

**OPEN WORLDS:
NINETEENTH-CENTURY POETRY AND SCIENCE**

By

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INTRODUCTION

- 1 *World* is the great collective idea of all bodies whatever. *Loc.*
- 2 System of beings.
- 3 The earth; the terraqueous globe.
- 4 Present state of existence.
- 5 A secular life.
- 6 Publick life.
- 7 Business of life; trouble of life.
- 8 Great multitude.
- 9 Mankind; an hyperbolical expression for many.
- 10 Course of life.
- 11 Universal empire.
- 12 The manners of men.
- 13 A collection of wonders; a wonder. Obsolete.
- 14 Time. A sense originally Saxon; not only used in *World without end*.
- 15 *In the world*. In Possibility.
- 16 *For all the world*. Exactly. A ludicrous sense; now little used.

—Samuel Johnson, “World,” *A Dictionary of the English Language* (1755)

This dissertation explores crossovers between poetry and science that reshaped the function of “world” as an organizing category in the British Romantic and Victorian periods. It does so to trace an imagining of global space and time whose forms, politics and futures have much to contribute to our understanding of nineteenth-century cosmopolitanism and poetics. By the late eighteenth century, the world—on both conceptual and material registers—was in a state of disorder. Following the de-centering of the earth and the human species—first at the hands of Nicolaus Copernicus and Galileo Galilei, and second through the Enlightenment resurgence of the plurality of worlds debates—the category of “world” became unmoored. By the Romantic period it no longer referred strictly to the spatial cartography of the globe or planetary spheres. The category underwent a radical expansion, transforming into a shape-shifting assemblage of meanings that entangled otherwise distinct forms and, in so doing, wrought organizational havoc. A cursory look at dictionaries and encyclopedias makes visible the definitional uncertainty about the meaning of “world” that intensified throughout the nineteenth century. Ephraim Chambers’s *Cyclopædia* (1728), for instance, defines the word as: “the Assemblage of Parts which compose the Universe”; an

unresolved question of “*Duration*” and “finit[ude]”; a tension between singularity and numerosity (“’Tis likewise disputed, Whether it were possible for several *Worlds* to exist”); a composite space of the “*Upper*, and *Lower*” or “Sublunary” cosmos of which our planet is only one part; a “system”; and a locus of “soul.”¹ In Samuel Johnson’s later 1755 dictionary—from which this project takes its epigraph—these terminological slippages multiply. Here, “world” connotes anything from the “Present state of existence” to “Publick life”; an amoeban “Great multitude”; global empires to planetary spheres; multitudinous “collection[s] of wonders” to the singularity of “*a* wonder”; “Time” broadly construed and, most poetically, pure “possibility.”² As such, “world” weaves seemingly illogical and unruly interconnections between objects and concepts of vastly different natures and scales. No wonder Alexander von Humboldt would later mark “world” a synonymic quagmire.

I argue in this dissertation that what is most compelling about the category of “world” is precisely that which Humboldt laments: its taxonomic failures or, rather, its grounding in a vision of nature that was capacious and unruly. Consider how the synonymic confusion outlined above is as physical as it is lexical, arising from the slippages and short circuits which irrupt as material forms of vastly different types and scales collide. These material forms include those of species, planetary globes and the voids that lie between, life as both a physical unity and heterogeneous multitude, the shallows of human history and the depths of geological infinitude, imperial homogeneity and ecological heterogeneity—in short, the radical multiplicities and discontinuities of nature. Romantic and Victorian writers were acutely aware of the formal and scalar variety of material life: of how the human body might function, from the perspective of an insect, as an entire world, even as the category at the same time encompasses the luminous bodies glimmering in the night sky.³ In

¹ Ephraim Chambers, “world,” *Cyclopadia, or, An universal dictionary of Arts and Sciences* (London, 1728), 379-80.

² Samuel Johnson, “world,” *A Dictionary of the English Language*, Vol. 2 (London, 1755), 2298.

³ See, for instance, Robert Hooke’s *Micrographia* (1665) and Anna Letitia Barbauld’s “The Caterpillar” (1825).

the course of the nineteenth century, writers became more convinced that many worlds exist, from the atomic to the cosmic. As such, “world” is *not* a bounded, orbicular container. To inhabit a world in the Romantic and Victorian periods is to shuttle fluidly and unsystematically between a multitude of worlds that brush up against, touch, and open onto one another. It is to be penetrated by a multiverse whose shifting, aleatory structures disfigure spherical form and unsettle mechanistic paradigms. Departing from the fixed boundaries of the nation state and the global energies of empire, the category of “world” in this way constitutes an alternative model through which to understand the different scales of space and time at stake in the nineteenth-century cosmopolitical imaginary.

My attention to closure and anti-closure signals how form lies at the heart of this project and the notion of “world” it tracks. As nineteenth-century thinkers attempt to measure a world resistant to and perhaps without measure, they figure earth and heavens as a plurality of unbounded forms. In his 1788 *Theory of the Earth*, the geologist James Hutton supposes that the planet is riddled with what he calls “open structures”—or shifting networks of veins, fissures and cavities—while Sir William Herschel and, later, Humboldt repeatedly emphasize not the pluralities of worlds shining in the night sky, but instead the voids of deep space. These formal questions are not strictly scientific but instead cut across discursive and disciplinary boundaries. *Open Worlds* attends to the intersecting, competing and colliding structures of “world” to make visible how poetry and science are engaged in parallel formal inquiries in the Romantic and Victorian periods. Though the structures of rhyme and meter are of course very different from those of heavens and earth, poetic and scientific thinkers alike were concerned with a common set of forms that animated the nineteenth-century cosmopolitan imaginary. I thus understand “form” as that which describes a range of organizational possibilities that unfold as the structuring principles of poetry and of nature intersect with one another. For poets such as Anna Letitia Barbauld, William Blake, Percy Bysshe Shelley, Alfred Lord Tennyson

and Elizabeth Barrett Browning, such forms make available new affordances for imagining the world, its natures and its politics, especially insofar as they resist circumscription or control. My project explores how the term “world” re-calibrates some of our most fundamental assumptions about poetic form, as well as scientific writing about the globe and the heavens. I contend that Romantic and Victorian poets and scientists turn to material nature to develop newly flexible world-models that resist received cartographies and, in so doing, suggest new possibilities for large-scale political organization and resistance. These world-models are staged through a poetics of fragmentation, fissure and void. The poems I read in *Open Worlds* offer a deeply physical, material, ecological understanding of form. And insofar as these poems imagine worlds that are multiple and diverse—both in form and in relation—they resist the organic imperative which is so often viewed as synonymous with Romanticism, as well as the conventional view of the Victorian period as the zenith of imperial and human power. This project explores instead very different modes of engagement with the world and its natures that unfold over the course of the long nineteenth century, both in poetry and in science.

Globe, System, Planet

For some time, scholars have largely understood nineteenth-century global politics in terms of the fixed borderlines of the nation state. Working in the tradition of Benedict Anderson’s *Imagined Communities*, critics including James Buzard, Anne Frey, Lauren M. E. Goodlad, David Aram Kaiser, Meredith Martin, Matthew Reynolds, Catherine Robson and William St. Clair have identified the nation as the privileged locus of inquiry for examining novelistic form and poetic meter, the

institution of authorship and reading publics, aesthetics and politics.⁴ These studies have contributed much to the field. Yet their attention to what Srinivas Aravamudan calls “the small-bore world” of nationalist “enclosure” leaves huge swathes of the nineteenth-century global imaginary uncharted.⁵ Recently, however, the field of nineteenth-century studies has taken a global turn. Samuel Baker, Ian Baucom, Mary Favret, Saree Makdisi, Andrew Warren, Daniel E. White and others have begun to explore the complexities of transnational relations in an age of empire, as well as to investigate and complicate the interrelationships between the local and universal, the imperial center and colonial periphery, national cartography and planetary geography.⁶ *Open Worlds* takes its cue from this growing body of scholarship, which is attentive to dimensionalities of global space and time that escape nationalist frameworks of analysis.

