Factory Girl.

Throughout these opening stanzas, Edith brings disparate bodies and notions into close relation through her poetics, which invites readers to see how, like the porous stratus cloud whom we have followed across this chapter, these human, meteorological, and poetic bodies also blur borders and edges in a queer diffusion. Thus, The Factory

Girl can "sing" (ll. 1, 5) even as the "ceaseless ring" (l. 3) of the factory threatens to silence her. Her song is the opening line's end-rhyme but also echoes the mid-line rhyme of the second stanza. As the echo fades to the "*s*" sounds of *woods, breezes*, *Spirit,* and *soul*, the erotics of the third stanza's final couplet wraps all bodies—"earth, and air" (l. 11) included—in a shared weft of inviting touch: "dost diffuse / On some thy soft revealings still" (ll. 11-12). Dominant Eurowestern models of meteorological science often describe climate as a bounded system that observer-analysts can stand outside of and fully understand, but as Edith demonstrates in these opening stanzas, every body—including weather-bodies—collaborate and co-exist across their porous thresholds (as witnessed also in John Clare's Northborough sonnets, discussed in Chapter 2).

Though the word *cloud* has not yet appeared in Edith's poem, Edith knits cloud-like imagery through the poem's environments, heightening awareness of the continual potential for sensuous coexistence with weather-bodies. In this opening stanza, where The Factory Girl works in the loud, dusty, relentless room of the factory, Edith imagines her surrounded by "cotton wheels" (l. 4). These cotton wheels work on a literal level as the implements of Johnston's trade, but they also symbolize the round, cotton-like cumulus clouds among whom Edith might wish The Factory Girl to dwell instead. "Cotton" or "fleece" was a common description for the cumulus cloud, with Howard (1803) describing the cumulus as holding a "surface full of loose fleeces" (7). A hundred years before Howard, the unknown author of the Worcestershire weather diary (1703) compared clouds (most likely cumulus) to "'fleece'" and "'spun wool'" (qtd. in Golinski 19). In the coming years, Abercromby (1887) would describe the cirro-cumulus and cumulo-cirrus as "fleecy cloud" ("Suggestions" 156), and Gerard Manley Hopkins (1888) also would describe the cumulus in round, cotton-like terms, as "Cloud-puffball, torn tufts, tossed pillows" (l. 1). Cumulus clouds physically resemble cotton and, noting the

material embodiment of words and letters, the word *cumulus* also visually and sonically echoes the word *cotton*.

In this poem, Edith may have invoked cotton to refer to the cloth Johnston worked with daily. Yet, Edith begins her poem with "cotton wheels" (l. 4) and, later, describes a physical ascent to "the silver cloud" (l. 27), concurrent with The Factory Girl's creative ascent from "girl" (l. 1, 13) to "poet" (26, 32). Metaphors facilitate exciting and queer touch between unlikely partners. While *A* compares to *B* so that *A* becomes *B*, through the slippery comparison, *B* also becomes *A*, and both edge toward a shared, touching space not entirely *A* or *B*. Here, the metaphor of *cotton wheels* as signifying clouds-on-ground that, through poetry, become clouds-in-sky parallels and testifies to The Factory Girl's development.

As the poem continues, Edith links The Factory Girl's poetic gifts to the "Spirit of the Golden Muse" (l. 9) who, in their ungendered embodiment, moves through the full poem and brings bodies (of humans, ecological relatives, and poems) into touch:

> That spirit taught thee, girl, to sing;
> She came to thee when early May
> Doth first her golden shadow fling
> Upon the broad blue Frith of Tay;
>
> She came what time the summer wood
> Bursts glorious into leaf and bower;
> And oft she came in holier mood,
> At moonlit eve, or Sabbath hour.
>
> And came she ne'er in love, first love,
> With whispers soft of some dark eye,
> Whose gleam had flashed thy path above,
> Like meteor gem in life's young sky?
>
> Came she not, too, in sorrow's shroud—
> What poet knows her not so dressed?—
> Only to point the silver cloud,
> And whisper dreams of days more blest? (ll. 13-28)

Edith attributes The Factory Girl's poetic gifts to this "spirit" (l. 13), who is intimately connected with the pastoral ecologies supported by the watery bodies of the "Tay" (l. 16),

Scotland's longest river, and the "silver cloud" (l. 27) who accompanies The Factory Girl on her poetic-ecological journey. Alongside the newer blossoms in "the summer wood" (l. 17) who "Bursts glorious into leaf and bower" (l. 18), The Factory Girl emerges from "girl" (l. 1, 13) to "poet" (l. 26, 32).

As a middle-class reader and writer, Edith may have been familiar with Howard's *Essay* and/or the growing number of nineteenth-century cloud atlases and studies, but she almost certainly (like the Cambridge-educated Tennyson) would have been acquainted with the classical stories of goddesses, sometimes with poetic gifts, dwelling among the clouds, such as the Norse goddess of the skies, Frigga, who would weave the clouds with her spinning-wheel. As the poem continues, Edith brings The Factory Girl's poetic gifts into relation with the heavens and the weathery kin therein, describing how the "Spirit of the Golden Muse" (l. 9), here embodied as a thrush, "taught thee, girl, to sing" (l. 13). While mentioning a "Spirit" (l. 9) may draw Eurowestern readers' attention toward the unseen or heavenly, as in Christian doctrine, Edith enfolds The Factory Girl and this Spirit in ecological relation, touching and being touched as clouds might.

From the "soft revealings" (l. 12) of the spirit that "dost fill / The earth, and air" (ll. 10-11), much as clouds might pool through a valley, over a river, or across the sky, revealing the sun—or much closer phenomena—to varying extents, to the "golden shadow" (l. 15) and "whispers soft" (l. 22) that passed across her "life's young sky" (l. 24), Edith weaves cloud-like textures across her poem as the Spirit interacts with The Factory Girl. The Spirit's instruction helps The Factory Girl transcend the restrictions of gender and class as Edith imagines her verse extending skyward, perhaps destabilizing the male-dominated canon of metaphysical poems (in which trajectory, perhaps, Tennyson's less-binary "Tithonus" occupies a middle ground). Further, Edith's color descriptions for the thrush and the cloud, respectively *golden* and *silver*, invoke both classical myth and

environmental phenomena, as well as complicate their dialogue as middle-class and working-class women.

Meanwhile, human and ecological bodies "diffuse" (l. 11) in an atmospheric erotics of touch materialized in the poem's form and content. These stanzas, as elsewhere in Edith's poem, are populated by bodies in erotic contact. Like the multispecies erotics of Tennyson's "Tithonus," the forest in Edith's poem does not exist in isolation but rather "Bursts glorious into leaf and bower' (l. 18), and the river Tay is sensuously moved upon by the "golden shadow" ('l. 15) of the Spirit. Cecilia Chen, Janine MacLeod, and Astrida Neimanis (2013) note, "All water is situated. Moreover, we are all situated in relation to water" (8). As witnessed in Edith's poem, all bodies are porous: giving, receiving, and being watery with other watery bodies. Clouds, in particular, are always transforming and dis/embodying above, around, and through us. The "silver cloud" (l. 27) flickers through the poem as the earlier "cotton wheels" (l. 4), is nested within the "broad blue Firth of Tay" (l. 16), augments the mist of the "moonlit eve" (l. 20), and gathers above amid the "gleam" (l. 23) and the "meteor gem" (l. 24). So, too, might this cloud be the "sorrow's shroud" (l. 25), its erotic kin in this stanza's rhyme and meter (and, amid the mist and rain of Scotland, Edith might not be the first to parallel the slow, grey, sullen body of the stratus or the nimbostratus to *sorrow's shroud*). We are tangled, all, in a wondrous weathering, "a dynamic system of forces and flows" as Neimanis and Walker write (565). In these center stanzas, Edith is a meteorological guide for The Factory Girl, opening a horizon of embodied textures and touchings across their bodies and the bodies of the ecological relatives and poems with whom they make a world.

In her final two stanzas, Edith repeats the injunction for The Factory Girl to keep singing in relation to the ecological world, lifting her own stanzas further from the simple ABAB rhyme into a chiming nonlinearity that evokes a queer erotics of formal touch:

> Sing on, young heart, of all that's fair
> Upon the banks of winding Tay;

The old grey towers, the blossoms there
May mingle well in poet's lay.

When gazing on life's boundary hill,
Thine eye at length doth long for rest,
Sing even then, thy numbers fill
With chords more grand, with hopes more blest. (ll. 29-36)

Edith repeats the call for The Factory Girl to "sing' (ll. 1, 5, 29, 35), urging her to do so now as an embedded and erotic subject within an ecological community.[29]

While the two earlier mentions of *sing* appeared at the end of a line (l. 1) or the end of a phrase (l. 5), and neither appeared as a command, both final mentions of *sing* in these final two stanzas begin a line and act as a command, heightening one's attention to this injunction. Where The Factory Girl, earlier, was seen singing "'Mid" (ll. 2, 3) a mechanical factory environment, she is now asked to sing "of" (l. 29) and "upon" (l. 30). In this erotic ecological community, Edith encourages her to merge and co-exist in sensual touch, a queer orientation that is not tied to procreation nor to a clear climax and then denouement. The physical lines of bodies discussed in these final stanzas are neither linear nor bounded, but rather curve and touch. The river Tay is "winding," and Edith encouraged The Factory Girl, further, not to exist entirely in the water or on the land but rather "Upon the banks" (l. 30). In this erotic in-between space, the bodies of poet, river, towers, and blossoms together "mingle well in poet's lay" (l. 32), and the term *lay* itself opens into both *song* and *gentle recumbent posture*. To create a lay is, in an erotics of touch, to lay oneself in communion with weathery kin. Weathering, for Neimanis and Walker, is to witness the weather-bodies and weather-making "of us, in us, through us" (559), and Edith encourages The Factory Girl to surrender to the "mingle" (l. 32) of this sensuous touch.

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[29] Seventy years later, American writer Wallace Stevens might echo Edith's stanzas in his poem "The Idea of Order at Key West" (1936), which begins, "She sang beyond the genius of the sea, / The water never formed to mind or voice" (ll. 1-2), and whose speaker wonders, "Whose spirit is this? we said, because we knew / It was the spirit that we sought and knew / That we should ask this often as she sang" (ll. 18-20).

Such nonlinear erotics come forward in the materiality of these final stanzas, where of their four total end-rhymes, both pairs of B rhymes have appeared earlier in the poem, also as B rhymes and the only repeated end-rhymes in the poem: "Tay"/"lay" (ll. 30, 32) as the earlier "May"/"Tay" (ll. 14, 16) and "rest"/"blest" (ll. 34, 36) as the earlier "dressed"/"blest" (ll. 26, 28). Annelise Brinck-Johnsen (2018) describes nonlinear erotics in lyric poetry as offering a space where "there is no clear before or after," and where "moments have come into conversation with each other in a manner that is, in and of itself, queer" (347). Edith illustrates lyric nonlinear erotics by repeating the end-rhyme "dressed"/"blest" (ll. 26, 28) with "rest"/"blest" (ll. 34, 36) and by extending this repetition into phrases that echo meter and meaning. Two stanzas before, Edith wrote of the "days more blest" (l. 28), and in the final line of the poem, she writes of the "hopes more blest" (l. 36). This repetition is the only end-line repetition of a phrase two (or more) words long in the entire poem, a noticeable echo in a compact poem concerned with voice and song. Such repetition shapes the reader's attention toward other similarities, and it is no coincidence that the "cloud" (l. 27) before the repetition of *more blest* in the earlier stanza is a visual and sonic echo of the "chords" (l. 36) before the *more blest* in this final stanza. Clouds are chords are clouds. In a queer ecological profusion, even numbers could fill with clouds more grand when we open to nonlinear erotics that move between bodies and voices, identities and orientations, as "Lines by Edith to the Factory Girl" invites us—and, in Johnston's response, as "The Factory Girl's Reply to 'Lines by Edith'" invites us as well.

Sensuous Kinship in "The Factory Girl's Reply to 'Lines by Edith'"

Offered as an epistolary response-poem to Edith's poem, Johnston's "The Factory Girl's Reply to 'Lines by Edith'" echoes and multiplies "Lines by Edith" in its title (which holds Edith's own), length (at fifty-six lines, about 150% as long as Edith's), and form

(also quatrains of ABAB-rhymed iambic tetrameter), as well as in its narrative, which repeats and reworks full phrases from Edith's poem. Johnston's poem dwells in a sensuous touching with Edith's poem that leads to profusion and kinship, as when the touch of the hyphen allows the *cumulo-stratus* to exist, simultaneously for Poëy, as the *strato-cumulus*. While Neimanis's and Walker's theory of weathering attends to how multiple bodies come into ecological touch, "partaking in a common space, a conjoined time, a mutual worlding that we call *weathering*" (560), they also note how bodies weather and matter in different ways. Such attention is relevant to Johnston's reply, for her working-class lived and poetic bodies weather and matter differently than middle-class Edith's bodies do. Johnston's poem opens and responds to Edith's, collaborating in world and body, but her poem also curves away, weathering and mattering differently. Each intra-active entanglement generates different entanglements, who themselves intra-act differently (as will be discussed in Chapter 4). To read Johnston's poem with Edith's, here, is to notice how poetic, human, and meteorological bodies—and the weather-bodies they co-form—form kinship in both their convergence and divergence.

In her poem, Johnston seeks to answer Edith's question as to why The Factory Girl sings. To begin, she discusses her relationship to the atmospheric spirit, invoked in Edith's poem and offered here as a manifold being who created and sustains her:

> They ask thee, Edith, why I sing
> 'Mid factory din, its dust and gloom,
> And why I soar in fancy's wing
> 'Mid dreamland bowers and summer's bloom.
>
> Tell them the spirit bids me sing
> That made my soul, when but a child,
> Enraptured with the budding spring,
> When wandering Cathkin's green woods mild.
>
> While yet a child, scarce six years old,
> Musing on nature's carpet sod,
> Among the fields like waving gold,
> I prized the works of nature's God.
>
> Though little of His laws I knew,

Yet still I felt their power supreme,
And loved His wondrous works to view, 15
And chose them for my childish theme. (ll. 1-16)

Johnston closely repeats the first line of Edith's poem, maintaining the meter and rhyme while substituting Edith's body and language for The Factory Girl's. Thus, Edith's "me" (l. 1) becomes Johnston's "thee" (l. 2), a visual and sonic touch that heightens similarities between both speakers, even as dominant societal views on class would see their socioeconomic differences—and, thus, their social spheres—as insurmountable. Also in her opening stanza, Johnston echoes language from other moments in Edith's poem, with her "dreamland bowers" (l. 4) invoking Edith's "leaf and bower" (l. 18), and her "summer's bloom" (l. 4) alluding to Edith's "summer wood / Bursts glorious" (ll. 17-18). As the poem continues, Johnston continues to touch and echo Edith's language while adding her own account of her relationship to the atmospheric "spirit" (l. 5, 21, 29) who awakened and continues to nurture her and her poetic gifts.

Like Edith's depiction of The Factory Girl (and Tennyson's depiction of Tithonus), Johnston also depicts her speaker in a lush ecological profusion of touch and kinship. She does not exist untouched nor in isolation, but rather dwells "'Mid" both "factory din" (l. 2) and "dreamland bowers" (l. 4), moving "in" (l. 3) and "among" (l. 11) a host of ecological relatives. She is drawn to the season of the "budding spring" (l. 7) for the erotics of touch offered therein—and, perhaps, to the latent *sing* within the *spring*. She intra-acts with the "waving gold" (l. 11) of the fields, not viewing them from a height or distance but immersing herself "among" (l. 11) them. So too does she, as a child, prefigure Carson's advice on the importance of wonder for children by seeking out the "wondrous" (l. 15) for her poetic musings and moving herself sensuously in kinship with "nature's carpet sod" (l. 10). These opening stanzas envelop the speaker (and, by extension, the reader) in a milieu of texture, from the high air and weather-bodies of the opening stanza down to the details of the dirt and grass in the third stanza. Like Edith,

Johnston depicts curved lines and nebulous spaces, rather than straight lines or clear borders or angles. She is "'Mid" (l. 11) the world who, with the atmospheric spirit (here linked to the wind, water, and earth, queering notions of a bounded body further than Edith's image of the spirit, at times, as a thrush) holds her.