This dissertation diverges from recent trends in nineteenth-century studies because it distinguishes “world” from the all-encompassing globality of capital, commerce and power. Although it certainly intersects with these systems across the nineteenth century, “world” is nonetheless not strictly synonymous with “globe.” Instead, I argue that it is an organizing category of its own. Immanuel Wallerstein’s world-systems theory is an increasingly omnipresent method of

⁴ See Benedict Anderson, *Imagined Communities* (New York: Verso, 1983); James Buzard, *Disorienting Fiction: The Autoethnographic Work of Nineteenth-Century British Novels* (Princeton: Princeton University Press, 2005); Anne Frey, *British State Romanticism: Authorship, Agency, and Bureaucratic Nationalism* (Palo Alto: Stanford University Press, 2010); Lauren M. E. Goodlad, *Victorian Literature and the Victorian State: Character and Governance in a Liberal Society* (Baltimore: Johns Hopkins University Press, 2003); David Aram Kaiser, *Romanticism, Aesthetics, and Nationalism* (Cambridge: Cambridge University Press, 2004); Meredith Martin, *The Rise and Fall of Meter: Poetry and English National Culture, 1860-1930* (Princeton: Princeton University Press, 2012); Matthew Reynolds, *The Realms of Verse 1830-1870: English Poetry in a Time of Nation-Building* (Oxford: Oxford University Press, 2001); Catherine Robson, *Heart Beats: Everyday Life and the Memorized Poem* (Princeton: Princeton University Press, 2012); and William St. Clair, *The Reading Nation in the Romantic Period* (Cambridge: Cambridge University Press, 2004).

⁵ Srinivas Aravamudan, *Enlightenment Orientalism: Resisting the Rise of the Novel* (Chicago: University of Chicago Press, 2011), 23 and 24.

⁶ See Samuel Baker, *Written on the Water: British Romanticism and the Maritime Empire of Culture* (Charlottesville: University of Virginia Press, 2010); Ian Baucom, *Specters of the Atlantic: Finance, Capital, Slavery, and the Philosophy of History* (Durham: Duke University Press, 2005); Mary Favret, *War at a Distance: Romanticism and the Making of Modern Wartime* (Princeton: Princeton University Press, 2009); Saree Makdisi, *Making England Western: Occidentalism, Race, and Imperial Culture* (Chicago: University of Chicago Press, 2014); Andrew Warren, *The Orient and the Young Romantics* (Cambridge: Cambridge University Press, 2014); and Daniel E. White, *From Little London to Little Bengal: Religion, Print, and Modernity in Early British India, 1793-1835* (Baltimore: Johns Hopkins University Press, 2013).

approach in Romantic and Victorian scholarship. For example, Goodlad reads the Victorian realist novel as a vehicle for “creative world-formation” and, in this sense, posits literature “as a fundamentally ‘worlded’ phenomenon.”⁷ Evan Gottlieb argues that the Scottish Enlightenment and, more broadly, Romanticism developed an idea of “world” that “recalibrat[ed] time and space as secular, modern, and homogeneous.” So understood, “world” takes shape through “the global spread of capital” and consequently transforms to “feel smaller and more interconnected.”⁸ Romanticism, Gottlieb argues, embraced a form of globalism wherein the “flattening” of “the world’s economic relations” might eventually ameliorate “geo-political inequalities.”⁹ Both critics understand “world” as synonymous and therefore limited to globalizing systems of contact and exchange. Goodlad and Gottlieb reduce and flatten it into a shorthand for world-systems theory. *Open Worlds* instead understands “world” as a form and dynamic of its own. It is distinguished, I argue, for its willing and experimentalist departures from normative models of space and time. These departures pose radical alternatives to the closed and consolidated cartography of the globe.

For different reasons, the category of “world” flattens out—if it does not disappear altogether—in studies of Romantic and Victorian globality that insist on a single, at times linear description of “world” as utopian or virtual. Tanya Agathocleous claims the urban space of London as a microcosmic figure for a “utopian” world-order, for instance, while Peter Otto examines “the relation between real and illusory/fictional worlds” in Romanticism.¹⁰ He does so to argue that “modern forms of virtual reality first appear” in the late eighteenth century, “eclips[ing] the ‘real’ and

⁷ Goodlad, *The Victorian Geopolitical Aesthetic: Realism, Sovereignty, and Transnational Experience* (Oxford: Oxford University Press, 2015), 6, 20 and 1.

⁸ Evan Gottlieb, *Romantic Globalism: British Literature and Modern World Order, 1750-1830* (Columbus: Ohio State University Press, 2014), 11 and 4.

⁹ Gottlieb, 29 and 28.

¹⁰ Tanya Agathocleous, *Urban Realism and the Cosmopolitan Imagination in the Nineteenth Century: Visible City, Invisible World* (Cambridge: Cambridge University Press, 2011), 9 and Peter Otto, *Multiplying Worlds: Romanticism, Modernity, and the Emergence of Virtual Reality* (Oxford: Oxford University Press, 2011), 7.

in its place open[ing] a heterocosm, a world (purportedly) of imaginative and expressive freedom.”¹¹ Otto charges that worlds materialize in the nineteenth century through diverse visual media—such as the panorama or the magic lantern—and as such are mere simulations of the real. His critique supposes, as have other writers in different critical registers, that “world” is a transcendent idea detached from and unconcerned with the forms of nature and of politics. In this way, he argues, it “remains vulnerable to the charge that its ‘living’ virtual realities are merely one more simulation.”¹² I contend, however, that limiting “world” to its virtual recreations effaces the myriad, profoundly physical entanglements with which it was imbued in the nineteenth century. To do so depletes the category of some of its most exciting potentialities. This study argues that Romanticism inaugurates a visceral understanding of “world” that writers for the rest of the nineteenth century continue to configure. This tradition of world-making is deeply attuned to the raucous variety of nature as well as the profound openness of the cosmos and its forms. The full range of these possibilities only materialize, I argue, when we understand “world” as a formal problematic that is deeply material, and which bears an uneasy relationship to both global totality and transcendent immateriality.

But why “world” over other alternatives to the globe? Susan Stanford Friedman, Ursula K. Heise, Gayatri Chakravorty Spivak and others have “propose[d] the planet,” to borrow Spivak’s phrasing, as a figure through which “to overwrite” or unsettle the undifferentiated systems of “the globe.” These systems impose “undivided” as opposed to “differentiated political space,” making an abstract nowhere—a no man’s land—of specific, localized somewheres: “The globe is on our computers. No one lives there.” The planet, however, “belong[s] to another system” we do not possess, but rather “inhabit...on loan.”¹³ It is “not continuous with us” and yet “it is

¹¹ Otto, 7.

¹² Otto, 15.

¹³ Susan Stanford Friedman, *Planetary Modernisms: Provocations on Modernity Across Time* (New York: Columbia University Press, 2015); Ursula K. Heise, *Sense of Place, Sense of Planet: The Environmental Imagination of the Global* (Oxford: Oxford University Press, 2008); and Gayatri Chakravorty Spivak, *Death of a Discipline* (New York: Columbia University Press, 2003), 72.

not...specifically discontinuous.”¹⁴ It resists easy oppositions, in other words, and as such challenges our capacities for figuration, for representation, for possession. As a figure of planetarity, earth is a placeholder for Spivak’s planetary perspective. Earth is the ground which “undergird[s]” planet: a recalcitrant “mass” that “is a paranational”—as opposed to international—“image.”¹⁵ But I argue throughout this dissertation that the figure of the planet is unsuited to the study of those forms which “differentiate” or fissure the impermeable space-time of globalization into ungovernable alterities. Spivak’s understanding of the planet as a “ground”—as a figure of massy materiality and “continuous exchange with the Earth”—veers dangerously close, I argue, to the “undivided” structures and uninterrupted exchange of globalization that it purportedly interrupts. “Planet” is also inflexible: it lacks the formal and scalar variability of “world.” The former, unlike the latter, does not and cannot shuttle between the atomic and the universal. Though it makes visible a “paranational” and distinctly human politics that is expansive in scope, “planet” is unable to at the same time consider how a tiny garden puddle might comprise a world for a multitude of tiny creatures—a world with its own logic of organization, its own ecology, its own (inhuman) politics.