As her poem continues, Johnston moves her speaker in time, further demonstrating a queer erotics of touch as essential nourishment in a challenging world:

> But time and tide flew on apace,
> And I was wafted from those scenes,
> Borne thither to a sweeter place
> Near Kelvin's lovely crystal streams.
>
> And still that spirit round me clung,
> And bound my in its mystic spell,
> While fairy songs to it I sung
> When sitting by the Three-tree Well.
>
> But like the linnet in the linn
> That's caught and caged in prison air,
> They forced me midst the factory's din
> To chase my fairy phantoms there.
>
> But still that spirit lingered near,
> And clasped my form so young and weak,
> And kissed away the burning tear
> That scorched the rose-bloom on my cheek.
>
> Then first love came with golden smiles—
> Sweet were the vows he did impart,
> And with his false bewitching wiles
> He stole away my trusting heart;
>
> Then left me with a look of scorn
> When he the seeds of grief had sown—
> Wrecked in the bloom of life's young morn,
> Ere scarce her infant buds were blown. (ll. 17-40)

Even as The Factory Girl is "wafted" (l. 18) like a cloud or other weather-body from her first ecological milieu, she continues to be touched and touching by watery weather-bodies in her second home and "sweeter place" (l. 19). Beside the "crystal streams" (l. 20) of the Kelvin, invoking here, with a difference, Edith's description of The Factory Girl as resting "Upon the banks of winding Tay" (l. 30), Johnston describes The Factory Girl

living in communion with the water. She is moved alike not by *time and space* but by "time and tide [which] flew on apace" (l. 17). Luce Irigaray (1982) foreshadows Neimanis's and Walker's theory of weathering in her own description of the body as a porous constellation of weather-kinships—a body who is an "atmosphere of flesh" (24) and "changed by a cloud" (99)—is a weather-body much as the body of Johnston's speaker is formed by and with the ecological forces of "time and tide" (l. 17). Neimanis and Walker write of how "human bodies are contractions of climate," where climate and weather neither exist in a linear time nor outside of time, but in "a time that we weather together" (570). The Factory Girl is formed both by clock-time and ecological-rhythm, a watery weather-body existing not in particular or bounded *space* but co-existing "apace" (l. 17). She moves within weather-bodies and watery kinships.

Thus, Johnston's speaker finds her home, her kin-community, and her identity through the watery bodies with whom she is in erotic kinship. Like dew "on nature's carpet sod" (l. 10), The Factory Girl finds a sense of belonging when carried like droplets on the wind to rest beside the Kelvin's "crystal streams" (l. 20). Maurice Merleau-Ponty, in *The Phenomenology of Perception* (1945), describes this milieu where the earth touches (and is touched by) the sky as the "*homeland* of our thoughts" (24), and Johnston's speaker accordingly commingles with the spirit, who "clung" (l. 21) to her like a fog. In the next line, Johnston offers another image of the low stratus cloud, known as *fog* or *mist*, who gathers her speaker "in its mystic spell" (l. 22) as she, like gathered water, remains stationary, for a time, at the "Three-tree Well" (l. 24). Trapped like a bird and poured like water over the "linn" (l. 25), or waterfall, the pastoral Three-tree Well transforms into the "prison" (l. 26) of the factory. And yet, she finds weather-bodies who continue to sustain her amid the "din" (l. 27). Johnston repeats the word *din* from its initial stressed mid-line placement in the poem's second line, for the words *din* and *sing* also form a visual and sonic counterpart, and thus uneasy erotic kinship. Emitting water

from her own porous body as a "burning tear" (l. 31), The Factory Girl weeps. Through watery touch, the spirit again "clasped" (l. 30) her body, which shimmers across species as both a "young and weak" (l. 30) girl and a ground for the "rose-bloom" (l. 32), affirming their shared weathering and determination to continue.

Such continuance, for these weather-bodies of The Factory Girl and spirit in kinship, is essentially queer. Despite her use of gendered pronouns elsewhere in the poem, Johnston never assigns the spirit a binary-gendered pronoun. She assigns gender to numerous other characters, so that God's effects show "His wondrous works" (l. 15), her "first love" had "his false bewitching wiles" (l. 34), her own life held "her infant buds" (l. 40), and, in the stanzas to come, Edith is her "kindred sister" (l. 56). Yet, though her poem holds at least six lines in which a gendered pronoun could be used for the spirit, Johnston instead uses the "it" pronoun only twice (ll. 22, 23) and avoids a gender pronoun even when its inclusion would uphold more traditional grammatical rules, as in the following stanza:

> But still that spirit lingered near,
> And clasped my form so young and weak,
> And kissed away the burning tear
> That scorched the rose-bloom on my cheek. (ll. 29-32)

In this single-sentence stanza, Johnston could have switched either instance of "And" (ll. 30, 31) that open the stanza's middle lines for a gendered pronoun, maintaining meter by changing the comma after the first line's "near" (l. 29) to either a semi-colon or a dash, punctuation marks she uses elsewhere in the poem. While she also could have placed a period after "near," maintaining the one-sentence format of the stanza seems important. Within this long single sentence, The Factory Girl and the spirit grow ever more "near" (l. 29) in their physical and emotional touch, an erotic kinship that wraps this quatrain through a single sentence, proliferating across the center lines in the manifold of *And* and the erotics of being "clasped" (l. 30), "kissed" (l. 31), and thus nourished.

Through Johnston's final stanzas, much as Tennyson's Tithonus acknowledged binary gender but abstained from participating in those linear rhetorics, The Factory Girl avoids gendered pronouns for herself as well, opening queer possibilities of kinship as weather-bodies for the community of self, spirit, and Edith:

> Yet still I sung, though all in vain,
> While year in sorrow followed year,
> When all at once like magic strain
> My harp burst on the world's ear.
>
> Ah, gentle Edith, see me now,
> With hope's bright banner o'er me spread,
> Fame's golden wreath around by brow,
> Love's lyric crown upon my head.
>
> Dear Edith, they had hearts like thine
> Who wove that wreath and wrought that crown,
> And built for me that glorious shrine
> That rears its tower on high renown.
>
> Edith, farewell; may joy be thine!
> Perchance with thee I yet may meet,
> When I shall press thy hand in mine,
> My kindred sister's love to greet. (ll. 41-56)

After the commingling of the spirit and The Factory Girl in the eighth stanza, the near-middle stanza of Johnston's poem, the speaker and spirit merge in co-embodiment. From this point onward in the poem, the spirit is no longer differentiated as a *spirit* separate from the *I*, the speaker is no longer gendered, and the speaker (themselves a weathering milieu) now inhabits images of celestial, and thus cloud-like, identity. While this is a poem by The Factory *Girl*, who addresses Edith as a "kindred sister" (l. 56) in the poem's final line, the nonbinary identity of this atmospheric spirit with whom the speaker seems to have merged opens gendered and relational possibilities—a theme witnessed in this poem and other exchanges between Johnston and Edith.

For example, in "Lines by Edith, On Receiving the Cartes of Mr. Russell and the Factory Poet," first appearing in the *Penny Post* and then in Johnston's book, Edith quotes and alludes to William Shakespeare's *Twelfth Night* (c. 1601-02), in which Viola

dresses and conceals herself as the boy Cesario, a disguise that generates queer romantic interest from both Orsino and Olivia. Edith opens her poem by describing "a measure strange and sweet" (l. 2), a song that she follows through the first stanza in a similar meditation as Orsino's opening words in *Twelfth Night*. She makes this allusion explicit by opening her second stanza with a direct quote from Orsino, "'That strain again—it had a dying fall'" (l. 5). Edith addresses The Factory Girl as *sister* eight times across the poem, but her descriptions of The Factory Girl more often invoke sensual touch and the sexual erotic, as when Edith imagines her "by thy bed the other night" (l. 11), "beck'ning me" (l. 13) while "Clad in a robe of gossamer" (l. 14). After imagining herself as a male "lover, […] who's found at last / The dream-maid of his muse" (ll. 49-50), Edith re-invents herself as a "youth," a word queerly thickened with its multiple potential definitions as a young person of any gender or as a young man. She uses this fluid identity to claim the position of lover described in the stanza before: "Ah sister! Had I been a youth, this tale would have been mine; / I'd whispered in thine ear such vows while beat my heart by thine" (ll. 53-4). The nonbinary status of *youth* facilitates the erotics of touch and the sensuous kinship this speaker seeks.

While "Lines by Edith, On Receiving the Cartes" demonstrates a speaker moving into nonbinary identity and erotic connection, but returning to conventional feminine identity before the poem's end, "The Factory Girl's Reply" keeps these queer possibilities open through the final line, similar to the attunement to the multivalent body (and particularly the multivalent female body) in hydro-eroticism. Johnston's speaker, who may at this moment be The Factory Girl and/or a manifold of The Factory Girl and the atmospheric spirit—imagines when they shall at last touch Edith. They seek to "press thy hand in mine" (l. 55), a physical expression of erotic kinship. In the poem's final words, this kinship crescendos in the joining of bodies, for their body and Edith's body rush together with "love to greet" (l. 56). In addition to the erotics of Johnston's poem, Boos

notes the "fleeting suggestions of bisexual sensibility" shown by Edith in her *Penny Post* poems—more than half of which were addressed to Johnston (215). On the front pages of the *Penny Post*, and then again in Johnston's collection, Johnston and Edith multiply relational possibilities through a poetic erotics of material and metaphorical touch.

Weathering, as an orientation to human and meteorological bodies touching-touched in time, notices how all bodies come into being through what Neimanis and Walker describe as "a thick time of contractions, retentions, and expectations of multiple kinds" (571). While the majority of "The Factory Girl's Reply" is situated in past tense, Johnston queers linear time into an "all at once" (l. 43) that touches both present and future tense in her final stanzas. The Factory Girl commands Edith to "see me now" (l. 45), the first instance of present tense since the poem's opening lines, and a request to *see now* the manifold that this speaker has become (and, perhaps, the possibilities generated thus) in erotic communion with the spirit. In the final stanza, the speaker looks forward to a future physical encounter with Edith, where their bodies can touch in "hand" (l. 55) and "love" (l. 56). Brinck-Johnsen describes "the lyric as a portal to ecstatic realms of nonlinear pleasure" (333) where time thickens, swirls, and pools—where "time is queer" (343). Indeed, The Factory Girl is pulled into present and future tense when speaking to Edith in the first two and final three stanzas. Johnston's speaker and Edith co-form a queer circle of time, a deep pool where past, present, and future touch in their porous, repeating, weathering bodies.

Touch as an Alternative to Distance

To touch another body, particularly across species and with respect, is to realize that there is less any *other* body than a constellation of relatives intra-acting and knitted together in community. In "Uses of the Erotic: The Erotic as Power" (1978), Audre Lorde describes the erotic as a "deep participation" and consensual opening in the sensuous,

joyful feeling that "cannot be felt secondhand" (59), whether in bed with a beloved or when writing poetry, or, as I suggest, when co-existing with our meteorological and ecological relatives. In this way, touch and the erotics of being-with require closeness, acknowledgement of our bodies' porous borders and continual touching-touched with other bodies. Lorde's erotic, like an embodied ecology of wonder, requires us to ask "how acutely and fully we can feel" (54). We turn to each other—we *turn into* each other, and we *are* each other—with our fullest "capacity for joy" (56), sometimes tinged with the pain or violence of past or present trauma. Still, we delight in physical contact amid the mystery and wonder of co-creating this world. All beings touch and are touched.

Through the linguistic hybridity of Luke Howard's and his successors' cloud taxonomies, the hydro-erotics of Alfred Lord Tennyson's "Tithonus," and the material and poetic weathering of Edith's "Lines by Edith to the Factory Girl" and Ellen Johnston's "The Factory Girl's Reply to 'Lines by Edith," these writers collaborate with clouds, and their embodiments as various watery bodies, to attune themselves toward an ethical erotics of touch. To acknowledge and participate in this queer ecological erotics of touch is to witness our *selves* and our *bodies* as porous, overlapping, and gathered by the multitude of other bodies with whom we intra-act—beyond the brief space and time of this particular body or life. From Neimanis's and Walker's orientation of weathering, for example, we shift from the "worldview of relating *to* the earth" and instead recognize that we are "worlding *with*" (567). We are not looking *at* the earth, nor seeking to look *into* the earth; rather, we are, and we become, and we co-create earth with the clouds, watery bodies, and manifold relatives. In recognizing and mindfully participating in this co-creation, we begin to shift the dominant Eurowestern environmental narrative from distance, extraction, and human subject-environmental object relations toward relations —already and often long practiced by Indigenous communities—toward relations of respect and reciprocity.

In their cloud poetics, to varying extents, Howard, Abercromby, Hildebrandsson, Poëy, Tennyson, Edith, and Johnston partner with clouds to show how all beings exist in a sensual relationship. These erotic relationships of touch, whether depicted through scientific grammar, hydro-erotics, or weathering, queer notions of linear and bounded identity. Instead, we, and the cloud-bodies and ecological relatives with whom we co-create the world, are multiple, contingent, and touching. Touch, then, is an essential route toward this co-participatory knowing and being, for as Lorde argues, "our erotic knowledge empowers us, becomes a lens through which we scrutinize all aspects of our existence, forcing us to evaluate those aspects honestly in terms of their relative meaning within our lives" (57). Through respectful and reciprocal touch, touch that engages the wonder and mutuality of the erotic, we can gain courage to discard outdated narratives and "pursue genuine change in our world" (59). *Distance* is a Eurowestern imaginary. We are all sensuous, multidirectional phenomena in the network of queer ecology.

To return to the quantum physics of touch with which this chapter began, *touch* becomes a horizon of infinite and entangled relationships. Electrons emit photons, who form a positron-electron pair, who then becomes a new photon, and this photon reincorporates into the initial electron—who is now, with this cascade of touch, a different electron-body. Clouds fold, unfold, and gather new bodies and multiple touching-touched bodies. Like Tithonus, Edith, and The Factory Girl, clouds manifest themselves as numerous forms in their visible existence, and meanwhile, are a range of more- and less-visible manifestations at every shifting moment. For humans and clouds, quantum physics demonstrates the fluidity of identity and agency in relationships. Beings are relational networks of space, time, and matter inseparable from their elements. Identity is never singular, but always touching. As we will see in the following chapter, this wonder-filled erotics of touch, through the queer ecology of cloud poetics, can lead toward quantum entanglement.

Chapter 4 — The Quantum Poetic Entanglement of Clouds

After a week of August heat, a cool wind: the skies, lands, and waters touch, entangle, and unroll clouds in profusion. To the east, cumulus mediocris, separate round and bright white clouds as tall as they are wide, sail two or three thousand feet above the ground. Above them, at up to 6,500 feet, stratocumulus stratiformis gather the separate cumulus into layers so close they lose their borders. High above them, and up to 45,000 feet above the ground, the "mare's tails" of cirrus uncinus. Made from ice crystals lifted, then falling and evaporating, they speed across the sky at their highest end and slow as they fall at their other end, curving like a comma or a horse's tail.

To the west come the opaque almonds of altocumulus lenticularis, formed when air and water droplets are pushed upward by the slope of a hill. These smooth clouds, looking like a clay jar spun on a wheel, echo the curve of the particular foothills they pass above, and were they to fall downward a few thousand feet, they would touch. Yet, they already touch. Mountain lifts air, who lifts water, spinning together into an entanglement of cloud-body who is held by water, land, and air in a silky lozenge.

While the cumulus, stratocumulus, and cirrus have shifted into other shapes and relations already, these altocumulus lenticularis remain suspended, their ridges still distinct. Yet, within the lenticularis, a wave of air formed by the updraft of the hills blows through the cloud at a steady speed. Water droplets rush through the cloud on the current, forming as they enter and evaporating as they depart. This cloud is a whirl of motion within, inviting air, land, and water to co-create them—to entangle them.

In quantum physics, bodies—and I might add poetry—become a porous ecological mesh through which body and body—or body and language—entangle. There is no body, and nobody, in isolation. Electrons are particles or waves, depending on who is watching and how they watch. The human body who writes these sentences is comprised of more bacterial cells than human cells, and more porous water than solid material. *Entanglement* has been used for centuries in the English language to describe confused or compromised relationships (*OED*, n. 1). However, *entanglement* has shifted away from these negative connotations through its use in quantum physics to describe a vital relational interplay between phenomena. Erwin Schrödinger (1935), debuting the use of *entanglement* in quantum physics, writes:

> Let x and y stand for all the coordinates of the first and second systems respectively and $\Psi(x, y)$ for the normalized representative of the state of the composed system, when the two have separated again, after the interaction has taken place. What constitutes the entanglement is that Ψ is not a product of a function of x and a function of y. (DP 556)

Entanglement brings two or more phenomena into such interdependent relation that the being who emerges cannot be re-parsed into x and y. Instead, we have a new being, who holds new qualities and potentialities: Ψ. Mountain, air current, and water droplet entangle to create the altocumulus lenticularis, a body with different attributes than their contributing bodies—and yet, a body also only possible through these contributors' collective and sensuous participation.

Just as the queer erotics of touch pushes toward a more nonlinear and recursive mode of relating with our ecological relatives, so does entanglement, particularly when studied through queer ecology, push the notion of touch—even queer touch—further, toward acknowledging the fundamentally porous and connected web of existence. "To be entangled is not simply to be intertwined with each other," Karen Barad (2006) writes, "but to lack an independent, self-contained existence" (ix). When one is intertwined, as

when strands of different colors are woven together in a braid, one can still see the boundaries between *this* and *that*, or *me* and *not-me*. When one is entangled, however, these boundaries cease to exist. Quantum identity at large, Barad explains, is "multiple within itself" and "diffracted through itself" (125-6). This queer entanglement destabilizes linear, anthropocentric hierarchies in favor of reciprocal being-with.

It is no wonder that Howard's *Essay on the Modifications of Clouds* (1803), the cornerstone guide to cloud science that remains in use today, focuses not on the *types* or *species* of clouds, following Linnaeus and most eighteenth-century European scientific taxonomy, but rather on *modifications*, a mode of being that foreshadows quantum physics and queer ecology alike in its openness to uncertainty, relationality, and entanglement. Clouds, also, were on Schrödinger's mind when discussing entanglement. In the final sentence of the single paragraph on his oft-cited cat paradox, he contrasts the "shaky or out-of-focus photograph" and the "snapshot of clouds and fog banks" (PS 157). Clouds are not a haphazard, unfocused error, but a simultaneity of contradiction and indeterminacy. Clouds are a blurring between states,[30] like the cat in the box, a material entanglement present in ecological communities who change during observation. They, and by extension, we human readers, flicker between states so thoroughly that we are no longer—and have never been—discrete entities occupying known positions.

Similarly, queer ecological community comprises a dynamic, wide gathering of beings who gather to co-form this entangled Ψ: something and someone (or, rather, some*many*) in relation. While we might see a low stratus cloud seeming to rest upon a hill, and we might think *this* is cloud and *that* is not-cloud, we cannot detect the moment when we pass from not-cloud into cloud. Further, when we are (likely) in-cloud, we

[30] In 2002, the Blur Building, designed by Elizabeth Diller and Ricardo Scofidio, became a temporary installation at the Swiss National Expo in Yverdon-les-Bains, Switzerland. Beyond its minimalist steel supports, the Blur Building was literally made of water and air— of cloud. To sustain the Blur Building, Diller and Scofidio extracted water from Neuchâtel Lake, below the building, and released it into the air in a dense, fine mist that maintained a soft cloud form even as the form remained permeable and shifted depending on the meteorological conditions and patterns of the surrounding environment.

change the cloud even as they change us through our reciprocal, entangled respiration and patterns of movement. Entanglement shows how clouds and humans, writers and readers, and by extension other networks of life, come into being and continually remake their shared being in relationship. Queer ecological community is reciprocal entanglement. "What could be more queer than an atom?" Barad (2011) asks, using the term *queer* to highlight how the essence of "an atom's being, its very identity, is indeterminacy itself" (136), and physicist Alan Grometstein (1999) would concur, for he also saw atoms as "queer quantum things" (4). We are not clear, bounded, independent individuals, but rather beings linked in a layered web of multispecies connection, for life is an embodied process of interdependent relationships. Clouds do not exist in isolation; they too come into being, and shift through visible manifestations, depending on their entanglement with topography, air currents, temperature, and other clouds.

Matter—in every form, body, and relation—holds agency and narrates meaning. Consider the patterning of sound and image across a poem, and the amplification of this pattern when witnessing this poem entangled in a network of poems across a collection or period. Consider, also, the patterning of light, color, and sound in meteorological systems. The wind that scrubs stratocumulus into separate cumulus tufts, or the cold air forming long fall-streaks on the high cirrus, is just one moment of a process of continual *modifications*, as Luke Howard would write, or entangled relations of space and time, sky and land, image and word. As humans, we are but one species collaborating to make and witness these meaning-stories. "The earth speaks in a multitude of voices," Cherokee scholar Daniel Heath Justice (2018) writes, "only some of which are human [...,] our lives intersecting and overlapping in limitless and often unexpected ways" (87). We move, touch, and are touched in the entangled networks of being that comprise all life and death. In these entangled spaces, humans, clouds, and other ecological and narrative beings are not simply *in relation* but are *comprised of relation*.

Queer ecology witnesses this relationality, this entanglement, across our ecological community, and clouds—and the poetic writing about clouds—make this phenomenon visible as we bear witness to our complex multispecies entanglement. *Ecology*, to Papaschase Cree scholar Dwayne Donald (2010), is an active practice of "paying attention to the webs of relationships that you are enmeshed in" (n.p.), a mode of engagement that poetic language can facilitate. Through the imagination and empathy often sparked in poetic work, writers and readers can reach to ecological beings as a network of relatives who reach back—and entangle themselves. We realize, as Maurice Merleau-Ponty (1945) writes, "We caught up in the world and we do not succeed in extricating ourselves from it in order to achieve consciousness of the world" (5). We are amazed at the wonder of participating in a network and web of life. Wonder, as discussed in Chapter 2, is often linked to connection and community; and as discussed in Chapter 3, wonder can facilitate openness to blurring boundaries and binaries into a receptive, engaged queer erotics of touch. We realize, together with Astrida Neimanis and Rachel Loewen Walker (2014), "the weather and the climate [...] are rather of us, in us, through us" (559). We are entangled with each other, the clouds, and all ecological beings. Thus, to study and write about clouds is often to see and acknowledge entanglement.

In this chapter, I extend Chapter 3's analysis of touch to examine entanglement as a profound manifestation of sensuous touch at the intersection of quantum physics, queer ecology, and cloud poetics. To discuss this queer ecological entanglement, I analyze short lyric poems by Mary Maria Colling, Samuel Taylor Coleridge, and Gerard Manley Hopkins that depict entangled relationships between clouds and other ecological bodies (Colling, Coleridge, Hopkins) or humans (Coleridge, Hopkins). These three poems further accentuate this queer entanglement of cloud and multispecies relatives through their sensitive depictions of clouds as detailed, animate beings (rather than simple objects or metaphors for the poet's experience), as well as through their

compressed size, where their formal attributes (e.g., lineation, meter, rhyme) heighten the entangled relations they discuss. Taken together, the intra-action of Colling's "The Moon and the Cloud," the ecological entanglement of Coleridge's "Fancy in Nubibus," and the diffraction of Hopkins's "That Nature is a Heraclitean Fire" show how invoking clouds in poetry helped nineteenth-century British writers to bring the material and metaphorical entanglement of multispecies life into language across the century.

Mary Maria Colling (1805-1853) worked in her hometown of Tavistock, England, as a domestic servant from age thirteen onward, for most of her life, until her early death at age forty-eight. Captivated by gardening after her first employer allowed her to tend first a small plot, then the household's entire garden, she believed the flowers she tended could talk to her, and she created fables and other poems that she could hold in her mind until she could gain privacy and materials to write them down. Like Ellen Johnston, discussed in Chapter 3, Colling published only one volume, *Fables and Other Pieces in Verse*, in 1831, assisted by advocate Anna Eliza Bray and Bray's correspondent (and England's current Poet Laureate) Robert Southey. Both Colling's collection, as well as her polyvocal short lyric "The Moon and the Cloud" (1831), demonstrate an inclusive quantum hybridity that acknowledges class dynamics while amplifying the relational possibilities of cloud poetics through Karen Barad's (2006) concept of "intra-action." Here, identity and meaning do not pre-exist relationships (as in *inter*action) but are generated within relationships (thus, *intra*-action). We see this theory demonstrated in the intra-active bodies of Colling, Bray, and Southey in *Fables*, and the intra-active bodies of the Moon, Cloud, and Sun in "The Moon and the Cloud."

From Colling's mid-century lyric, I move to the Romantic period and discuss Samuel Taylor Coleridge's sonnet "Fancy in Nubibus" (1818). After his father's death in 1781, Coleridge (1772-1834) left rural Ottery St. Mary, England, for London and an education at Christ's Hospital, an institution that offered free tuition for orphaned

children. Unlike Colling, Coleridge enjoyed a wide literary acquaintance (his connections with Robert Southey and William Wordsworth, among many others, are well documented), and he published prolifically, releasing volumes of poetry, plays, and prose spanning literary theory, philosophy, politics, and theology until four years before his death. Yet, scholarship on Coleridge's oeuvre often focuses on a few early poems or on his diverse prose.[31] His sonnets remain understudied, despite his documented fascination with the form.[32] The sonnet traditionally has been used for intensive self-reflection. However, Coleridge's sonnet "Fancy in Nubibus," through its multiple versions and later satirical versions, uses cloud imagery to destabilize notions of a universal perception and to offer instead a phenomenological way of being in the world that resembles a porous entanglement of time and space. In this way, Coleridge's poem continues the discussion of touch and relationship in my prior chapters and also advances notions of queer ecological entanglement.

Last, I look toward the end of the nineteenth century to discuss Gerard Manley Hopkins's Victorian sonnet "That Nature is a Heraclitean Fire" (1888). Like Coleridge, Hopkins (1844-1889) wrote poetry and prose throughout much of his life, even though—unlike Coleridge—his poems were largely unpublished until almost thirty years after his death. Raised near London and educated at the University of Oxford, Hopkins destroyed much of his pre-1866 poetry upon his conversion to Roman Catholicism.[33] He returned to writing poetry for the last fourteen years of his life, during which he served as a priest

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[31] Specifically, "The Rime of the Ancient Mariner" (1797), "Christabel" (1797-1801), and "Kubla Khan" (1797-98), with occasional studies of "Dejection: An Ode" (1802).

[32] For example, Jennifer Ann Wagner's otherwise robust *A Moment's Monument: Revisionary Poetics and the Nineteenth-Century English Sonnet* (London: Associated University Presses, 1996) does not mention Coleridge's sonnets.

[33] Many scholars have written eloquently on Hopkins's religiosity. I do not focus on the significant role his conversion and practice played in his life. I encourage readers interested in this dimension of his poetics to see, among many other excellent works, the research of John Parham (*Green Man Hopkins*, Rodopi, 2010), Suzanne Stewart ("Gerard Manley Hopkins: Sensuality and Spirituality in the *Diaries* and *Journals*," *Christianity & Literature*, 2016), and Seán Hewitt ("Gerard Manley Hopkins's 'Skies of Couple-Colour,'" *Victorian Poetry*, 2020).

and teacher fascinated by clouds and science in Dublin, Lancashire, Liverpool, Oxford, and elsewhere. Hopkins's poem amplifies the relational and human-environmental entanglement of Coleridge's sonnet when studied through the quantum phenomenon of "diffraction," or the way sound, light, and water waves overlap, bend, and spread. Contrasted to *reflection*, seen by scholars including Donna Haraway (1991) as a more passive attention to sameness, *diffraction* actively seeks and engages with moments of difference at the edges of boundaries and binaries. In "That Nature is a Heraclitean Fire," Hopkins weaves science and poetry together to demonstrate the diffractive nature of clouds, who always shift, dissolve, and re-emerge in relation, in an attunement to ecological community.

Intra-Action in Colling's *Fables and Other Pieces in Verse*

Mary Maria Colling's *Fables and Other Pieces in Verse* (1831) demonstrates a material and narrative intra-active materiality from its initial formation to its eventual publication. Intra-action constitutes Barad's theory of relationality, substantively distinguished from relationality via interaction. Whereas beings precede their relations in *interaction*, with two or more separate beings coming together to relate in ways that can be re-parsed into their separate elements or behavior patterns, beings emerge through relationships in *intra-action*. Here, beings' agency, also, emerges in relationships. Intra-action is a generative metaphor for quantum physics, for elementary particles do not pre-exist but rather come into existence through their relationships and intra-action with other phenomena, but its application extends into disciplines including literary studies. Likewise, the literary process of writing, revising, publishing, and reviewing a work of literature is also an intra-active process. Thus, Barad (2006) could be describing quantum physics or book-making when she writes, "a *measurement is the intra-active marking of one part of a phenomenon by another*," and "phenomena are

specific ontological entanglements, that is, specific material configurations of the world" (338). In book-making, particularly in instances like that of Colling's *Fables*, the identities of reader, writer, editor, publisher, and reviewer blur in service to the entangled material configuration of the book.

Colling's *Fables*, in its material formation, demonstrates such an intra-active process through the contributions of Colling, her advocate and patron Anna Eliza Bray, and Bray's friend and England's Poet Laureate (1813-1843) Robert Southey. An intra-active materiality across body, gender, and class, *Fables* came into being through Colling's poetry, together with Bray's and Southey's own writing throughout "Colling's" collection, as well as the almost three hundred subscriptions to *Fables* gathered by Bray's and Southey's assistance in publicity and marketing. The full published title of *Fables* shows authorial entanglement, where three writers gather together to create a polyvocal work that could not exist in separation: *Fables and Other Pieces in Verse; With Some Account of the Author in Letters to Robert Southey, Esq. by Mrs. Bray*.

In the same year as Colling published *Fables*, Southey published the prolix introductory essay "Lives and Works of Our Uneducated Poets" in working-class writer John Jones's volume (which holds a similar polyvocal title to Colling's) *Attempts in Verse: By John Jones, an Old Servant with Some Account of the Writer, Written by Himself, and an Introductory Essay on the Lives and Works of our Uneducated Poets, by R. Southey* (1831).[34] In this essay, which occupies 168 of the 332 pages in Jones's collection (just over 50% of the total volume), Southey argued for the approaching (and, as he saw it, justified) end to working-class poetics. Operating to introduce the new poetry collection of working-class writer John Jones, Southey nonetheless uses his essay to predict the end of working-class poetics with the advance of science and reason. He

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[34] Jones's publisher, John Murray, further emphasizes Southey's role in Jones's collection by publishing the second edition, made available for public sale, with the inverted title *Lives and Works of Our Uneducated Poets by Robert Southey, to Which is Added, Attempts in Verse, by John Jones*.

declares that servant and writer Jones will likely be "the last versifier of his class" because "the Age of Reason had commenced, and we were advancing with quick step in the March of Intellect" (12). For Southey, the appeal of rustic, naive, and simple working-class verse would soon become irrelevant to the broad (and, in his view, non-working-class) reading public. This "end" to working-class poetics would also conveniently quell these writers' potential, as public figures and sociopolitical activists, to destabilize dominant hierarchies in literature. So, rather than lament this end, Southey celebrates the turn away from the "plebification" of science and writing that also dismayed his sometime friend Samuel Taylor Coleridge.