Other scholars who work at the intersections of national literatures and global studies employ the category of “planet” in ways that, however inadvertently, underline its flat dimensionality. Wai Chee Dimock has argued that the appropriate scale of analysis for literary studies is that of the planet because it renders visible how “[l]iterary space and time are conditional and elastic,” comprised of “a plurality of operative nows” which unfold through unpredictable collisions between texts and readers who are otherwise insurmountably distant.¹⁶ But Dimock’s emphasis on the planet as pure, abstract spatiality ignores other, deeply material regimes of inquiry, such as the life forms and terrestrial processes which comprise and give shape to the planet as such. Though she is

¹⁴ Spivak, 73.

¹⁵ Spivak, 93 and 95.

¹⁶ Wai Chee Dimock, “Literature for the Planet,” *PMLA* 116.1 (2001): 174.

informed by the notion of deep time—a distinctly inhuman temporality—Dimock takes “the planet as a whole” to encompass the “sounds human beings have made across the width of the globe and across the length of history.”¹⁷ There is no place in this account for the formal and scalar heterogeneity of material nature—for the nonhuman beings and energies with which literature is always engaged, and which constitute the engines of planetary formation and transformation.

From different perspectives, Dimock and Spivak demonstrate how the rigidity of the planet as a unit of analysis—as a figure for massy “ground,” on the one hand, and “the largest possible scale” of reading, on the other—obscures (if not altogether erases) a plethora of materialities and forms that “world” as a category preserves.¹⁸ Although “planet” offers an alternative to nation-based territorialities, it remains a “prefabricated box.”¹⁹ It supplants one unvarying organizational unit with another. We need something more open, more flexible, more experimental, more attuned to not only the materialities of language but also those of organic life and inorganic matter. What we need is “world.”

Rocks, Stars, Voids

Open Worlds traces a sense of “world” and its possibilities that is inextricable from the forms of material nature and which is rendered visible through a distinctly scientific lens. Alan Bewell, Lorraine Daston and Peter Galison, Jim Endersby, Donna Haraway, Londa Schiebinger and many others have traced the ways that post-Enlightenment science was implicated in a project of objectification and world-making whose fantasies were explicitly colonial, and thus helped to

¹⁷ Dimock, 178 and 180.

¹⁸ Dimock, “Planetary Time and Global Translation,” *Common Knowledge* 9.3 (2003): 489.

¹⁹ Dimock, “Planetary Time and Global Translation,” 489.

naturalize racist and sexist systems of power.²⁰ In this project, I turn to a growing body of work in the history and philosophy of science which asks how nineteenth-century investigations into global nature disrupted this colonial project even as they might have contributed to it. The Romantic and Victorian eras constitute a critical moment in the history of the idea of “world.” Writers from both eras shared an interest in the unprecedented de-centering of the universe that transpired by way of the sciences of astronomy and geology, in particular. The forms of material nature and their wayward figural tendencies were complicit in this de-centering. Theresa M. Kelley has located an “edgier” history of resistance to colonial protocols in those very organic and inorganic specimens—plants, minerals, animal and human bodies—that were collected, shipped, anatomized and preserved en masse under the banner of empire in the nineteenth century. Plants in particular, Kelley argues, “invited notice of their physicality” as well as “their particularity and difference.” As such, they labored “[a]gainst the pull of reification,” confronting their viewers with “an unsettled domain” of taxonomic inquiry and aesthetic experiment.²¹ Onno Oerlemans, too, contends that the material signifies an unassimilable otherness which always posits “the discreteness of things in the world” as “a kind of illusion.” Nature’s material otherness spotlights how the notion of a singular “unit or a whole” is always the product “of arbitrarily limiting boundaries.”²² Building on these accounts of nineteenth-century science and materiality, this dissertation attends to the collusions between the category of “world” and the alien materialities of nature, especially their anti-colonial politics.

Romanticism is often understood in terms of its flora and fauna—its lush landscapes and green spaces—while the Victorian age is known for its destructive encroachments—human,

²⁰ See Alan Bewell, *Romanticism and Colonial Disease* (Baltimore: Johns Hopkins University Press, 2003); Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2007); Jim Endersby, *Imperial Nature: Joseph Hooker and the Practices of Victorian Science* (Chicago: University of Chicago Press, 2008); Donna Haraway, *Primate Visions: Gender, Race and Nature in the World of Modern Science* (New York: Routledge, 1990); and Londa Schiebinger, *Plants and Empire: Colonial Bioprospecting in the Atlantic World* (Cambridge, MA: Harvard University Press, 2004).

²¹ Theresa M. Kelley, *Clandestine Marriage: Botany and Romantic Culture* (Baltimore: Johns Hopkins University Press, 2012), 2.

²² Onno Oerlemans, *Romanticism and the Materiality of Nature* (Toronto: University of Toronto Press, 2002), 14.

economic, imperial, technological—into these spaces. But scholars now recognize a subtler current that belies these characterizations. Adelene Buckland, Eric Gidal and Noah Heringman have traced the crossovers between nineteenth-century cultures of geology and literary aesthetics. Particularly productive for establishing the grounds of my argument is Heringman’s claim that “[p]oetry and geology in later eighteenth- and nineteenth-century Britain are mutually constitutive.” Poets recognize that the “absolute otherness” of rocks defies preexisting aesthetic categories.²³ Geological landscape forms are, in the words of Barbara M. Stafford, “isolated, detached monoliths” that refuse to function as “human surrogates,” their forms signifying instead “natural”—and unassimilable—“singular[ity].”²⁴ In so doing they incite imagination and at times experimentation. Looking to the stars, Anna Henchman demonstrates how astronomy was “unusual among nineteenth-century sciences” because it invited the mind “to conceive of the universe as a spatial whole” and, in so doing, challenged the representational capacities of literary form.²⁵ *Open Worlds* reorients these accounts of global, inhuman natures in nineteenth-century literature to show that the forms of “world” and of science were co-constitutive during the Romantic and Victorian periods. I contend that “world” was shaped in crucial ways by empirical investigations into the irregular surface and impenetrable depths of Earth, as well as the astral bodies and voids in the heavens above. My project is unique in its dual attention to the terrestrial and the extraterrestrial. Rather than parcel out the geological from the astronomical, I take my cue from nineteenth-century thinkers who move fluidly in their writings between telluric, near-Earth and celestial spaces. They understood them as

²³ Adelene Buckland, *Novel Science: Fiction and the Invention of Nineteenth-Century Geology* (Chicago: University of Chicago Press, 2013); Eric Gidal, *Ossianic Unconformities: Bardic Poetry in the Industrial Age* (Charlottesville: University of Virginia Press, 2015); and Noah Heringman, *Romantic Rocks, Aesthetic Geology* (Ithaca: Cornell University Press, 2004), 1 and 56.

²⁴ Barbara M. Stafford, “Towards Romantic Landscape Perception: Illustrated Travels and the Rise of ‘Singularity’ as an Aesthetic Category,” *Art Quarterly* (1977): 117-8.

²⁵ Anna Henchman, *The Starry Sky Within: Astronomy and the Reach of the Mind in Victorian Literature* (Oxford: Oxford University Press, 2014), 38.

crisscrossed by common forms and forces—as interpenetrating, rather than discrete and enclosed, entities.

By attending to the material specificities of “world,” I demonstrate how nineteenth-century science, despite its colonial affiliations, was not always on an impossible quest for unitary knowledge and bounded world-order. Insofar as it understands the scientific enterprise as wayward—as distinguished by its willing refusals to produce a “*universe*,” to aspire to “a concept of totality”—this project is indebted to the work of Michel Serres and Elizabeth Grosz. *Open Worlds* answers Serres’s call for an account of the world that preserves its “lacuna” and “turbulence”—which employs “new names” that safeguard its open, multiple and dynamic materiality.²⁶ And like Grosz, I understand the nineteenth century as a unique moment in the philosophy of science, wherein living form came to signify “a dynamic process” of transformation or, rather, an “openness to the dynamism of time”—to “the unpredictable, even random future” or horizon of possibility which coincides, I argue, with the category of “world.”²⁷ This sense of material nature as interpenetrative, porous, uncontainable is no anomaly. The forms which recur in nineteenth-century poetry and science possess a single and crucial common characteristic: openness. These “open structures,” as Hutton puts it, give material shape to the category of “world.” They are unruly in structure and energy, eluding established logics of organization. As such, these forms proliferate unanticipated continuities between otherwise disparate beings, places and histories. Consider, for instance, how Percy Bysshe Shelley’s “Ode to Heaven” (1820) replaces the Newtonian model of the heavens as an “Ever-canopying dome” with an expanding, uncontained multiverse that wells up from the “chasms and wildernesses” of deep space.²⁸ The ode offers up “an unimagined world” that begins as a formless “abyss” and then

²⁶ Michel Serres, *Genesis*, trans. Geneviève James and James Nielson (Ann Arbor: University of Michigan Press, 1995), 111.

²⁷ Elizabeth Grosz, *Time Travels: Feminism, Nature, Power* (Durham: Duke University Press, 2005) 36-7.

²⁸ Percy Bysshe Shelley, “Ode to Heaven,” *Shelley’s Poetry and Prose*, ed. Donald H. Reiman and Neil Fraistat (New York: W. W. Norton, 2002), 8 and 13.

contracts to the scale of “a globe of dew” which, as it sits on the “young leaves” of a flower, opens out to “Constellated suns unshaken, / Orbits measureless.” “World,” here, is a “frail and fading sphere” (37-52). Its seemingly bounded structures are vulnerable to penetration and expansion—they are profoundly open in form. Shelley imagines the world instead as an “unimagined” multitude of forms that together convey new, formerly impossible heterocosmic patterns.

Closure and Anti-Closure

I argue in this dissertation that, so redefined, the category of “world” affords newly capacious models through which to imagine not only global space and time, but also the relationship between the worlds imagined in literature and those which populate the “real.” My argument in this way differs from recent accounts of “world,” which continue to take its formal alliance with closure for granted. “A world,” Eric Hayot argues, “encloses and worlds itself as the container...that does not exceed or reach outside itself.”²⁹ As that which “enclose[s]” and thus also “exclude[s],” “world” is self-referential and insular in structure. Literary worlds are, in this context, especially limited in their “reach.” They are always singular “*diegetic totalit[ies]*” that mirror an equally singular “*extradiegetic*” world, which “frames and worlds it in turn, and constitutes the frame of judgment against which the diegetic content’s worldlessness will be evaluated.”³⁰ First, notice how multiplicity, formal complexity, all sense of possibility drop out of the picture. According to Hayot there are two worlds and two worlds alone—those of the aesthetic and of the real. The latter always “frame[s]” or circumscribes the possibilities of the former. Second, this emphasis on bounded form limits

²⁹ This is by no means unique to Hayot’s study. See, for instance, Pascale Casanova, *The World Republic of Letters* (Cambridge, MA: Harvard University Press, 2007); David Damrosch, *What is World Literature?* (Princeton: Princeton University Press, 2003); Franco Moretti, “World Systems Analysis, Evolutionary Theory, *Weltliteratur*,” *Immanuel Wallerstein and the Problem of the World: System, Scale, Culture*, ed. David Palumbo-Liu, Bruce Robbins and Nirvana Tanoukhi (Durham: Duke University Press, 2011); and Martin Puchner, “World Literature and the Creation of Literary Worlds,” *Neohelicon* 38 (2011): 341-8.

³⁰ Hayot, 44-5. Emphases original.

whatever political meaning an aesthetic world might hold: though literary worlds possess a relation to the real, they “d[o] not exceed or reach outside” or beyond themselves. As Hayot understands them, worlds are largely mimetic, reflecting already extant realities and producing no politics of their own. Missing from this account is the openness, dynamism and potentiality with which “world” is invested in the nineteenth century, and which derives in part from its deeply physical and aesthetic interrelationship with the material life forms of nature. The consequences of this loss are palpable.

For Pheng Cheah, “world” connotes a “unifying power of temporalization” that produces “a meaningful whole.” At the same time, he defines it as an “opening that pulls all beings into relation,” without which “we would not have access to other beings and no value could be formed.”³¹ This “world” is distinct from the “bounded object or entity” we call the globe and, as such, it “is an unerasable normative resource for disrupting and resisting the calculations of globalization.”³² But to make his case, Cheah disavows nature and, by extension, all nonhuman material life. Like Martin Heidegger, whose notion of *Dasein* informs his argument, Cheah casts nature and science as forces of “*unworlding*”: “a material thing of nature” transports the world into objectivity and, in so doing, disrupts the ontological “transcendence” which characterizes “worldliness”—which enables “our constitutive opening up to inner-worldly beings and other *Dasein*.”³³ Heidegger is explicit about excluding nonhuman and inorganic forms from *Dasein*: “A stone is worldless. Plant and animal likewise have no world.”³⁴ To possess a relation to the world, for Heidegger, is to be human and human alone. Likewise, for Cheah “world” refers to a “being-with all peoples” or, rather, being-with people.³⁵ It necessitates the disavowal of a multitude of organic and inorganic others, producing the fantasy of a transcendent humanity for which “world” has come under critique. “World” as such, is

³¹ Peng Cheah, *What is a World? On Postcolonial Literature as World Literature* (Durham: Duke University Press, 2016), 9.

³² Cheah, 42 and 9.

³³ Cheah, 98, 101 and 113.

³⁴ It is worth noting that some would add to this list: a world without certain kinds of humans. Martin Heidegger, “The Origin of the Work of Art,” *Poetry, Language, Thought*, trans. Albert Hofstadter (New York: Harper Collins, 1971), 44.

³⁵ Cheah, 19.

a mechanism of refusal and of closure. It performs the very same function that Cheah attributes to science and its monstrous natures: “unworlding.”

When understood as a distinctly human category, “world” willfully obscures the fallout of Anthropogenic enterprise and in so doing obstructs environmentalism. It is for this reason that scholars in the environmental humanities have argued against the category of “world.” As a figure of transcendence—as a bridge to some bounded safe-haven, some immaterial and spiritual elsewhere—it runs the risk of facilitating our escape from the very material planet on which we live and authorizing the repudiation of its nonhuman life forms, whatever those might be. Thus, Timothy Morton proclaims (and celebrates) the death of “world”: “the concept *world* is no longer operational, and hyperobjects are what brought about its demise.”³⁶ Morton, like most, understands “world” as “a container in which objectified things float or stand,” “a significant, bounded, horizons entity.”³⁷ Only now, he argues, is humankind coming to the realization that it is not the world and that, in this way, “*world* means significantly less than it used to—it doesn’t mean ‘significant for humans’ or even ‘significant for conscious entities’.”³⁸ I agree with Morton’s claim that “world” does not always coincide with humankind or with sentience. But I take issue with his suggestion that the inhumanness of “world” is quite new. *Open Worlds* traces a pre-Heideggerian tradition of world-imagining that is distinctive for its openness to material nature and its life forms. As such, it offers new and exciting ways to reconceptualize the interrelationships between traditionally opposed categories, such as the human and the nonhuman, the individual and the collective. In the coda of this dissertation, I consider whether the nineteenth century offers necessary models for imagining the geophysical agencies and forms that were emergent in the Romantic and Victorian eras, and

³⁶ Timothy Morton, *Hyperobjects: Philosophy and Ecology after the End of the World* (Minneapolis: University of Minnesota Press, 2013), 6.