Even with his large reservations about working-class poetry, Southey promoted several working-class poets, including Thomas Chatterton and Henry Kirke White in the first decade of the nineteenth century, American poet Lucretia Davidson in the second decade, and Jones and Colling in the third decade. For Colling, Southey joined with Bray to market and publish *Fables*. His name appeared prominently in the volume's full title, and he published a review of Colling's collection in an 1832 issue of the *Quarterly Review*. In this review, Southey repeats "march of intellect" to similar classist effect, but he avoids definitive class judgments by depicting Colling through the words of Orsino in William Shakespeare's *Twelfth Night* (c. 1601-02), the same play and character used by middle-class Edith to describe working-class Ellen Johnston (as discussed in Chapter 3). Depicting Colling as one of the "spinners and knitters in the sun" (82), Southey links Colling to the play's clown, Feste, but he avoids diminishing her entirely in that he references a play rife with crossed boundaries of gender, class, and religion, and, as Tim Burke (2011) notes, the resourceful servant known, as Colling was, as Mary/Maria, and whose writing threatens to disrupt established social and economic boundaries.

Even as Southey and Bray sought to maintain clear separation between the classes, their efforts in Colling's volume become entangled to create an intra-active voice

that flickers between classes without discrimination, like the quantum flickering of an electron from wave to particle and back again, or from one position to another without a static in-between. *Fables* opens with a list of subscribers to the volume, largely gathered by Bray, which invokes numerous names before the reader has encountered a single word of Colling's. After the list of subscribers, the table of contents, and a preface, the volume moves between Bray's letters to Southey and Colling's poems (likely edited by Bray and/or Southey), which signals its intra-active hybridity through the section title, "Poems Inserted in the Letters." Here, groups of her poems are interspersed between three letters from Bray to Southey. Bray's "Letter I" opens the collection, followed by two poems by Colling; after "Letter II" comes five poems (the last of which is "To R. Southey, Esq."); after Letter III comes thirteen poems to end this first section.

"Poems Inserted in the Letters," Colling's opening section, could be read as a non-working-class patron's careful effort to ease non-working-class readers into an appropriate appreciation for the working-class Colling. This curation is similar to the dialogue in Johnston's collection between Johnston, Edith, and Johnston's other poetic correspondents, and the editorial decision to close Johnston's volume with a poem by Edith (discussed in Chapter 3). However, whereas Edith was one voice within and then closed Johnston's collection, Bray opens Colling's collection. Rather than push such readers into a series of poems by Colling, which, in this more class-oriented perspective, they might neither understand nor enjoy, Bray first builds Colling's credibility by starting the collection with Bray's own letter to Southey, England's popular and highly regarded Poet Laureate. She then offers a small dose of Colling's work (only two poems) before returning readers to another letter from and to non-working-class correspondents, arguably a more familiar, comfortable genre for readers who are themselves not of the working-class. After this reprieve, Bray offers a larger dose of Colling's work (five poems, more than twice the first sequence) and repeats this pattern once more, again offering a

letter before another sequence of Colling's work, again more than twice as long as the last at thirteen poems. After this curated introduction, Bray (and Southey) feel such readers are ready to graduate—or condescend—to the remainder of the volume, all of which are poems written by Colling, albeit likely edited by Bray and/or Southey with an eye toward publication. Burke describes Bray's and Southey's influence on Colling's volume as yet "another exercise in the promotion and containment of the popular voice," arguing that they "imposed upon" Colling to a stigmatizing, marginalizing extent (72). Burke compares Bray's and Southey's curation to that of Capel Lofft, patron of Robert Bloomfield, who placed an often condescending, editorializing footnote under each piece in Bloomfield's *Rural Tales* (1802).

Bray's and Southey's explicit and implicit curation, however, could also be viewed as a positive intra-active entanglement. *Fables* shifts back and forth between Bray's and Colling's voices, and the collection further complicates this multivalence by Bray's consistent address to Southey as the "you" of her letters, and Colling's variable addresses to a "you" across her poems. Sometimes, Colling's "you" is Southey, as in "To R. Southey, Esq."; sometimes, her "you" is Bray or Bray's relatives, as in the potentially collaborative "To the Memory of Colonel Bray." Across Colling's many fable-poems, the speaker is undifferentiated, and the "you" may be any number of ecological relatives, from Venus ("Venus, Minerva, and the Glow-worm"), to an Oyster ("The Peacock and the Oyster"), to a Snowdrop ("The Snowdrop and the Ivy"). Bray and Colling generate an intra-active manifold who speaks as *both-and* to multiple known and unknown listener-readers. Like the best collaborative writing, *Fables* holds an intra-active entanglement where one can no longer identify who independently wrote what, for writers are always moving among lineages of influence and world-creating. Instead, *Fables* is where gathering perspectives generate phenomena that have come into being through relation.

The effect of Bray's curation resembles that of an edited anthology or collection, where the poems are introduced by an editor who prepares the reader for an informed and fulfilling reading of the work. In this way, Bray's curation could generously support Colling's poetic entry into the literary world. Yet, Colling and her non-working-class readers almost certainly did not need such curation. By 1831, many working-class poets had published popular collections, including Robert Bloomfield, Robert Burns, and John Clare. Nonetheless, this curation occurs, and it creates a surprisingly intra-active material voice, particularly of interest as many of Colling's poems in the volume speak through dialogue and hybridity—not only through the editorial contributions of Bray and Southey, but also of an epigraph by William Wordsworth, the poet who would succeed Southey as Poet Laureate in the coming decade.

Fables and Other Pieces in Verse opens with an epigraph from Wordsworth's 1814 poem *The Excursion* (4.46-51) that simultaneously affirms and destabilizes Colling's entangled voice as a working-class writer:

> "One
> Not doom'd to ignorance, though forced to tread,
> From childhood up, the ways of poverty;
> From unreflecting ignorance preserved,
> And from debasement rescued — By Thy grace
> The particle divine remain'd unquench'd."

On one hand, this epigraph bounds and affirms Colling's capacity for intra-active entanglement. In just over five short lines, Wordsworth repeats "ignorance" twice; *ignorance* sometimes was used, like *rustic* and *simple*, to describe working-class writers, and the repetition of this word in the epigraph to this working-class poet's debut volume serves to link the now-published Colling with the character "Not doom'd to ignorance" that Wordsworth describes. Further, the epigraph expresses gratitude for one "from debasement rescued," elevating Bray, Southey, and Colling's non-working-class subscribers and readers to the position of saving Colling from ruin.

Yet, this epigraph also disrupts static identity and demonstrates the more quantum potential of Colling and her verse to transcend boundaries. Despite outward circumstances of "debasement" or "rescue," this character retains "[t]he particle divine," leading her to hold a quantum of divinity that is untouched (and perhaps uninfluenced) by economic or other externally visible identities. The use of "particle," also, presages contemporary conversations of electrons' hybridities in quantum physics, where one may be a particle but also at the same time a wave. Colling may be both a particle divine and a poet in poverty. When considered through quantum physics and queer ecology alike, these identities coexist with unlimited potential—contrary to much dominant discourse on working-class poets. Further, the religious overtones of this epigraph ("doom," "rescue," "Thy grace," and "divine") —become ironic when repurposed for the more pantheistic sentiments in Colling's collection of multispecies fables.

The Intra-Active Entanglement of "The Moon and the Cloud"

"The Moon and the Cloud" (1831) appears near the center of Fables, the middle section of Colling's volume, where almost all inclusions are titled with two characters and, in the poems themselves, the entities named in the title converse with each other. Several of Colling's fables bring seemingly binary or opposite entities into conversation, as in "The Hare and the Hound" or "The Lion and the Mouse," while other poems host dialogues that queer the notion of any apparent binary, such as "The Jessamine and the Ivy" and "The Peacock and the Oyster." Except for the first and last poem in the section, all of the dialogue participants named in poem titles are plant, animal, or ecological beings. However, Colling creates a formal envelope by opening and closing her Fables section with the only two poems titled by a pairing that includes a humanoid being and, further, links that being with an ecological entity: "The Poet and the Flower," to begin the section, and "The Fairy and the Rose," to end it. The similarity of these titles, "The

[Humanoid Being] and the [Flower/Flower Species]," amplifies their pronounced status as brackets for a section that is, in contrast, intra-active and far-ranging.

Across the section, Colling's titling practice generates a striking intra-active dialogue between species and perspectives, where both parties gather in a superposition that creates a new entity altogether. In addition to the standard interpretation's demonstration of relational uncertainty, quantum physics demonstrates further entanglement through *superpositions*. One-particle superpositions, or the linear layering of multiple wave functions, are similar to the layering of multiple ocean waves (or multiple cloud formations in a given section of sky), and they offer multiple potential solutions for a given problem. Superpositions hold the ability to embody numerous and equally valid possibilities in a given space or time, and these possibilities are influenced by our observation and measurement. Further, experiments in quantum physics have shown two-particle entanglements: when "individual" or particles are realized as superpositions within themselves. As demonstrated by the collaborative 1935 publication of Albert Einstein, Boris Podolsky, and Nathan Rosen (EPR), the measurement of one particle, in an entangled quantum system, has an immediate effect on another particle in the system—regardless of their physical distance. These particles' engagement with each other reveals what is now called the EPR Paradox: the entangled particles have become *one* entity. *Fables* is Colling's book; *Fables* is Colling's, Bray's, and Southey's book; *Fables* is their and our book, and is another gathering altogether. "The Moon and the Cloud" is a poem of the Moon, and a poem of the Cloud, and, as an intra-active site of superpositions, a poem of the entangled Moon-Cloud-writer-reader assemblage, with implications for all entangled bodies and materialities involved.

In "The Moon and the Cloud," we see such an entanglement in the intra-action of the speakers and text. All twenty couplet-rhymed and hendecasyllabic lines of this single-stanza poem occur in the sky and are reported by an unidentified narrator who

might be another meteorological being (in that they witness the conversation between the Moon and the Cloud):

> Full-orb'd in her splendour the Moon rose on high,
> And shed her pure light o'er the blue-vaulted sky,
> While mountains, and vallies, and woodlands, and streams,
> Were glowing with beauty beneath her fair beams.
> But soon the bright orb by a Cloud was o'erspread,
> Which sullied the lustre she kindly had shed:
> While blackness it gather'd, and, prompted by spite,
> Thus it sternly address'd the mild Queen of the Night:
> "How vain is the praise which thy radiance beguiles!
> Though mountains and vallies are cheered by thy smiles,
> Of thyself well thou know'st thou no beauty could'st render,
> To the Sun thou'rt indebted for all thy famed splendour."
> The Moon thus replied, while more lovely she shone,
> And scatter'd the darkness which veil'd her bright throne:
> "Though thou may'st despise it, with joy I confess
> That I owe to the Sun all the light I possess;
> While cheer'd and adorn'd by his splendour benign,
> In my course, as a spark of his glory, I shine,
> And deem it an honour a debtor to be
> To an orb that's so great and so glorious as he." (ll. 1-20)

Over the course of this short poem, the unidentified narrator describes the Moon (ll. 1-8), the Cloud addresses the Moon (ll. 9-12), the narrator comments (ll. 13-14), and the Moon replies, to close the poem (ll. 15-20). The first several lines describe the Moon in direct contrast with the Cloud. In contrast to the "pure light" (l. 2), "bright orb" (l. 5), and "mild" (l. 8) of the Moon, the Cloud is a being who has "sullied" (l. 6) the Moon's light with their "blackness" and "spite" (l. 7). These first lines seem to establish the Moon and the Cloud as a binary pair, through the direct contrasts of pure/sullied, light/blackness, and mild/spite. However, this binary is destabilized by the Cloud's introduction of a third character, the Sun, in the twelfth line.

The Sun complicates any binary between the Moon and Cloud, for they hold elements of both bodies in an entangled, intra-active way. Moon, Cloud, and Sun gather to co-form each other, and they cannot be ungathered into discrete, independent entities. The Moon resembles the Sun in that both are described as an "orb" (ll. 1, 20), and Colling draws the reader's attention to this similarity as these descriptions bracket

the poem by appearing near the beginning of its first and final lines. Further, both the Moon and the Sun exist in "splendour" (ll. 1, 12, 17). However, while the Moon is the "Queen of the night" to the speaker of the poem, to the Cloud, she is a "debtor" (l. 19) to the Sun, from whom she receives all of her "splendour" (ll. 1, 12). While the Moon brings light to the "mountains and vallies" (l. 10), she "owe[s] to the Sun" (l. 16) this light. The Moon may be a *reflective* body, but she is also a *refractive* body, intra-acting with the light of the Sun to offer a changed light with different potentialities and affordances.

The Cloud also complicates this entangled network of relationship between the Moon and the Sun, drawing these characters further away from binaries and into nonlinear, recursive modes of relating. Throughout, the speaker uses the pronouns "she"/"her" for the Moon (ll. 1, 2, 4, 6, 13, 14) and "he"/"him" for the Sun (ll. 17, 18, 20), but they use "it" as the Cloud's personal pronoun (ll. 7, 8). As has been discussed in prior chapters, *it* is often a problematic pronoun to be avoided, for this pronoun limits (if not erases) the validity, sentience, and agency of the being described as *it*.[35] However, Colling's use of *it* for the Cloud facilitates a different, perhaps broader possibility for embodiment and relation than that afforded by binary-gendered pronouns, in this way resembling the personal pronoun *they* often used by contemporary nonbinary individuals.

Colling places the Cloud in a physically nonbinary position, for the Cloud literally transcends any material binary. The "orb" of the Moon and the Sun (ll. 1, 20) are discrete bodies who are more easily gender-assigned, both here in this poem and across many

[35] As I discuss in the Introduction and affirm throughout this work, Citizen Potawatomi Nation scientist Robin Wall Kimmerer (2013) affirms that "*It* robs a person of selfhood and kinship, reducing a person to a mere thing," which is, for all our ecological relatives, "a profound act of disrespect" (55). Likewise, Greta Gaard (2017) cautions scholars against the regularly colonizing and "ethically stripped pronoun 'it'" (44).

traditional stories.[36] In contrast, the Cloud (in this poem and across many traditional stories) is a permeable, undifferentiated being. The Cloud, as a "veil" (l. 14) without a definitive body, does not rise nor set, but they instead "o'erspread" (l. 5) and "gather'd" (l. 7) across and throughout the sky and the bodies (like the Sun and the Moon) they find there. This Cloud, as a misty "veil" (l. 14) and an "it" (ll. 7, 8), resembles the atmospheric spirit invoked by Ellen Johnston and Edith in Chapter 3, and like Johnston's and Edith's spirit, this Cloud also opens, rather than forecloses, possibilities for new identities. The Cloud holds at least as much agency as the Moon throughout the poem. Both beings hold equal status in the title—"The Moon *and* the Cloud," not, for example, "The Moon *to* the Cloud"—as well as roughly similar duration and register of direct speech in the body of the poem.

Like the Moon, Sun, and Cloud, poems are also material entities, and Colling arranges these three characters within the poem in ways that affirm their im/materiality. She describes the Moon from the speaker's perspective in the poem's first six lines and the Sun from the Moon's perspective in the poem's final five lines. These discrete, gendered, celestial bodies bookend the space of the poem and the space of the distant sky. The nonbinary Cloud, however, dwells in the less-defined middle of the poem, just as they dwell in the space between the earth and the distant sky, and the Cloud's own speech (the poem's center four lines) is bookended by the speaker's description of the Cloud. The Cloud, as a "veil" (l. 14) and not an "orb" (ll. 1, 5, 20), and also as an *it* and not a *she* or *he*, entangles and queers the relationships of space and gender between the Moon, Sun, and themselves. The speaker's initial description of the Cloud overlaps with their description of the Moon, for the Cloud is witnessed not as a discrete "bright orb" (l.

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[36] Many traditional stories from Eurowestern communities link the Sun with the male pronoun and the Moon with the female pronoun. However, numerous counterexamples exist, including, among many others, the male lunar deities Tecciztecatl (Aztec), Muuya (Hopi), Coniraya (Incan), Tsukuyomi (Japanese), and Pah (Pawnee), as well as the female solar deities Hathor (Egyptian), Akycha and Malina (Inuit), Amaterasu (Japanese), Sunna (Germanic), and Beiwe (Sami).

5) of a body but as a nebulous mass who "o'erspread" (l. 5) and who is witnessed not in themselves but through their effects on the Moon. Likewise, the speaker's final description of the Cloud, falling after the Cloud's direct speech and before the Moon's closing remarks, again witnesses the Cloud not as a discrete, independent body but as an atmospheric effect upon others, a "darkness which veil'd" (l. 14) the Moon.

The Cloud exists in relationship, and their appearance depends on the perception of the observer, much as the appearance of electrons as waves or particles depends on the observer and observational method. Carl Gustav Carus, in a letter on landscape painting (c. 1815-20), describes the "two ways" that representational art is made: "either in the round and truly corporeal, that is, in the mass; or through shading or coloring on a surface, that is, in light" (85-6). He describes these two modes as sculpture and painting, respectively. Yet, he continues in this letter to acknowledge the existence of "a third, a hybrid kind," which he describes as "the rearrangement of natural objects themselves" (86). In "The Moon and the Cloud," the Moon and imagined Sun appear *in the mass*, while the Cloud appears *in light*, and these beings are gathered into a poem that juxtaposes both mass and light to generate a queer intra-active space of potentiality.

In this way, Colling's Cloud resembles the wave function of quantum physics, for like the Cloud, the wave function as described by Schrödinger facilitates one's awareness of "the degree and kind of blurring of *all* variables in one perfectly *clear* concept" (PS 156). The Moon, who may seem an independent and discrete entity, is "blurred" by the Cloud; each time Colling brings the Cloud and the Moon into relation in her poem, the Cloud complicates the Moon's light, whether "o'erspread[ing]" it (l. 5), "sull[ying]" it (l. 6), and "veil[ing]" it (l. 14). While introduced as such, the Moon no longer is independently in the mass as *Moon*, for she is now Moon-with-Cloud, depicted in light, just as the Cloud is depicted across the poem as an active clouding—a blurring—of multiple bodies. These intra-actions between the Moon and the Cloud may lead readers

to consider how the Moon is never fully an independent body, for she "owe[s] to the Sun all the light I possess" (l. 16) and describes herself as but "a spark" (l. 18) in service to the larger body and light of the Sun. And, indeed, even the Sun is not the independent "orb" (l. 20) claimed by the Moon, for he relies upon the Moon to generate light after sunset, and the Cloud, were they to gather into cirrostratus, altostratus, nimbostratus, nimbus, or several other varieties, would transform or even conceal the bright disc of the Sun.

"The Moon and the Cloud" creates a queer intra-active space and offers an ecological reciprocity that echoes, albeit differently, numerous cloud-poems of the nineteenth century, including Percy Shelley's "The Cloud," a poem discussed in Chapter 1. In Shelley's poem, the Cloud is the speaker, unlike in Colling's poem, where the Cloud (and Moon) appear as third-person characters who speak in dialogic sequences only. Throughout "The Cloud," Shelley generates relationship between the Cloud and readers through personification and anthropomorphism. Thus, his Cloud threshes grain (l. 9), laughs (l. 12, 53, 81), sleeps (l. 16), marches (l. 67), and possesses human objects including a pillow (l. 15), tent (l. 51) and chair (l. 69). Shelley generates connection to the Cloud, an ecological being, by making them human-like. Even the terms for the poetic devices he uses—*person*ification and *anthropo*morphism—foreground the human as the thinking, feeling subject that another (beyond-human) being is striving toward. Colling's poem, however, destabilizes anthropocentric binaries to show the human and ecological network in which we exist as connected and equally valid. Colling's depiction of the Cloud attends to perceiving this beyond-human being on their own terms.

Colling generates entangled connection with the Cloud by honoring the potential lived experience of a cloud and depicting actions that a cloud in the sky might take. Her Cloud can be "o'erspread" (l. 5), "gather'd" (l. 7), and "scatter'd" (l. 14). While Colling's Cloud still speaks, Colling places the human readers at a distance to observe this ecological encounter, decentering the singular anthropomorphic perspective and,

through her play with unstable binaries, honoring the teeming intra-active network surrounding all ecological relatives, from the "blue-vaulted sky" (l. 2) to the "mountains, and vallies, and woodlands, and streams" (l. 3), to the Moon, Cloud, and Sun. All matter holds and offers stories. Realizing this, we move beyond the Eurowestern theory of the human as the sole story-maker, where as Levi Bryant (2011) argues, ecological relatives are "screens upon which humans project their intentions, meanings, signs, and discourses" (247). The queer ecology of clouds disrupts this problematic notion. Colling demonstrates how the Cloud is not merely a screen—the Cloud makes visible a porous, intra-active and entangled mode of identity that envelops the Moon and reaches toward the Sun.

The Cloud creates a new ecological identity and voice that, like the physical body of the Cloud, cannot be discretely bounded. All bodies, including cloud-bodies, thus hold and share stories. In addition to lyric or literary stories, clouds tell meteorological stories of weather patterns emerging and dissolving. (The growth of a cottony cumulus congestus upward into a darkening cumulonimbus thundercloud tells, to many viewers, clear stories of warning, potential terror, and potential delight.) Clouds, perhaps more than many ecological beings, are constantly in visible modification and visible entanglement. Clouds are constantly making story, and quite often, clouds constantly make and enact stories that queer notions of any universal perception, as we shall now see with Samuel Taylor Coleridge's "Fancy in Nubibus" (1818).

Embodied Entanglement in Coleridge's "Fancy in Nubibus"

Despite its status today as an under-studied and little-known poem, Coleridge's "Fancy in Nubibus" (1818) generated substantial public and critical interest during the nineteenth century; after all, this is a sonnet subtitled "Or the Poet in the Clouds," written during a period of escalating international interest in cloud observation and

documentation (as well as escalating British interest in sonnet writing). Coleridge wrote this sonnet in October 1817 and first published the poem in *The Courier* (January 1818), with additional reprintings in *Felix Farley's Bristol Journal* (February 1818), *Blackwood's Edinburgh Magazine* (November 1819), *The Mirror* (May 1827), *The Examiner* (October 1828) and Coleridge's own poetry collections (1828, 1834), among other reprintings later in the century. Across these outlets, Coleridge's sonnet remained largely the same, save minor edits in capitalization, word choice, and subtitles.

Two years after its reprinting in *Blackwood's*, the comic author-character "Simon Shatterbrain" uses an excerpt from Coleridge's sonnet to open his article "Meteorological Observations Extraordinary" (October 1821). In this article, Shatterbrain documents his burning of canonical writers' works to release not smoke but "vapour" that formed "clouds," which, he proudly announces, "knowing Mr. Howard's theory, I was luckily able to systematize" (267). The clouds formed by Shatterbrain's burning of Coleridge's "Ancient Mariner" and "Christabel" generate "something between *cirrostratus* and *cirrocumulus*,—wildest and most ominous," a mode of meteorological literary critique on Coleridge's work that Shatterbrain deploys for numerous other writers in this short essay (as discussed in my Introduction). In subsequent decades, "Fancy in Nubibus" merited discussion by Leslie Stephen in his essay "The English Sonnet" for *The Cornhill Magazine* (1872), a satirical parody in *The Saturday Review* (March 1888), and a robust dialogue in *The Athenæum* (1905-19) and *The Bookman* (1920) about the earliest extant manuscript copy and efforts to secure the poem's exact dating.

Similar to the intra-active entanglement witnessed in Colling's poem, Coleridge's sonnet entangles perception and the perceived, the human and the meteorological, through a shared atmosphere that, when considered together, blend so that one can no longer see clear divisions. The initial published version in *The Courier* (January 1818) is titled simply, "Fancy in Nubibus":

O, it is pleasant, with a heart at ease,
Just after sunset, or by moonlight skies,
To make the shifting clouds be what you please,
Or let the easily persuaded eyes
Own each quaint likeness issuing from the mould
Of a friend's fancy; or with head bent low,
And cheek aslant, see rivers flow of gold
'Twixt crimson banks; and then, a traveller, go
From mount to mount, through Cloudland, gorgeous land!
Or listening to the tide, with closèd sight,
Be that blind bard, who on the Chian strand
By those deep sounds possessed, with inward light
Beheld the Iliad and the Odyssee
Rise to the swelling of the voiceful sea. (ll. 1-14)

In this sonnet, Coleridge shows that a body is not a static object, but a subjective (and subjecting) process in and with the world, a process that Merleau-Ponty (1945) describes as "a relationship of reciprocal expression" (185). This intra-active entanglement of body and world, or in this poem, of human body and cloud body, generates shared subjectivity. Even as Coleridge's poet-speaker asserts that one can "make the shifting clouds be what you please" (l. 3), in the next line, he admits the eyes are "easily persuaded" (l. 4). The border between "likeness" and "mould" (l. 5) is hazy at best when the bodies discussed are made of air, vapor, and light. Throughout his poetry, as in "The Eolian Harp" (1796) and "Dejection: An Ode" (1802), Coleridge is concerned with the problem of anthropomorphism, or how humans try to incorporate nature within their worldview to assume (an often-paternalistic) sense of kinship. Yet, unlike Percy Shelley's anthropomorphized speaker in "The Cloud," discussed in Chapter 1, Coleridge here resists anthropomorphizing these meteorological bodies, instead approaching them as ecological entities who are unmastered and not fully knowable in their own right. These bodies perceive each other, entangle, and queer perception explicitly through the juxtapositions of "closèd sight" (l. 10) and "inward light" (l. 12), as well as implicitly through the porous embodied materiality of the sonnet's formal choices.

Coleridge is drawn to the sonnet at least in part for the form's intellectual challenges but also for what the form affords the poet-speaker in their embodied,

phenomenological experience of the world. Almost twenty years prior to drafting "Fancy in Nubibus," Coleridge writes in the preface to *Poems on Various Subjects* (1796) that sonnets "give me pleasure when perhaps nothing else could" (vi), even as, in the same year, he wrote to fellow sonnet-writer John Thelwall, "I love Sonnets; but *upon my honour* I do not love *my* Sonnets" (*Collected Letters* 1:287). Nonetheless, in his 1796 collection, Coleridge distinguishes sonnets from "effusions" (a category in which he places tetrameters, couplets, and other forms), declaring that "effusions" do not always "possess that *oneness* of thought which I deem indispensable in a Sonnet" (x). The sonnet is often a vehicle for self-reflection: a "*oneness*" of gathered individual human self.[37] The question of anthropomorphism followed Coleridge across his career, and numerous sonnets work through a self-conscious (and, thus, human-centered) *oneness*. Yet, "Fancy in Nubibus," in its cloud imagery, generates *oneness* through an embodied ecological entanglement, in contrast to dominant theories of universal perception. This poem, then, differs from the problematic and often strained relationship with nature seen in a number of Coleridge's other poems.

Even though most of his collected sonnets, including "Fancy in Nubibus," are in the English rhyme scheme, with its lines rhyming *abab cdcd efef gg*, Coleridge encourages his readers to experiment with the sonnet's rhyme scheme—as he does, also, in this sonnet. In his 1796 preface, he declares, "Respecting the metre of a Sonnet, the Writer should consult his own convenience.—Rhymes, many or few, or no rhymes at all" (2). In "Fancy in Nubibus," Coleridge queers and entangles rhyme, embodying multiple simultaneous possibilities (as Hopkins will also do). The first quatrain's "*abab*" rhymes are a breath away from *aaaa*, an even more relaxed schema than the Italian *abba*. If traveling toward Cloudland, the relaxed traveler may smooth sound in the eye and ear, making "ease" (l. 1), "skies" (l. 2), "please" (l. 3), and "eyes" (l. 4) fluctuate through

[37] Daniel Robinson (2000) argues that the sonnet form is "the site of Coleridge's most self-conscious and deliberate poetic composition" (82).

multiple equally possible possibilities—*particles and waves at once*—where *ease / skies* hold virtually as close a rhyme-relationship as *ease / please*. In the second quatrain, while the *cdcd* rhymes are slightly more distinct, all four end-words hold the long, open "*o*" sound that echoes the physical body of the letter, reading eye, speaking mouth, and cloud. The *d* rhyme of "low" (l. 6) and "go" (l. 8) end with this open *O*, encouraging readers and listeners to let this *O* literally overshadow the subtle consonant sound that ends the official *c* rhyme in "mould" (l. 5) and "gold" (l. 6). *Mould, low, gold, go*—the mouth and eye open like the cloud and admit possibility, particularly when encouraged by like mid-line assonance including "or" (l. 5) and "flow" (l. 6). Mid- and end-line sounds multiply in likeness, like concentric ripples across the "tide" (l. 10) of the watery bodies with whom the poem invites us to travel.

As the poem shifts from the first two quatrains into the final quatrain and couplet, this sonorous and multiplying wave pattern grows in intensity. The end-line "mould" (l. 5), echoed with the similar open "*o*" sounds of "low" (l. 6), "gold" (l. 7), and "go" (l. 8), shift into the repetition of "mount" and "land," each twice repeated across the poem's ninth line. The final quatrain offers more distinct *efef* rhymes, with "land" (l. 9) and "sight" (l. 10), for example, belonging to distinct rhyme pairs and having minimal common sound. Yet, through these final six lines, Coleridge continues to echo and ripple sound across and within lines, entangling bodies and sound more deeply than end-line rhyme alone could. Forming a bridge between quatrain into couplet, Coleridge repeats "*b*" and "*d*" sounds to open each line: "Be that blind bard" (l. 11), "By those deep sounds" (l. 12), and "Beheld the Iliad" (l. 13).

Meanwhile, the "*i*" sounds proliferating across the first quatrain's *abab* (and somewhat *aaaa*) pattern reappear throughout the final lines. The earlier *b* rhyme (*skies/ eyes*) repeats with a slant in "tide" (l. 10), "sight" (l. 10), "Chian" (l. 11), "light" (l. 12), and "Iliad" (l. 13), and this earlier end-line *b* rhyme repeats directly in the first word of the

final line: “Rise” (l. 14). Coleridge queers the sonic body of this poem from near-linear progression of rhymes who do not repeat outside of their quatrain/couplet. Instead, Coleridge curves “Fancy in Nubibus” into a spiral. Diction, rhyme, and meter emulate the entanglement of the clouds massing above and around. Consequently, Coleridge’s sonnet spirals with numerous repeated sounds within and ending lines, and the poem blooms into a circle, with his return to the *b* rhyme in “Rise” (l. 14). With this multidirectional rhyme patterning, he invokes the bard’s poetic inspiration, the ecological waves entering conscious perception, and the clouds surrounding and co-creating this embodied ecological network.