³⁷ Morton, 99 and 104.

³⁸ Morton, 104.

which continue to act in the present. I do so in the hopes of recovering this nineteenth-century project and, more broadly, the category of “world” as an affordance for the future.

Organicism, Fissure, Form

Poetry, like “world,” is often understood to be a closed form that mirrors the poet’s inward gaze—that is disinterested in and removed from the political outside. Cleanth Brooks argues that poems unfold according to a “principle of unity” which “balanc[es] and harmoniz[es] connotations, attitudes, and meanings.” Poetic structure is “internal and essential,” self-referential and “subordinated to a total and governing attitude” or essence which subdues whatever contradictions or discontinuities might otherwise be present.³⁹ When Brooks insists that “[t]he relation between all elements must surely be an organic one” he gestures to the late eighteenth- and nineteenth-century philosophies of organicist nature that inform his reading method. Although Paul de Man, Barbara Johnson, Marjorie Levinson, Jerome McGann and many others have objected to critical versions of Samuel Taylor Coleridge’s claim that form is organic, these claims remain influential.⁴⁰ Denise Gigante’s recent defense of this position reinscribes the closure of form in nineteenth-century poetic practice.⁴¹ Against the view that poetic form is closed (as is the poetic subjectivity that creates such forms), I consider in this dissertation a more porous poetics that is attentive to worlds that are open and fissured, and which is available to matter and to things.

The poems I read in this project tell a very different story about the formal flashpoints between literature and science, as well as the matter of poetic form. That story offers a more

³⁹ Cleanth Brooks, *The Well Wrought Urn: Studies in the Structure of Poetry* (New York: Mariner Books, 1956), 195, 199 and 207. See also Barbara Hernstein Smith’s *Poetic Closure: A Study of How Poems End* (Chicago: University of Chicago Press, 1968).

⁴⁰ See Paul de Man, *The Rhetoric of Romanticism* (New York: Columbia University Press, 1984); Barbara Johnson, *Persons and Things* (Cambridge, MA: Harvard University Press, 2008); Marjorie Levinson, *The Romantic Fragment Poem: A Critique of Form* (Chapel Hill: University of North Carolina Press, 1986); and Jerome McGann, *The Romantic Ideology: A Critical Investigation* (Chicago: University of Chicago Press, 1985).

⁴¹ Denise Gigante, *Life: Organic Form and Romanticism* (Cambridge, MA: Harvard University Press, 2008), 23.

compelling view of formal crossovers between poetry and science. What I find in nineteenth-century poetry echoes Matthew Arnold's description of the Victorian predilection for "parts"—for poems that are beloved not because they create a unified and "total-impression," but rather for "the sake of single lines and passages" that fissure aesthetic totality to imagine new worlds.⁴² This dissertation owes much to recent scholars who have argued that poetic form is far more open than even John Keats's well-wrought urn, which looks beyond its own contours to imagine another world off its surface.⁴³ Susan Wolfson and Isobel Armstrong recognize form as capacious, discontinuous, unsettled. Wolfson understands Romantic poetry as "factitious, contradictory and unstable," while Victorian poetry is, according to Armstrong, "obsessed with a series of displacements"—with a sense of "fracture" and "estrangement"—that posit "struggle" as "the organising principle" of aesthetic form.⁴⁴ Both scholars conclude, as Wolfson puts it, that "organic form is not the whole story of form" in the nineteenth century.⁴⁵

I argue in *Open Worlds* that poetry is uniquely positioned to think through the formal complexities and political possibilities of "world." Scholars have long argued that poetry is too constrained on the level of form—too localized in scope and inelastic in capacity—to conceptualize large-scale structures and systems. But Kevis Goodman, Pablo Mukherjee, Meredith McGill, James Mulholland, Yopie Prins and Jahan Ramazani observe that poetry is unique for its ability to contract and expand, as well as travel.⁴⁶ Nineteenth-century poets put these capabilities to frequent use in

⁴² Matthew Arnold, preface to *Poems* (London, 1853), xxvii.

⁴³ See Theresa M. Kelley's "Keats, Ekphrasis, and History," *Keats and History*, ed. Nicholas Roe (Cambridge: Cambridge University Press, 1995), 212-37.

⁴⁴ Susan Wolfson, *Formal Charges: The Shaping of Poetry in British Romanticism* (Palo Alto: Stanford University Press, 1997), 14 and Isobel Armstrong, *Victorian Poetry: Poetry, Poets and Politics* (New York: Routledge, 1993), 6 and 16.

⁴⁵ Wolfson, 10.

⁴⁶ See Kevis Goodman, "Conjectures on Beachy Head: Charlotte Smith's Geological Poetics and the Ground of the Present," *English Literary History* 81.3 (2014): 983-1006; Pablo Mukherjee, "Victorian World Literatures," *The Yearbook of English Studies* 41.2 (2011): 1-19; Meredith McGill (ed), *The Traffic in Poems: Nineteenth-Century Poetry and Transatlantic Exchange* (New Brunswick: Baltimore: Johns Hopkins University Press, 2013); Yopie Prins, *Victorian Sappho* (Princeton: Princeton University Press, 1999); and Jahan Ramazani, *A Transnational Poetics* (Chicago: University of Chicago Press, 2009).

order to navigate the discontinuities and vicissitudes of “world.” Charlotte Smith, for instance, deploys blank verse in *Beachy Head* (1807) to move between fossilized singularities and vast stretches of geological time, plant specimens and celestial bodies in orbit. In her aptly titled poem, “The World” (1862), Christina Rossetti settles on the restrained form of the sonnet to navigate the “monster void” that is the world.⁴⁷ And in her essay, *The Greek Christian and English Poets* (1863), Elizabeth Barrett Browning follows the “heroic genealogy” of English poetry across the face of the planet to places as far-flung as Iceland and Persia.⁴⁸ *Open Worlds* explores how nineteenth-century poetry stages its relationship to the global through a unique set of forms and affordances. As a genre that is simultaneously constrained and capacious—that can zoom in to consider the microscopic world of atoms and pan out to explore entire galaxies—poetry is a vehicle especially suited to exploring the notion of “world” in all of its formal and scalar variability. Poetry, like “world,” unfolds in several directions to unsettle the distinctions between seemingly opposed categories. At the same time, its properties resist mastery and unsettle systematicity: they hold in simultaneity a profusion of material forms, but not to produce totality or to reify a system of law. Rather, poetry’s forms congregate a plenum of material objects, beings and agencies, revealing experimental, wayward and perhaps transformative logics of interrelation that cut across the world and its constituent parts.

Open Worlds takes as its basic methodological premise Caroline Levine’s observation that form “has never belonged only to the discipline of aesthetics.”⁴⁹ As Levine argues, it operates in co-constitutive relation with other domains of inquiry, be they ideological or material, aesthetic or political. “[N]o form,” she emphasizes, “however seemingly powerful, causes, dominates, or

⁴⁷ Christina Rossetti, “The World,” *Goblin Market and Other Poems* (London, 1862), 8.

⁴⁸ Elizabeth Barrett Browning, *The Greek Christian and English Poets* (London, 1863), 109.

⁴⁹ Caroline Levine, *Forms: Whole, Rhythm, Hierarchy, Network* (Princeton: Princeton University Press, 2015), 3.

organizes all others.”⁵⁰ The new formalist method that Levine, Levinson and Wolfson describe allows for the crossovers that my dissertation considers. It also provides a key caveat: the forms of poetry and science cannot be neatly folded into one another.⁵¹ Rather than figure poetry and its forms as simply reflecting the science with which they are entwined, *Open Worlds* understands their interrelationship as, to borrow Levine’s phrasing, one of “mutually shaping potentialities.”⁵² While this dissertation pays attention to how poets and scientists are concerned with a common set of material forms, it at the same time preserves how poetic and scientific texts internalize, repudiate or experiment with these “open structures” in their own particular ways. Rather than simply noting equivalences between poetry and science, then, I consider the moments of friction and shimmers of difference that materialize as poetry and science experiment with the forms and affordances of “world.”