Queering the Human Subject/Environmental Object Divide

Further, in “Fancy in Nubibus,” Coleridge entangles the sonnet’s meter with its content to disrupt the active-human-subject / passive-environmental-object dualism seen across much of nineteenth-century scientific writing and, closer to Coleridge, much of Romantic poetry. While Coleridge championed and practiced the English sonnet, in this poem he acknowledges a debt to Italian linguistics in this poem’s title. *Nubibus* is a plural of *nubes*, the Latin word for *cloud*. Further, despite this poem’s clear identity as a sonnet (and an English sonnet at that), the meter vacillates between an explicit iambic pentameter and what Adam Roberts (2015) terms a “spectral inclination towards the dactylic” (n.p.). At the time of Coleridge’s writing, iambic verse had been the dominant meter in British poetry for hundreds of years (and would continue to be so).[38] Dactylic meter (specifically dactylic hexameter) is among the oldest and most common meter of classical verse, used in works including the Homeric *Iliad* and *Odyssey*—mentioned in

[38] For example, as Eric Weiskott (2021) notes, iambic pentameter was used in most of Geoffrey Chaucer’s *The Canterbury Tales* (ca. 1387-1400), Edmund Spenser’s *The Faerie Queen* (1590-96), William Shakespeare’s sonnets and plays (late 16th to early 17th C), John Milton’s *Paradise Lost* (1667), Alexander Pope’s *The Rape of the Lock* (1712), and William Wordsworth’s *The Prelude* (1805-50). Edmund Hirsch (2014) estimates that seventy-five percent of English-language poetry, of all lengths and subjects, from Chaucer (ca. 1340-1400) to Robert Frost (1874-1963) was written in iambic pentameter.

Coleridge's poem (l. 13) as the two works wrought of "deep sounds" (l. 12) by their "blind bard" (l. 11). Even so, for the average British reader, dactyls were often the meter of nursery rhymes, though they were used in some nineteenth-century British poetry including George Gordon, Lord Byron's "The Bride of Abydos" (1813) and Alfred, Lord Tennyson's "The Charge of the Light Brigade" (1854), which, like nursery rhymes, call for one to learn and chant aloud.

Throughout Coleridge's poem, while the iambic meter, with its unstressed-stressed syllable pairs, is present and followable, the dactylic meter, with its stressed first syllable followed by two unstressed syllables, remains an open, alternative possibility that can offer more compelling emphasis. Coleridge's title is not iambic—*fanCY in NUbibUS* is awkward at best—but it is dactylic—*FANcy in NUbibus* flows without effort. Several lines begin with a dactyl, including the first line's "O, it is" (l. 1) and the final line's "Rise to the" (l. 14). Multiple lines begin with a stressed first syllable (as seen in the dactyl, and in contrast to the iamb), including "Own each quaint" (l. 5) and "Be that blind" (l. 11). Coleridge's use of the dactyl becomes, as Roberts argues, a bit more spectral when applying it to full lines, though one could potentially read the first line of the third quatrain, "From mount to mount, through Cloudland, gorgeous land!" (l. 9) as either:

from MOUNT to MOUNT, through CLOUDland, GORgeous LAND! [*iambic*]

or,

FROM mount to MOUNT, through cloudLAND, gorgeous LAND! [*dactylic*]

In these entangled possibilities, these two metrical patterns diverge and converge, allowing both to exist in a given moment. Both iambic and dactylic readings of this line would assert the final "land!", that closes this line, as a stressed syllable; yet, that same word appearing midway through the line could be either *land* or *LAND*, combined with the clouds to form either *CLOUDland* or *cloudLAND*. Within and outside this quantum moment of the words *land* and *Cloudland* (and for the latter, additional possibilities

emerge, as reading the word as a spondee: *CLOUDLAND*), multiple possibilities constellate in wave-forms. Leigh Hunt (1844) described Coleridge as the "greatest master" of English-language "pure poetry" (277), remarking that Coleridge's 1827 sonnet "Work without Hope" offered a "perfect style,—unsuperfluous, straightforward, suggestive, impulsive, and serene" (292). Concurrently *impulsive, and serene*, the gentle heartbeat of the familiar iambic and the wave-tossed rocking of the less-familiar dactylic merge with the proliferating clouds in Coleridge's sonnet. Coleridge crosses and intersects metrical patterns to weave a material—textual and sonic—entanglement that mirrors the embodied entanglement of human and cloud across his poem.

Through this juxtaposition of the iambic and dactylic, Coleridge's poem invites readers to reconsider familiar notions of agency and passivity. Roberts writes that the "tacit theme of Coleridge's sonnet" is whether the poet imagines sky and water as "perfectly passive, or a magically hidden force of active agency" (n.p.). I argue, further, that Coleridge's poetic choices invite readers to consider not merely whether the poet's imagination is an active or passive process, to which Roberts alludes, but also how the ecological community perceived by the poet is an active co-subject alongside the writer. Indeed, Coleridge directly addressed questions of natural agency. In his next contribution to *Blackwood's* after the reprinting of "Fancy in Nubibus," Coleridge published a "Selection from Mr. Coleridge's Literary Correspondence with Friends, and Men of Letters" (1821). In Letter IV, he questions the dominant notion of a human subject-natural object divide by describing "Nature" as an equal subject:

> When the bodily organ, steadying itself on some chance thing, imitates, as it were, the fixture of the "inward eye" on its ideal shapings, then it is that Nature not seldom reveals her close affinity with mind, with that more than man which is one and the same in all men [...] Then it is that Nature, like an individual spirit or fellow soul, seems to think and hold commune with us. [...] Nature, as another *subject* veiled behind the visible *object* without us, solicits the intelligible object hid, and yet struggling beneath the subject within us, and like a helping Lucina, brings it forth for us into distinct consciousness and common light. (*SWF* 2:947)

Here, Coleridge describes "Nature, as another *subject*," working in collaboration with the human poet-perceiver "like an individual spirit or fellow soul," and together, the entangled, embodied connection through these "bodily organ[s]" generates "distinct consciousness and common light"—a new and shared, though multiple, perception of being-in-the-world as co-subjects among numerous other co-subjects (947). Coleridge's discussion of this "common light" echoes his description, quoted earlier, of the "*oneness* of thought [...] indispensable in a Sonnet" (x) and offers, perhaps, a metatextual commentary on "Fancy in Nubibus."

This *oneness* is not a human mastery of an environmental object, as in some other Romantic sonnets, but an entangled and intra-active connection between human and ecological co-subjects. Merleau-Ponty describes the undertaking of a "common project" in ways that resonate with Coleridge's description of the human-Nature "common light" and theories of intra-active entanglement. Merleau-Ponty writes of how, even as "we undertake some project in common, this common project is not one single project, it does not appear in the selfsame light to both of us" (415). Through entanglement and collaboration, "perspectives blend, perceptions confirm each other, a meaning emerges" (xxii). This is a shared meaning—*a* meaning, as opposed to *several* meaning*s*—but even this meaning is, as Nancy Tuana (2008) consistently demonstrates in ecological networks, "neither fixed nor inert, but fluid and emergent" (189). Bodies—biological, meteorological, and textual—are always coming into being in entangled relationship. We continually come into being through intra-acting with others and, further, through intra-acting as an assemblage among fellow assemblages. In "Fancy in Nubibus," Coleridge queers the human-nature and subject-object divide to show how porous bodies of cloud, poem, and speaker blend and entangle the world across time, place, and species.

Entanglement with the Flesh of the World

Coleridge's entanglement of rhyme and meter enables us to witness, also, a physical entanglement of bodies touching and, simultaneously, touched—bodies transforming and entangled. In *The Visible and the Invisible* (1964), Merleau-Ponty describes this phenomenon of embodied touch, this communion with the "flesh of the world" as reciprocal and inherently relational (144). He writes earlier, in *The Phenomenology of Perception* (1945), that external and internal embodied perception influences and helps create each other because they are but "two sides of a single act" (211), similar to how quantum physicists describe waves and particles as not separate but, as physicist Joanne Baker (2013) explains, "two sides of the same coin" (28). The electron crosses, recrosses, criss-crosses the world as a particle and as a wave, depending on who watches and how. As discussed in Chapter 3, to touch, though language or perception, or both at once, is to be touched, as Merleau-Ponty finds with the flesh of the world and as Bohr finds in his experiments with electrons and their variable presentation as particle or wave.

To be entangled with the flesh of the world is a profound mode of the queer erotics of touch discussed in the prior chapter, as Coleridge demonstrates in his sonnet's form and content. Merleau-Ponty (1964) describes this inseparable sensation of touching and being-touched as "chiasm" or "intertwining" (130), and *chiasm*, like the rhetorical device *chiasmus*, comes from the Greek for "a diagonal arrangement" or "placing crosswise," embodied in the Greek letter *X*. *Chiasmus* offers a reciprocal, nonlinear hybridity by contrasting, opposing, or criss-crossing words or sounds in relationship. We see chiasmus in form when Coleridge writes in multiple co-existing metrical patterns to destabilize trajectories of space and time in "Fancy in Nubibus." Coleridge also demonstrates chiasmus in content, queering the borders of human and meteorological bodies. He rhymes "skies" (l. 2) and "eyes" (l. 4), as well as "head bent low" (l. 6) and

"rivers flow" (l. 7), forming sonic echoes and parallels across species. Likewise, he moves in the poem's final lines to honor the "closèd sight" (l. 10) that comes not from the human eye but from the "inward light" (l. 12) of the "voiceful sea" (l. 14). Coleridge's speaker-poet demonstrates this quantum possibility of existing as a network of disorienting meaning and sound that simultaneously constellates multiple possibilities. Coleridge uses accumulating repetition of sound as the poem progresses, and Merleau-Ponty, in an unfinished attempt to bring the concept of chiasm into language, also turns to repetition: "Position, negation, negation of negation: this side, the other, the other than the other," realizing chiasm exists not in "surpassing" but in "encroachment, thickness, *spatiality*" (264), traits of a queer ecology.

Across its subsequent reprintings, "Fancy in Nubibus" thickens and knots an increasing number of entangled possibilities that, in comparison to the initial 1818 publication, shift closer and further to demonstrate human-ecological entanglement. For example, one year after its initial publication in *The Courier* (1818), "Fancy in Nubibus" was reprinted in *Blackwood's* (1819) with few but significant revisions. The 1819 version includes a subtitle, "A Sonnet, Composed on the Sea Coast." This subtitle establishes a clear environmental location for the poem's composition—and, at least in part, for the reader's experience—even as the definitiveness of this location is destabilized by the poem's reference both to "the tide" (l. 10) and to "rivers" (l. 7) with "banks" (l. 8). This version also adds two exclamation marks, after "O" (l. 1) and "sea" (l. 14), shifting the emphasis from the original one exclamation after the invocation of "Cloudland, gorgeous land!" (l. 9) to a dispersed exclamatory mood, with exclamations in the first line, ninth line (often, with line eight, seen as the middle of a sonnet), and final line.

The 1819 version also capitalizes "IT" (l. 1) and "CLOUDLAND" (l. 9). The all-caps *IT* can be described as expected, following its new status as the first word of a sentence, due to the new exclamation mark immediately before. However, the all-caps

CLOUDLAND gives this ecological site more vigorous, eye-catching presence than any other word in the poem, invokes the potential for reading this word as a spondee (as mentioned earlier), and physically elevates the body of the clouds above the bodies of the "Iliad" and "Odyssee" (l. 13). However, the 1819 revisions to Coleridge's poem do not always increase ecological subjecthood. Significantly, in the ninth line, the 1819 version revises the entangled, collaborative "From mount to mount, through Cloudland" (l. 9) to, via the change of one word and one comma, "From mount to mount o'er CLOUDLAND" (l. 9).[39] This experience is not *through* the co-creating Cloudland, sensuously commingling one's body with the bodies of the clouds, but instead *o'er* a land that, reading its all-caps name in this context, becomes a bounded and identifiable object. One can move *through* without defining borders; one becomes master of the borders when one can move *over*.

Queer ecology and quantum physics both value chiastic models of intersection, slippage, and entanglement, where beings enter and become in relationship not to seek homogenizing oneness but to entangle and multiply subjectivity. For example, in their discussion of "open ecologies," Devin Griffiths and Deanna K. Kreisel (2020) encourage a turn from modern ecocritical efforts toward harmony and a return to Victorian ecocriticism to learn from its "more open, less integrated models for how assemblages operate" in diverse "discourses of openness, permeability, and indeterminate relation" (1). Rather than seek to move *over* a closed, bounded system, in the 1819 version of Coleridge's sonnet, open and queer ecologists instead seek touched-touching webs of relation that are porous and fluid, dangerous and disjointed, tangled and entangled. "To

[39] Similarly, the 1828 reprinting of this sonnet in *The Examiner* places "ILIAD" and "ODYSSEE" in all-caps (l. 13), while reducing to all-lower case and italics "*cloudland*" (l. 9). This edition further distances Cloudland from a central subject position by changing the sonnet's subtitle to "Or the Poet in the Clouds," though it could be argued that this version's return to "through" instead of "o'er" (l. 9) and the use of the relational "in" (as opposed to "over" or "to") in the subtitle reaffirm embodied ecological entanglement.

be open is to have gaps," Griffiths and Kreisel write (17), and queer ecology at large regularly testifies to the slippery, plural nature of ecological relationships.

Rather than witness ecologies as fixed objects or relational patterns, we witness the flesh of the world—ecological and textual—as complex, changing processes. Meredith Martin and Yisrael Levin (2011) describe how nineteenth-century prosody manuals frequently disagreed, defining forms and practices in contradictory ways. Such manuals echo the rapidly divergent proliferation of cloud atlases and rubrics across the century. While describing prosody manuals, Martin and Levin could also be describing cloud rubrics and Coleridge's sonnet when they write that these works' multiple simultaneous possibilities afford remarkable freedom to the writer and reader, for, they ask, "What if, instead of a border, a boundary, a measure, delineation, a container, a shape, meter was more of a discursive in-between space?" (157). In "Fancy in Nubibus," meter becomes a touched-touching space for the flesh of the world, where a line—or a phrase—might be iambic, dactylic, both, and/or other possibilities as well. Meter—and, further, *materiality* across textual, human, and ecological bodies—can facilitate touch and entanglement between writers, readers, and poems, as well as between humans and the ecological relatives they invoke in their poetry. Through the poetic flesh of "Fancy in Nubibus," relatives of multiple species entangle across space and time.

Thus, the flesh of Coleridge's sonnet shifts across subsequent decades. At times, this poem serves as inspiration for readers as they participate in creative and critical cloud science discussion. Also, as perhaps to be expected in this period, "Fancy in Nubibus" generates satire and parody, from Shatterbrain (1821) and his literary-meteorological experiments to *The Saturday Review*'s (1888) four-sonnet parody of the poem. In this anonymously penned parody, the first sonnet closes—in direct satire of Coleridge's—"At last this fiction-bubble huge you see / Rise like the swelling of soap-suddery" (ll. 13-4). Not content merely to mock Coleridge's sonnet, the sequence closes

on both a critique of Coleridge's poem and cloud poetics at large: "When you in such piled vapours of the air / Found the weird Nest of the Mysterious Mare!" (ll. 55-6). By the 1880s, the Royal Meteorological Society and the International Meteorological Committee had been founded and were publishing regularly, several cloud rubrics had been published to standardize and refine Howard's initial *Essay* (which had moved through several editions by this time), and the first English-language cloud atlases were entering publication. Clouds were wheeling through art, science, and popular consciousness in England and across Europe, to the apparent chagrin of some and delight of many. In 1888, the year *The Saturday Review*'s parody of Coleridge's "Fancy in Nubibus" appeared, Gerard Manley Hopkins wrote a remarkable cloud sonnet of his own, "That Nature is a Heraclitean Fire," a significant example of the entangled quantum possibilities of nineteenth-century cloud poetry.

Witnessing Clouds and Science with Gerard Manley Hopkins

Throughout his life, Hopkins frequently invoked clouds in his writing. Lesley Higgins (2021), Oxford University Press editor of Hopkins's collected writings, acknowledged, "In the time that it took me to transcribe all of Hopkins's diaries, I think that the word I typed the most was 'clouds'" (n.p.). Hopkins's diary and journal records of clouds increase after September 1870, when he relocated to Stonyhurst College in Lancashire. In Spring 1871, he writes, "I have been watching clouds this spring" (*CW* 3:503), and his first years at Stonyhurst (1870-74) coincide with what Hazel Hutchinson (2011) describes as "his growing interest in empirical observation—especially of light, color, weather, clouds, stars, and sky" (224). Hopkins was interested in a range of sciences, referring in his diaries, journals, and letters to texts and ideas from biology, botany, natural history, and, of particular interest to this discussion, physics.

Hopkins was drawn to physics for its paradigm of flux, where phenomena are not seen as static or linear but, rather, as recursive and as spirals and other nonlinear shapes. Gillian Beer (1996) describes the appeal of physics for Hopkins as due to "its changed meteorological interpretations and its insistence on waves, vibrations, patterns" (255). Thus, Hopkins describes the pattern and flux of clouds through wave metaphors, as when he witnesses that "mossy clouds have their law more in helices, wave-tongues, than in anything else" (*CW* 3:372). Studies in ecology, and particularly those in queer ecology, foreground relationships often to a greater degree than studies in biology; and similarly, physics is acutely aware of multidimensional and entangled relationships, offering researchers like Hopkins a wealth of images and metaphors. In this way, physics offers Hopkins examples and metaphors of what Daniel Brown (1997) terms "integral being" and "differentiated unity" (201-2). This *differentiated unity* afforded by physics to Hopkins resembles the *oneness* offered to Coleridge by the sonnet form.

Nevertheless, Hopkins recognized the need for an interdisciplinary approach between the scientific and the literary, as some cloud scientists, like Luke Howard and André Poëy, were also pursuing. While physics offered him an exciting world of metaphors, in his 07 August 1886 letter to Richard Watson Dixon, Hopkins laments how "the study of physical science" leaves one only "to end in conceiving only of a world of formulas [...] towards which the outer world acts as a sort of feeder, supplying examples for literary purposes" (*Correspondence* 139). Rather than orchestrate the world as external, comprised of objects, and reducible to scientific formulae, Hopkins witnesses the entanglement of all relations, including human and ecological. Such scientific-literary entanglement exists to an extent in Howard's *Essay* and the earliest cloud science rubrics, even as no direct reference to Howard's *Essay* appears in Hopkins's writing.[40] Yet, he became a reader of the journal *Nature* in the early 1870s at Stonyhurst

[40] Catherine Phillips (2007) argues that "Hopkins does not, however, show evidence of knowing Howard's specific classifications" (57).

(shortly after the journal's founding in 1869), published several articles in *Nature* during the 1880s, and may have been a reader of *Nature* when Poëy published "New Classification of Clouds" (1870) in the journal. By the late 1880s, when "That Nature is a Heraclitean Fire" was written, it is hard to imagine that a well-read and science-interested (and, further, cloud-fascinated) writer such as Hopkins would be unfamiliar with the cloud science rubrics, articles, and atlases that had been proliferating across western Europe now for decades.

Even if Hopkins never directly read Howard, both writers move toward the language of entanglement when discussing clouds, and Hopkins heightens his attunement to entanglement across his own close attention to cloud observation and description in his poetry, journals, and scientific writing. For example, Howard's decision to use Latinate terms for cloud species and varieties makes the metaphoric resonance between etymology and cloud more visible. We see this in how the cirrocumulus may appear as *castellanus* (with crenellated tops), *undulatus* (with wave-like ripples or undulations), or other varieties. But for all of us, we perceive and match clouds to what they suggest. The cirrocumulus cloud is known as *sheep sky* in France, *cobblestone sky* in Spain, and *mackerel sky* in England. In Hopkins's 21 December 1883 letter to *Nature*, published in 1884, he mentions this mackerel sky when he writes:

> A bright sunset lines the clouds so that their brims look like gold, brass, bronze, or steel. It fetches out those dazzling flecks and spangles which people call fish-scales. It gives to a mackerel or dappled cloudrack the appearance of quilted crimson silk, or a ploughed field glazed with crimson ice. (222-3)

Here, similar to Dorothy Wordsworth's precise cloud descriptions (discussed in Chapter 2), Hopkins offers a profusion of color, texture, and light in this description of the cirrocumulus. He, like Wordsworth, does not describe the cloud as some*thing* bounded and separate, but as a being in flux, perceived through intra-action and diffraction.

Diffraction in Hopkins's Clouds

Whereas *intra-action* can be a characteristic of particles, *diffraction* is a particular behavior of waves (e.g. sound waves, light waves, water waves) that involves, as Barad explains, "the way waves combine when they overlap and the apparent bending and spreading out that occurs when waves encounter an obstruction" (74). For example, one can see diffraction when water pours from a small vessel into a larger vessel: the push of water from one vessel to another forms a diffraction barrier, and the bending and spreading of waveforms in concentric circles makes visible these waves' diffraction in this larger watery body. On one hand, waves are not like particles. Particles are material, while waves are "disturbances" who "can overlap at the same point in space" (76), creating a superposition as discussed earlier. In essence, diffraction is "the result of the superposition or interference of waves" (78-9). However, the phenomenon of diffraction helps show and engage the wave-particle duality paradox in quantum physics, where one can witness that light acts like a wave *and* like a particle, depending on the observer, experiment, and measuring device. A being—and particularly a being formed through intra-active relation, as diffracting waves are—is never discrete and singular, but multiple and fluid.

Diffraction offers a helpful counterpoint or alternative to *reflection* in quantum physics but also, I argue, in literary and environmental studies more broadly. Diffraction lets us analyze the emergence of boundaries and binaries, rather than presupposing (fixed) binaries present in advance of the analysis. Whereas reflection seeks an objective, universal mirror image of observed objects, diffraction acknowledges the pattern and encoding of multiple differences by co-subjects within an entangled state. Barad describes reflection as prioritizing sameness, separation, and representationalism, while diffraction emphasizes differences, relationality, and intra-active emergence. Likewise, for Haraway, reflection (or reflexivity) "invites the illusion of essential, fixed position"

(300). Fixed position is only an illusion, and diffraction is what "trains us to more subtle vision" where we acknowledge "small but consequential differences" (318). We queer human-nature, nature-culture, subject-object, and other persistent binaries to work toward respectful relationship. After all, "Our whole happiness and power of energetic action," John Ruskin writes in *Modern Painters* (1856), "depend upon our being able to breathe and live in the cloud" (6:89). Our happiness and agency rely on diffraction—in not existing *over* the cloud, not even *across* or *into* or *beyond* the cloud, but *in the cloud*. Ruskin foreshadows quantum physics' awareness of the entanglement of all beings and queer ecology's foregrounding of the necessity of embodied relationships with all of our ecological relatives.

Clouds, as we witness when we look about us *in the cloud*, and as Hopkins witnesses in his writing, demonstrate diffraction in profusion. Later in *Modern Painters*, Ruskin writes that the "strongest wind will not throw a cloud, massive by nature, into the linear form" (7:145). Clouds—in space and time—are nonlinear entanglements that diffract in relationship, forming and dissolving as beings-in-relation in the space of an afternoon, an hour, even a minute. Diffraction does not fix particular bodies nor place them in fixed relationships. Rather, diffraction encourages one's attention to the myriad changes and differences unfolding across space and time, just as Howard's emphasis not on "forms" but on "modifications" makes clear. Hopkins embraces such an entangled, diffractive perspective in his 1871 journal meditation on clouds and evaporation over his "Lenten chocolate," writing:

> It would be reasonable then to consider the films as the shell of gas-bubbles and the grain on them as a network of bubbles condensed by the air as the gas rises. […] the air breathing it aside entangles it with itself. […] Higher running into frets and silvering in the sun with the endless coiling, the soft bound of the general motion and yet the side lurches sliding into some particular pitch it makes a baffling and charming sight. — Clouds however solid they may look far off are I think wholly made of film in the sheet or in the tuft. The bright woolpacks that pelt before a gale in a clear sky are in the tuft and you can see the wind unravelling and rending them finer than any sponge till within one easy reach overhead they are morselled to nothing and consumed — (*CW* 3:504)

Hopkins's clouds are *solid* and *made of film*, they are *woolpacks* who are *morselled to nothing*, they are beings in a *network* who *entangles it with itself*.

Clouds diffract as visible waves and entanglements. Through attending to diffraction and diffractive patterns in relationship, we come into being with each other—or, rather, fellow intra-active assemblages—across species. Language, also, facilitates this unfolding, ever-changing diffractive mode of being-with, for as Merleau-Ponty (1969) also notes, language exists in "endless proliferation" and in "perpetual movement" (39). Over the long span from summer sunrise to sunset, how does this cloud begin? Who have they become by the end of your watching? Clouds shift, knit, converge, disappear and reappear, and exist in community—as the high-altitude cirrus most often appears with the cirrostratus and cirrocumulus, and as the clouds appear from the first lines of Hopkins's sonnet, "That Nature Is a Heraclitean Fire."

The Diffractive Flux of "That Nature is a Heraclitean Fire"

In "That Nature is a Heraclitean Fire and of the Comfort of the Resurrection" (1888), Hopkins stretches and compresses time and space to offer, in the space of a breath, clouds who are puffballs, tufts, pillows, thronging and glittering:

> Cloud-puffball, torn tufts, tossed pillows | flaunt forth, then chevy on an air-
> built thoroughfare: heaven-roysterers, in gay-gangs | they throng, they glitter in marches.
> Down roughcast, down dazzling whitewash, | wherever an elm arches.
> Shivelights and shadowtackle in long | lashes lace, lance, and pair.
> Delightfully the bright wind boisterous | ropes, wrestles, beats earth bare
> Of yestertempest's creases; | in pool and rut peel parches
> Squandering ooze to squeezed | dough, crust, dust; stanches, starches
> Squadroned masks and manmarks | treadmire toil there
> Footfretted in it. Million-fuelèd, | nature's bonfire burns on.
> But quench her bonniest, dearest | to her, her clearest-selvèd spark
> Man, how fast his firedint | his mark on mind, is gone!
> Both are in an unfathomable, all is in an enormous dark
> Drowned. O pity and indig | nation! Manshape, that shone
> Sheer off, disseveral, a star, | death blots black out; nor mark
> Is any of him at all so stark
> But vastness blurs and time | beats level. Enough! the Resurrection,
> A heart's-clarion! Away grief's gasping, | joyless days, dejection.
> Across my foundering deck shone
> A beacon, an eternal beam. | Flesh fade, and mortal trash

Fall to the residuary worm; | world's wildfire, leave but ash: 20
In a flash, at a trumpet crash,
I am all at once what Christ is, | since he was what I am, and
This Jack, joke, poor potsherd, | patch, matchwood, immortal diamond,
Is immortal diamond. (ll. 1-24)

While considered a sonnet by scholars from Michael L. Johnson (1972) and James Finn Cotter (1986) to Daniel Williams (2020) and Imogen Forbes-Macphail (2021), among others, this expansive twenty-four-line poem exceeds both the iamb and pentameter, as well as the traditional fourteen-line structure. Except for the four shorter half-lines that appear after this poem's fourteenth line (ll. 15, 18, 21, 24), almost every line holds a center caesura, represented as " | " to indicate a metrical pause. These pauses, while often occurring between words and after a word ending in punctuation, also appear as a mid-word pause, as in "indig | nation" (l. 13). Hopkins's poetry is often discussed as a demonstration of *sprung rhythm*, a term he named in an 1877 letter to Robert Bridges and contrasted to *running rhythm*. In sprung rhythm, a poem's lineation and rhythm come not from the regular metrical pattern of running rhythm (e.g. iambic pentameter), but from the number of stresses per line. Here, his caesuras help one navigate the poem —perhaps help one to breathe before the next cascade of Heraclitean flux—as, in a cloud-thickened sky, small frets of blue between clouds help one see the three-dimensional network.

Hopkins's sonnet opens with a springing medley of cloud names, uniting cloud and poem in entangled materiality that exceeds the horizon of sky and line. All are entangled into "gay-gangs" (l. 2), into "an unfathomable" and "an enormous dark" (l. 12), and the aggregate of "nature's bonfire" (l. 9) and "world's wildfire" (l. 20). Through the cascade enacted by these opening lines, we slip into the aggregate of entangled relation. Even the seemingly singular *I* that enters the poem's antepenultimate line is a diffractive, entangled, multiple *I*, for "I am all at once what Christ is," and "he was what I am" (l. 22). *I am he and he is me*. Across space and time, bodies collide and fluctuate, forming new entangled potentialities. This "I" leaps, in the next line, from the earth-surface inhabited

by “Jack,” the everyday human, to above-ground as “matchwood,” or kindling; to far below-ground as “immortal diamond” (l. 23). Such leaps span space and time, for “Jack” holds a human life, “matchwood” has passed beyond life, and “immortal diamond” exceeds even vast geological timescales into the atemporal. This collapse and reorientation of time echoes what would happen were we to witness animal species evolving and metamorphosing as clouds do, as Lorraine Daston (2016) describes, “all at once, not just past forms to present forms but also present to past and this present form to that other one,” for this nonlinear, diffractive, and entangled metamorphosis is “the vertiginous variability of clouds” (47). Hopkins uses the clouds to embody these diffractive textual possibilities.

In “That Nature Is a Heraclitean Fire,” Hopkins describes clouds and their ecological relatives entangling and intra-acting as they “throng” (l. 2) and “lace, lance, and pair” (l. 3) in a network that paradoxically “ropes, wrestles, beats earth bare” (l. 4). Bodies are brought into taut physical inter-relation with each other, demonstrating how diffractive relations do not change bodies once but continually and in relationship. Thus, the clouds in this sonnet are entangled in an ecological network who “arches” (l. 3) and “ropes” (l. 5), and who is “squeezed | dough, crust, dust” (l. 7). This intra-active network visits and manipulates the “unfathomable” (l. 12) bodies assembling within, not objectively determining who a particular body is in themselves, but instead opting to collide in sensuous touch, entangling and leaving imprints upon each other. Hopkins makes visible material entanglement in his linguistic collisions, pushing words to collide through unlikely compounds (e.g., *yestertempest* and *manshape*) and, discussed also in Chapter 3, the erotic bridge of the hyphen (e.g., *cloud-puffball* and *gay-gangs*). Here, the emergent network entangles the loose and unlikely materials of “ooze” (l. 7), “ash” (l. 20), and “matchwood” (l. 23) and compresses them from “mortal trash” (l. 19) into that metaphor of intense tension, the words that end the poem: “immortal diamond” (l. 24).

This *diamond* that closes the poem serves as a physically diffractive prism through which the entangled human-ecological network and chiasm may be apprehended, even as its hardness seems the antithesis of a cloud. Forbes-Macphail writes of Hopkins knotting and tangling the self throughout his poetry, as in the first two lines of "Carrion Comfort" (1885), written three years before "That Nature is a Heraclitean Fire," where he literally knots the sonic possibilities of *not / knot*: "Not, I'll not, carrion comfort, Despair, not feast on thee; / Not untwist—slack they may be—these last strands of man" (ll. 1-2). Forbes-Macphail notes how "the self here is figured as a tangled form which can be twisted or slackened" (146). I extend Forbes-Macphail's reading from the *tangled* to the *entangled*, or from the *randomly twisted* to the *fundamentally intra-active*. While the bodies in "That Nature is a Heraclitean Fire" do "lace, lance" (l. 4), "rope[e], wrestl[e]" (l. 5), and "squeez[e]" (l. 6), they do not do so in a haphazard, *tangled* way where one might untangle them back into separate bodies. Rather, "they throng" (l. 2) through the slippery, viscous erotic mediums of "pool and rut" (l. 6), of "ooze [...] dough [...] dust" (l. 7), into an entangled space where even "vastness blurs" (l. 16). Here, space becomes entangled and intra-active, as does time itself, for the ticking of the clock changes from linear progression to a horizontal manifold where "time | beats level" (l. 16). In the closing image, Hopkins offers the "immortal diamond" (l. 23, 24) as a metaphor for existing "all at once" (l. 22) as another being. This being remains entangled and *beating level* in shared co-existence across the space of the linebreak and the proliferating present tense of "is": "immortal diamond, / Is immortal diamond" (ll. 23-24).