Each chapter of *Open Worlds* takes up this argument by examining a different “open structure.” Each pays equal attention to poetic and scientific texts. The project is organized conceptually, rather than chronologically, so as to better explore the philosophical and formal concerns surrounding the material dimensionalities of “world” in the nineteenth century. The first chapter, “World,” situates Percy Bysshe Shelley’s *Prometheus Unbound* (1820) alongside Alexander von Humboldt’s *Cosmos* (1845-62) to outline in greater depth the foundational terminological and formal debates of the period, and their cosmopolitical implications. Tracing the collusions between systematizing visions of the cosmos and the totalizing enterprises of empire, Shelley and Humboldt imagine a fragmented and fragmenting world that troubles the all-encompassing vision of colonial science. Shelley’s world-vision, in particular, takes shape through an iterative model of poetic form that multiplies—rather

⁵⁰ Levine, 16.

⁵¹ See Levine’s “Strategic Formalism: Toward a New Method in Cultural Studies,” *Victorian Studies* 48.4 (2006): 625-57; Wolfson’s *Formal Charges*; and Levinson’s “What is New Formalism?,” *PMLA* 122.2 (2007): 558-69.

⁵² Levine, 10.

than fills in—gaps. It is by way of these apertures that the circumscribing forms of Jupiter’s “antique empire” is supplanted with a new and capacious world-order.

Chapter 2, “Void,” reads the scientific papers of Sir William Herschel alongside Anna Letitia Barbauld’s “A Summer Evening’s Meditation” (1773). Envisioning the heavens as structured not only by pluralities of worlds but also by gaping voids, both Herschel and Barbauld figure void space, paradoxically, as simultaneously vacant and contiguous. Theorized as such, the void is an experimentalist form, its open and yet touching contours suggesting new models for subjectivity and collectivity. Barbauld employs blank verse—a form that is open as rhymed verse is not—to probe the possibilities this mechanism might hold for re-conceptualizing the relationship between interior and exterior, self and other, subject and world.

Whereas the second chapter turns to the gaping forms of the heavens, the third chapter—“Fissure”—turns to the forms and deep histories of earth. Here, I track the temporal worlds of William Blake’s *America: a Prophecy* (1793) and their intersections with Romantic theories of terrestrial development. Drawing on Georges Cuvier’s catastrophist geology, Blake’s non-linear narrative structure figures the earth’s fissured forms as powerful throughways for political and prophetic energies. I argue that *America* shows that Romantic prophecy was not an enterprise for fixing a single future for the world, but rather a means to imagine possible worlds. The forms of “world” so imagined short-circuit the temporal closure of James Hutton’s uniformitarian geology, unleashing previously foreclosed futures from the depths of earth.

Chapter 4, “Halo,” studies the Victorian nebular debates and the spectral world-models with which they are concerned. Popular astronomy manuals describe these worlds as objects of profound beauty whose atmospheric structures suggest alternative schemes of organization for matter and for life. This chapter is the most experimental—and perhaps truest to the project’s aim to explore points of crossover between poetry and science that are neither predicated upon influence, nor upon literal

similitude—insofar as it understands Elizabeth Barrett Browning’s *Aurora Leigh* (1856) as engaged with a common set of forms at issue in the nebular debates, though the poem never directly references those debates and only rarely invokes the science of astronomy. Developing a “twofold” sense of material life forms, Barrett Browning employs the hybrid structure of the verse-novel and the slippages of slant rhyme to imagine a doubled world whose foggy contours convey new patterns of formal affinity and, further, a radical materialist politics.

“Tangle,” the fifth and final chapter, turns to the forms of petrification in Alfred Lord Tennyson’s *In Memoriam* (1850) and Charles Lyell’s *Principles of Geology* (1830-33). Both imagine these forms as undoing the taxonomic integrity of species and, by extension, the distinction between human and other. Extinction is thus figured as a process of entanglement which disrupts otherwise discrete life forms, turning them porous to one another and to the world. Both Lyell and Tennyson imagine an open-ended world that redistributes the resources of personhood, and undercuts the narcissistic conception of man as an englobing, geological agent. *Open Worlds* thus traces a cosmopolitical vision that questions the boundaries of nations and imagines a world that is not total, but fissured and open to possibility. This project concludes with a brief coda, wherein I consider the implications this nineteenth-century world-vision might hold for present and future. In the current era of apparently closed forms—man’s rise to geological power, the unprecedented expansion of global English, capitalism’s all-encompassing networks of exchange—and seemingly narrowing possibilities, the texts I examine in this project might afford new models for thinking through and beyond the bounded planet on which we live.

WORLD

Through readings of Percy Bysshe Shelley's *Prometheus Unbound* (1820) and Alexander von Humboldt's *Cosmos: A Sketch of a Physical Description of the Universe* (1845-62), this chapter explores the notion of "world" in the context of Romantic cosmology.¹ It does so to trace how the category takes shape through collisions of natural, social and literary forms, as well as how Romantic writers marshaled literary form, in particular, to (dis)organize it for cosmopolitical ends. Both scientist and poet develop notions of "world" that respond to the discontinuities between individual life forms and the totalizing systems that regulate them. While *Cosmos* aspires to secure global nature within the bounds of law and, in so doing, circumscribe the world, *Prometheus Unbound* is concerned about the political failings of such a project—failings the poem seeks to repair on the level of form. In *A Defence of Poetry* (1821), Shelley warns against such systematization: "[O]ur calculations have outrun conception; we have eaten more than we can digest." The consequences for these overzealous "calculations" are deeply political. For Humboldt, they transform the world into a harmonic, beautiful, democratic whole, but for Shelley they "enlarge[e] the limits of the empire of man over the external world." As science "circumscribe[s]" the world, it simultaneously depletes the "poetical faculty" and so reigns in the imagination. Under the banner of empire, man has "enslaved the elements"—the material forms of nature—and in so doing "remains himself a slave."²

¹ Scholars might object to my suggestion that *Cosmos* is Romantic in its origins and sympathies since this work was not published until the mid-nineteenth century, but Humboldt scholarship substantiates this premise. Nicolaas A. Rupke, for instance, traces how *Cosmos* was in "long gestation" throughout Humboldt's career, taking nascent shape in earlier works such as *Personal Narrative of Travels to the Equinoctial Regions of the New Continent* (1814-29). Stephen T. Jackson and Laura Dassow Walls suggest something similar when they position the 1807 *Essay on the Geography of Plants* as "the first full articulation of [the] broad, unitary scientific vision" Humboldt would later assert in *Cosmos*. See Rupke, introduction to *Cosmos*, vol. 1 (Baltimore: Johns Hopkins University Press, 1997), ix; Jackson, "Introduction: Humboldt, Ecology and the Cosmos," *Essay on the Geography of Plants*, by Alexander von Humboldt and Aimé Bonpland, trans. Sylvie Romanowski (Chicago: University of Chicago Press, 2009); and Laura Dassow Walls, *The Passage to Cosmos: Alexander von Humboldt and the Shaping of America* (Chicago: University of Chicago Press, 2009), 216.

² Percy Bysshe Shelley, "A Defence of Poetry" (1821, 1840), *Shelley's Poetry and Prose*, ed. Donald H. Reiman and Neil Fraistat (New York: W. W. Norton, 2002), 530.