The self—human and ecological—becomes a site of entangled connection that resonates with Merleau-Ponty's description of the *chiasm*, or the criss-crossing of bodies and selves through relationship, always entangling further into an evolving intra-active relationship. In his diaries, journals, and letters, Hopkins describes clouds and cloud

formations, as well as many other species of ecological phenomena, through words that emphasize physical entanglement. Hopkins's favorite words to communicate his theory of *inscape* (to be discussed shortly) are, according to James Milroy (1977), "*skeined, rope, comb, rack, bow,* and others" (31), all words that communicate physical entanglement and all words Hopkins also uses to describe clouds. For example, Hopkins writes of "regularly curled knots" of clouds (*CW* 3:504), a sunset with "one or two knots of rosy cloud middled with purple" (3:485), clouds "unravelling" (3:504), clouds often formed in "ropes" (3:411, 507, 564, 601). He uses several such physically entangling words in "That Nature is a Heraclitean Fire," including "arches" (l. 3), "lace" (l. 4), "ropes" (l. 5), "creases" (l. 6), "squeezed" (l. 7). He also invokes phenomena that emerge from the intense entanglement of multiple bodies, such as "ooze" (l. 7), "bonfire" (l. 9), "star" (l. 14), "wildfire" (l. 20), "ash" (l. 20), "diamond" (ll. 23, 24), and, of course, the "cloud" (l. 1) who opens this poem and flickers between the singular "puffball" (l. 1) and the numerous "throng" (l. 2)—the cloud who embodies entanglement in the queer manifold of themselves.

In quantum entanglement, beings and relations can entangle further but cannot be re-parsed into individual, or non-relating, units. Twenty-four years before writing "That Nature is a Heraclitean Fire," Hopkins drafts in his diary a ten-line poem whose first and last line are "It was a hard thing to undo this knot" (*CW* 3:210), in which the rainbow, a diffracting prism similar to the diamond in its gathering of multiple bodies into one intra-active assemblage that cannot be re-separated, makes three appearances (ll. 2, 4, 6). Several pages before drafting this poem, Hopkins sketches several knotted designs (see fig. 4-1).

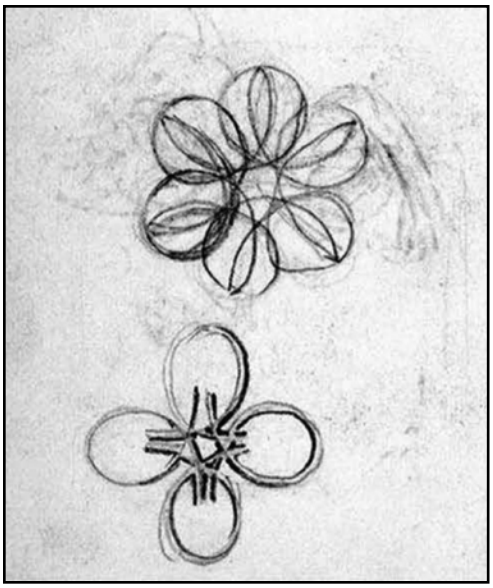

Figure 4-1. From Gerard Manley Hopkins; *Collected Works of Gerard Manley Hopkins*, edited by Lesley Higgins, et al., Oxford UP, 2006—, 3:207.

Hopkins, elsewhere in his diaries and journals, further blurs the potential for disentangling cloud-bodies and self-bodies by stressing the constant mutability of clouds through descriptions of clouds as "edgeless" (*CW* 3:375) and "transparent" (3:420). In "That Nature is a Heraclitean Fire," Hopkins uses similar language for the names and bodies of clouds to again demonstrate entanglement. Rather than describe clouds through names that signify clear borders, they are instead "Cloud-puffball" and "torn tufts" (l. 1), dazzling the eye as they "glitter in marches" (l. 2) from the singular to the knotted and entangled multiple.

Hopkins also furthers a sense of visual entanglement by favoring a shared perception over the first-person pronoun in "That Nature is a Heraclitean Fire," as well as in his diaries and journals. In the profusion of bodies and species entangling across "That Nature is a Heraclitean Fire," the first-person pronoun appears only in one line (l. 22). When this *I* does appear, it does so not as a singular individual. Instead, the *I* emerges in porous spatial and temporal multiplicity, among a cascade of other multiple entangled entities, from the "Million-fuelèd, | nature's bonfire" (l. 9) into the network where "vastness blurs and time | beats level" (l. 16). Here, "world" (l. 20) and "I" (l. 22)

entangle into an "all" (l. 12) and an "all at once" (l. 21)—porous and multiple entities. Likewise, Hopkins rarely uses *I* in his diaries and journals, offering a depersonalized and yet still embodied experience of the ecological community with whom he is entangled. For example, he writes of how, "in the afternoon the wind was driving little clouds of snow-dust which caught the sun as they rose and delightfully took the eyes" (*CW* 3:484). His use of "*the* eyes," instead of "*my* eyes" allows individuation to disperse and his eyes to become *the* eyes, as shared a being as *the wind* and *the sun*. Even when he does claim these eyes as his own, he foregrounds how these sensory organs are continually entangled. When marveling at the "whorl of slender curves" in snow, where he sees "one tuft taking up another," he realizes, "I saw the inscape [...] freshly, as if my eye were still growing" (228). *Eye, I,* and *world* diffract through an entangled co-perception that Hopkins enacts through visual detail and through metaphor.

Metaphor as Entanglement, Intra-Action, and Diffraction

Of all poetic devices, perhaps metaphors best demonstrate entanglement, intra-action, and diffraction. Metaphor (along with simile) enacts a combining and co-existence of the dissimilar as, simultaneously, the similar. This vast clouds above *are* "torn tufts" (l. 1) of a larger body and also *are* "tossed pillows" (l. 1) from some grand bed. Rather than a static noun, *cloud* reaches toward verb to become multiple potentialities at once, just as electrons, in quantum physics, are simultaneously waves and particles. Jeanne Emmons (1990) describes Hopkins's use of metaphor in similar terms, sans the connection to quantum physics. She writes of Hopkins's metaphors as a transformation of two separate beings "into a single thought" (90), a process I would parallel to intra-action. Through metaphor, two beings are brought into relation and merge into a new being who is not simply an addition of each separate being's traits (as per *interaction*), but a new being (as per *intra-action*) whose essence is relation.

Hopkins frequently turns to metaphors and similes to describe clouds in his prose and poems, including "That Nature Is." He writes of the "sky fleeced with the milky way" (*CW* 3:232), the "sky pied with clouds [...] the longest graceful waved ribbons" (3:357), "the higher cloud [...] like seams of red candle-wax" (4:201), and the "sea, dark and blue with violet cloud-shadows [...] warped to the round of the world like a coat" (3:532). In his 1883 letter to *Nature*, published in 1884, Hopkins reaches into simile to describe the clouds in the aftermath of the Krakatoa eruption, noting how the atmospheric "glow" creates a sunset "as more like inflamed flesh than the lucid reds of ordinary sunsets" (222). Clouds become *fleece* and *ribbons*, *candle-wax* and *coats* and *flesh*—images literally impossible, and yet, through the touching-touched experience of diffraction and intra-action witnessed in metaphor, thoroughly possible.

"That Nature is a Heraclitean Fire" begins with a vast entangled unrolling of metaphors for clouds, where even the direct word that opens Hopkins's poem, "Cloud," operates in hyphenated community. The singular cloud proliferates immediately into "Cloud-puffball, torn tufts, tossed pillows | flaunt forth, then chevy on an air- / built thoroughfare: heaven-roysterers, in gay-gangs | they throng, they glitter in marches" (ll. 1-2). Like metaphor, entanglement queers Eurowestern notions of stable, linear, or bounded identity in favor of identities emerging through the sensuous, and sometimes unlikely, relationships of porous, intra-active bodies. We become through metaphor. Any *we* forms through entanglement and the diffractive tendencies of metaphor, since, as Tuana writes, "unity is always dynamic and always interactive and agency is diffusely enacted in complex networks of relations" (188-9). On one hand, language is a parade of metaphors—the efforts of phenomenologists to reach *the things themselves* has yet to be attained—but we make our diffractive, intra-active entanglement particularly visible in poetry when we engage in explicit metaphors. Metaphor entangles itself and overflows.

In his poetry and prose, Hopkins's clouds literally *rove over*, to use his term for when elements of lines overflow across linebreaks and other taxonomic literary borders through enjambment, meter, sound, image, and other poetic devices. From the first line of "That Nature is a Heraclitean Fire," the sonnet energetically *roves over*. The first line breaks on a hyphenated word, "an air- / built thoroughfare" (ll. 1-2), and while the following three lines end in full-stop punctuation, seventeen of the twenty-four lines (over 70%) overflow without full-stop endings. Meanwhile, within all but one of the twenty full-length lines, Hopkins breaks each line with a mid-line caesura. This caesura, like his line endings, is less a *break* than a *roving over*, particularly when Hopkins hyphenates words across the caesura, as in "O pity and indig | nation!" (l. 13). Only one line meets the caesura with full-stop punctuation, and this full-stop is a dubious *full stop*, for it follows the encompassing image of "A beacon, an eternal beam." (l. 19). As a being beyond time and manifesting themselves in the porous body of light, this "eternal beam" (l. 19) is unlikely to be stopped or broken by the following caesura. The lines of this sonnet rove over in meter and sound, as when the emphasized "*d*" sounds overflow lines in "an enormous dark / Drowned" (ll. 12-13), or the partial metrical foot skips from the end-line unstressed syllable into the next line's double-stressed spondee in "and / This Jack" (ll. 22-23). Throughout, the sonnet models the clouds who overflow and rove over their borders, entangling other images and bodies.

For Hopkins, invoking clouds offers new ways to resist conventions and investigate expanded modes of being—a queer ecology of possibility, even an animate grammar that acknowledges the agency, liveliness, and likely sentience of ecological relatives like the clouds. Who else but the "wisped or grass cloud," to use his term in a March 1870 journal entry, could be "moist with light but ending at the top in a foam of delicate white pearling and spotted with big tufts of cloud in colour russet between brown and purple but edged with brassy light" (*CW* 3:484)? Who else, as he describes in

his aforementioned 1871 journal meditation, can be simultaneously "solid" and "made of film" and "woolpacks," who he can watch "unravelling and rending" until at last "morselled to nothing and consumed" (*CW* 3:504)? Queer ecology turns from *either/or* binaries and static identities instead to emphasize *both-and*, and as I argue, intra-action, diffraction, and entanglement. In "That Nature is a Heraclitean Fire," Hopkins moves toward queer ecology as he exclaims, "I am all at once" (l. 22). Where humans and clouds become ash who become diamonds, clouds offer not *biology* or even *ecology,* where beings and their relations can be bounded, fully known, and documented, but clouds as *queer ecology* and *quantum physics*, where beings and their relations shimmer into entangled mystery and wonder.

Through his terms *inscape* and *instress*, Hopkins develops a vocabulary of wonder and entanglement. In the 1860s, Hopkins coined the terms *inscape* and *instress* to describe, respectively, each being's individual and distinctive form or design that makes them unique and the natural (and ultimately divine) gathering force that conjoins all beings into one community and reveals them to the mind. Suzanne Stewart (2016) describes *inscape* as coming from the Latin *scapus*, for an architectural column; thus, inscape "expresses the idea of a central core" or an "essential stem shape," and thereby "the string or vein that conveys the force of being" (157). *Instress*, further, holds the term *stress* from physics, and as W.H. Gardner (1971) writes, instress shows "not only the unifying force *in* the object," but "also that impulse *from* the 'inscape' which actualizes the inscape in the mind of the beholder" (xxi). While Hopkins often uses instress as a noun, he often embeds a verb within the phrase holding *instress*, and he emphasizes instress as an active exchange between the viewer and the viewed, entangling these bodies and perceptions. In his journals, Hopkins describes the inscape of mountains, glaciers, and trees, as well as the instress of the moon, bluebells, and clouds, and Hutchinson argues that it is "in his description of the clouds" that Hopkins shares how

"instress reveals the inscape of things" (227). After all, Hopkins writes on 15 February 1879 to Robert Bridges:

> No doubt my poetry errs on the side of oddness [...] But as air, melody, is what strikes me most of all in music and design in painting, so design, or pattern, or what I am in the habit of calling *inscape* is what I above all aim at in poetry. Now it is the virtue of design, pattern, or inscape to be distinctive and it is the vice of distinctiveness to become queer. This vice I cannot have escaped. (*Correspondence* 334)

His letter to Bridges on how he finds *inscape* to be a design or pattern that is so distinctive as "to become queer," or perhaps *unintelligible or confusing to the average reader*, echoes how queer ecology revels in the fluid and porous, the juxtaposition and metaphor, the surprise and wonder of entangled relations across intra-active bodies and species. Like the entangled *oneness* of Coleridge's sonnet, the queer ecology of Hopkins's inscape in "That Nature is a Heraclitean Fire" diffracts into "the unfathomable" (l. 12) and yet, simultaneously, the "clearest-selvèd spark" (l. 10). Instress requires a certain reciprocity between the perceiver and the perceived, one that Coleridge recognized but rarely achieved (save, perhaps in poems like "Fancy in Nubibus"). Inscape and instress verge on the quantum, layering metaphor and image into a queer design, demonstrating how all design, all relation, may be in some manner *queer*—nonlinear, porous, touched-touching, intra-active, diffractive, and, throughout, entangled.

Implications of Entanglement

Diffraction is not just about difference, but about relation and responsibility. As Barad writes, diffraction is "about the entangled nature of differences that matter," and "difference is tied up with responsibility" (36). By studying entanglement, particularly the human-ecological entanglement made visible through poems including Mary Maria Colling's "The Moon and the Cloud," Samuel Taylor Coleridge's "Fancy in Nubibus," and Gerard Manley Hopkins's 'That Nature is a Heraclitean Fire," we realize the necessity of acknowledging our interdependence—and intra-dependence—with our human and

ecological relatives. “We are all part of the great green ‘we,’ enmeshed in ecological kinship,” Kimmerer (2021) writes, and “every molecule that is me has its origins in another body” (144). When we see other beings—be they clouds or rocks, humans or birds, rivers or icebergs—as separate from our lived experience, our web of kinship unravels, with consequences for innumerable species. The vital entanglements between all life are ignored or rerouted in favor of distancing certain individuals from the perception of interdependence. As a result, along with the increasing destruction of the biosphere, including the homes and lives of humans and countless ecological relatives, such distance (as is pervasive throughout many Eurowestern communities) can silence and erase ways of knowing and living in relationship from which we need to learn.

However, queer ecological communities counteract such distancing. Queer ecology destabilizes the subject-object relationship of dominant humans upon subordinate human and ecological “others.” Similarly, in dialogue with the Yolngu people, an Australian Aboriginal community, Deborah Bird Rose (2017) learns how “the world is not composed of gears and cogs but of multifaceted, multispecies relations and pulses” (G55). We are not merely interconnected but *entangled*. The necessity of witnessing the brilliance of our intra-active relations and worlds increases with each new extinction and environmental catastrophe.

Through the slippery entanglement of cloud poetics, particularly in the study of intra-action in Colling’s lyric, embodied ecological community in Coleridge’s sonnet, and diffraction in Hopkins’s sonnet, queer ecology and quantum physics show how phenomena such as clouds always exist in sensuous entanglements. The high ice-thick cirrus cloud, for example, might respond to increasing air temperatures by lowering into altostratus, who holds both ice crystals and droplets, and who may lower again into nimbostratus, the cloud of droplets and rain. Across scholarship and embodied experience, we acknowledge the ethical necessity of wonder and of reaching out into

sensuous relationship. We acknowledge the ethical necessity of admitting our porous and intra-active identity, our intrinsic connection with—and *to*, and *as*—each other, all of our human and ecological relatives with whom we are deeply, queerly, always touching, touched, and entangled.

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