Shelley and Humboldt respond to an urgent project to make the world into a systematizable object of knowledge. Much as botany provoked what Theresa M. Kelley characterizes as “a confusion that narratives of imperial conquest and taxonomic mastery rarely specify,” so did the category of “world” respond to scientific investigations of global nature. Efforts to create systematic and therefore fixed definitions of “world,” I argue, began to look more like fantasies devised to prevent the world from “giv[ing] systematic protocols the slip.”³ As a slippery rather than fixed idea, the world is very much intertwined with the heterogeneous and even enigmatic state of Romantic nature. In *Cosmos* Humboldt wrestles with the certainty that “each step that we make in the more intimate knowledge of nature leads us to the entrance of new labyrinths.”⁴ Shelley’s *Prometheus Unbound* envisions the forms of nature as unsettling systematic protocols, their coercive laws and colonial desires. In quite different ways and finally for different ends, both Humboldt and Shelley reenact the dilemma that Onno Oerlemans traces to John Locke’s *Essay Concerning Human Understanding* (1689) and, later, Romantic science: “Our desire to categorize creates gaps in our understanding of the actual world.”⁵ As the world swells and deepens through scientific explorations of global nature it turns increasingly porous, its “horizon of life” yielding labyrinthine “gaps” that exceed sense perception and perforate systematic frameworks of organization.

Within the “calculating” and orderly *Cosmos*, then, there lurks a suspicion that the world is not self-containing or -arranged according to a fixed set of laws, but rather riddles such laws with “gaps.” As such, the world constitutes a key formal problematic with which Romantic science must contend. In *Cosmos*, Humboldt does battle with the world on the level of form, marshaling narrative to circumscribe nature’s uncontainable materiality. Shelley’s *Prometheus Unbound*, on the other hand,

³ Theresa M. Kelley, *Clandestine Marriage: Botany and Romantic Culture* (Baltimore: Johns Hopkins University Press, 2012), 3 and 4.

⁴ Alexander von Humboldt, *Cosmos: A Sketch of a Physical Description of the Universe*, 5 vols. trans. by E. C. Otté (London: Bohn, 1849), 1.20. All quotations are taken from this edition and will be cited parenthetically in the main text.

⁵ Onno Oerlemans, *Romanticism and the Materiality of Nature* (Toronto: University of Toronto Press, 2004), 131.

deploys poetry to do precisely the opposite: to unfix the world and thus loosen cosmopolitical potentials that do not insist upon uniform or normativizing laws. Unfolding through the slippages of iterative speech, *Prometheus Unbound* preserves and even multiplies the world's apertures. It is through these apertures that Asia moves in the latter half of the poem as she escapes confinement in India and inaugurates a new world-order—one which unsettles Jupiter's "antique empire" by sketching anti-colonial models of cosmopolitical organization. This notion of "world" resists what Alan Bewell calls the "new consumerist vision of nature"—an imperial "vision" that Humboldt's *Cosmos* helps to materialize and Shelley's *Prometheus Unbound* disarticulates.⁶

Hollow Earths, Narrative Form, Colonial Science

In *Cosmos*, Humboldt bends the world to what he calls "general" law. Conceived over the course of Humboldt's travels in the Americas, and having gained a more distinct shape through a string of Parisian salon lectures given in the mid-1820s, the work took its final form between 1845 and 1862 when it was published in Germany in five volumes. To say it was wildly popular is an understatement: it was quickly translated into "no fewer than eleven different languages," making Humboldt "the most successful author of his generation."⁷ As scholars have argued, its popularity had much to do with the world it rendered visible to its readers. Stephen T. Jackson, for instance, suggests that after "Galileo's telescope and Leeuwenhoek's microscope"—which revealed "worlds beyond previous imagining"—Humboldt's "more abstract lens made people aware of a world that already lay before their eyes, a world in which the details of climate, flora, fauna, soil, and culture could all be seen as parts of broader regional and global patterns."⁸ *Cosmos* revealed a world of profound interconnection, wherein all "details" or parts fall into orderly "patterns" that are traceable

⁶ Alan Bewell, "Erasmus Darwin's Cosmopolitan Nature," *ELH* 76.1 (2009): 21.

⁷ Rupke, x and vii.

⁸ Jackson, 4.

on a cosmic scale. In the preface, Humboldt declares his project: to “submi[t]” or subject nature to “the process of [rational] thought” in order to trace “a unity in diversity of phenomena; a harmony blending together all created things, however dissimilar in form and attributes; one great whole...animated by the breath of life” (1.2-3). Using narrative to reconcile the “dissimilar” forms of nature and make of them “one great whole,” *Cosmos* sought to regulate a multiformal landscape that was otherwise unsettled in the Romantic period.

Humboldt initially attributes this formal chaos to a terminological slippage that was already at issue in Samuel Johnson’s much earlier entry for “world” in his 1755 *A Dictionary of the English Language*. Questioning its value for scientific thinking, Humboldt figures “world” as steeped in confusion: “The influence of narrow-minded views peculiar to the earlier ages of civilization led in all languages to a confusion of ideas in the synonymic use of the words *earth* and *world*, while the common expressions *voyages round the world*, *map of the world*, and *new world*, afford further illustrations of the same confusion” (1.50, emphasis original). Pointing to “a confusion of ideas” wrought by “the synonymic use of the words *earth* and *world*,” he traces a history of lexical slippages whose origins lie in the philosophical tradition of cosmic pluralism. Taking shape in ancient works such as Lucretius’ *De Rerum Natura* and undergoing a revival in late seventeenth-century astronomical texts like Bernard le Bovier de Fontenelle’s *Entretiens sur la pluralité des mondes* (1686), the “synonymic” terms of the plurality of worlds debate presented a significant conceptual problem throughout the eighteenth century. This problem was, according to Humboldt, an especial threat to the systematizing projects of Romantic science and philosophy.⁹ In this sense, the notion of “world” constitutes a Foucauldian heterotopia in the Romantic period: it “secretly undermine[s] language” and even prompts it to spiral out of control, “shatter[ing] or tangl[ing] common names” and, with

⁹ See Lucretius, *De Rerum Natura*, trans. Alicia Stallings (New York: Penguin, 2007) and Bernard le Bovier de Fontenelle, *Conversations on the Plurality of Worlds* (1686), trans. H. A. Hargreaves (Berkeley: University of California Press, 1990).

them, the categories and very forms of things.¹⁰ How to differentiate between world, earth, planet, system and universe when the promiscuous use of a single word has rendered them indistinguishable from one another?

Humboldt's predilection for totality provides the beginnings of an answer: "The more noble and precisely-defined expressions of *system of the world*, *the planetary world*, and *creation and age of the world*, relate either to the totality of the substances by which space is filled, or to the origin of the whole universe" (1.50, emphasis original). Here, Humboldt indicates that locking the notion of "world" in place begins with a circumscription of its linguistic possibilities. Specifying "world" by appending descriptors and compound phrases to it, Humboldt attempts to circumvent linguistic imprecision as he ascribes distinct limits to the word. Suddenly, "world" is transformed into a discrete "totality" or "whole" with an articulable, uninterrupted and legible circumference. Slippage, in this instance, gives way to finitude. Here, Humboldt's redefinition of the word "cosmos" facilitates the enclosure of global space and time: "It is the assemblage of all things in heaven and earth, the universality of created things constituting the perceptible world" (1.53). It presupposes "order or regularity in the disposition of parts" and, as Nicolaas A. Rupke points out, an "aesthetic holistic epistemology."¹¹ Humboldt attempts to manage global nature by defining it. Language becomes an instrument through which to lend "lines of quantity and precision" to the world. Contours are carefully constructed to appear "self-evident" and yet, as Michael Dettelbach argues, are precisely the opposite.¹² Humboldt's efforts to clear out the slippage inherent in the notion of "world" depend on a very careful system of linguistic calculation and circumscription—a system in which his "aesthetic-holistic" vision of material nature plays an essential role.

¹⁰ Michel Foucault, *The Order of Things*, 1970 (New York: Vintage, 1994), xviii.

¹¹ Rupke, x.

¹² Michael Dettelbach, "Global Physics and Aesthetic Empire: Humboldt's Physical Portrait of the Tropics," *Visions of Empire: Voyages, Botany, and Representations of Nature*, ed. David Philip Miller and Peter Hanns Reill (Cambridge University Press, 1996), 264.

Cosmos locates the problem of “world” in the unruly forms of global nature, which are “indefinite [in] bounds” (1.19) and “sublime” in scope (1.20), “illimitable in extent and contents” (1.63). Open in contour and content, the world “presents itself to the human intellect as a problem which cannot be grasped, and whose solution is impossible” (1.80). This burgeoning sense of Romantic nature—a nature of “indefinite” bounds and “sublime” depth—vexes Humboldt, for it proliferates conceptual gaps that refuse systematization: “each step that we make in the more intimate knowledge of nature leads us to the entrance of new labyrinths” (1.20). As it turns out, these “labyrinths” are not strictly conceptual, but also deeply material. Humboldt dwells, for instance on those “openings or starless regions” that John Herschel surmised were the product of “the attractive and agglomerative forces of the marginal groups.” Quoting John’s father, Sir William Herschel, Humboldt writes: “They are parts of our starry stratum...that have experienced great devastation from time” (1.142-3).¹³ Though Humboldt moves on to imagine how these “starless regions” are nature’s telescopes—“tubes through which we may look into the remotest depths of space”—his brief allusion to “devastation” imbues such open forms with other, more (de)formative possibilities. These are possibilities which the elder Herschel outlines at length in his earlier essay, “On the Construction of the Heavens” (1785). He imagines the very same “cavities or vacancies” to which Humboldt gestures in *Cosmos* as conveying potentially dire consequences for the universe at large. Formed “by the retreat of the stars towards the various centers which attract them,” these ever-expanding gaps make visible a cosmos that “tend[s] to a general destruction, by the shock of one star’s falling upon another.”¹⁴ Nature’s open forms not only resist systematization, but also threaten to supplant Humboldt’s vision of a uniform and harmonious world-order with something more wayward, more unsettled. By all appearances, the world tends toward the gap. Humboldt

¹³ Humboldt cites a letter written by Sir John Herschel dated Feldhuysen, Cape of Good Hope, 13 June 1836.

¹⁴ Sir William Herschel, “On the Construction of the Heavens” (London: J. Nichols, 1785), 4.

attempts to rein in nature's tendency toward disorder in *Cosmos*—to bend its unruly forms to the rule of law.

Here, the effort to manage nature has as much to do with the imaginative allure of its open forms as it does with producing a taxonomy of material life. To circumscribe the cosmos is to circumscribe the visionary capacities of the “internal world” or mind, as Shelley observes in his *Defence*, for an imagination enthralled with the lawless possibilities of nature is an imagination unmoored.¹⁵ The dream of a hollow Earth “peopled with plants and animals, and two small subterranean revolving planets” (1.163) illustrates how the open forms of the world might take hold of the mind only to riddle it with chaos. Here, Humboldt considers the ways in which the “unregulated imagination” develops a dangerous fixation with, as Jonathan Lamb puts it, “a world that cannot be distinguished from dreams or fiction.”¹⁶ In this scenario, nature's open forms are magnified and proliferated by those of mind, creating a “system” that “delights in multiplying exceptions to the law, and which seeks, amid natural phenomena and in organic forms, for something beyond the marvel of a regular succession, and an internal and progressive development” (1.38). Having developed an epidemic predilection for the exceptional, the “unregulated imagination” disavows the principles of an organicist aesthetics—“regular succession” and “internal and progressive development”—in favor of the capacious and aberrant. Humboldt observes how even the most eminent scientists fall prey to this predilection: “Leslie has ingeniously conceived the nucleus of the world to be a hollow sphere,” while “[e]ven the celebrated Halley, at the end of the seventeenth century, hollowed out the Earth in his magnetic speculations!” (1.163). Tracing a delusional fascination with the hollows of earth that stretches from Edmund Halley's *An Account of the cause of the Change of the Variation of the Magnetic Needle; with an Hypothesis of the Structure of the Internal*

¹⁵ Shelley, “Defense,” 530.

¹⁶ Jonathan Lamb, “Imagination, Conjecture, and Disorder,” *Eighteenth-Century Studies* 45.1 (2011): 53 and 54.

Parts of the Earth (1692) to Sir John Leslie's *Elements of Natural Philosophy* (1829), he laments how his Romantic contemporaries “clothe in a scientific garb the quaintly devised fiction of the humorous [Ludvig] Holberg” (1.164) and “celebrated Halley,” and in so doing promulgate a seventeenth-century pipe dream as science.

Humboldt objects to Halley's and Leslie's theories of a hollow earth because they disorder the imagination. Thus, the circumscribing project of Romantic science does not stop with the cosmos. Rather, it endeavors to curb the visionary capacities of the mind—to bring the imagination to order. It's worth noting, however, that Humboldt's own visions of an orderly future rest upon the same fantastic and self-multiplying logic as those imaginings he would seek to contain. Humboldt describes a future in which “[t]he discovery of each separate law of nature leads to the establishment of some other more general law” (1.17) and wherein “we may anticipate the revelation of new facts, whose importance will probably be commensurate with the attention directed to these branches of study” (1.29). Here, he “anticipate[s]” or prophesizes a future in which “new facts” are “commensurate” with old ones, wherein “general law” is bolstered by the discovery of subsidiary “separate law[s]”—a future devoid of contingency or divergence. The unfixity of nature's forms threatens to contaminate the mind. The collapse of orderly nature triggers a chain reaction in which other forms—such as those of temporal “succession”—are jolted out of law.

Cosmos places partial blame for the imaginative disorder of these multiplying “systems” on literary forms, which Humboldt believes could otherwise police or limit the openness of “world.” Laura Dassow Walls has traced “the mad scramble of nature and culture” that arises from Humboldt's insistence that the forms of nature and literature mutually shape one another, such that “climate and soil, the presence or absence of animals, the physiognomy of plants and of landforms” together “influence the progress and style of the human arts.”¹⁷ I argue that this interrelationship

¹⁷ Dassow Walls, 7.

hinges upon form. The forms through which these narratives take shape contribute to cosmic disorder, rather than functioning as organizational apparatuses. This failure derives from “[t]he very abundance of the materials which are presented to the mind for arrangement and definition,” and “necessarily impart no inconsiderable difficulties in the choice of the form under which such a work must be presented, if it would aspire to the honour of being regarded as a literary composition” (1.x-xi). Like Shelley, who contends that in its rush to anatomize the world Romantic science has “eaten more than [it] can digest,” Humboldt acknowledges that the “abundance” of global nature and its “materials” threaten to render “literary composition[s]” or forms unrecognizable as such. Taking “a vicious empiricism” and a history of “imperfect deductions” as his example, Humboldt argues against works of science in which form surrenders to deviance and in so doing solidifies the belief that “the order of nature is disturbed” (1.17). Disordered texts such as these produce only the “mere accumulation of unconnected observations of details, devoid of generalization of ideas” (1.20). As such, their classification *as* literature is compromised. *Cosmos* aims to rehabilitate the aesthetic integrity of literary form so that it might be put to work to circumscribe nature’s errant structures.

Key to Humboldt’s rehabilitative project is the selection of a form calibrated to navigate the world’s scalar discontinuities. Here, literary forms are imagined as working something like optical instruments that dictate how global nature will materialize on the written page and, by extension, in the mind. In this sense, form functions in *Cosmos* as a mode or pattern of thought. As Karin Kukkonen argues, it “works as a pattern of thinking produced by the text in the reading process,” its edifice bringing nature and the imagination to order.¹⁸ As Humboldt states, “The true effect of a picture of nature depends on its composition” (2.438). Thus, he seeks a form that facilitates a “general delineation of nature” and will not “be overpowered by a sense of the stupendous richness

¹⁸ Karin Kukkonen, “Form as a Pattern of Thinking: Cognitive Poetics and New Formalism,” *New Formalisms and Literary Theory*, ed. Verena Theile and Linda Tredennick (New York: Palgrave MacMillan, 2013), 162.

and variety of the forms presented to us” (1.62). The form best suited to this project, then, will “suppres[s] of all unnecessary detail” (1.29), “resist the tendency towards endless division” (1.63), and thus wrestle the cosmos into “a harmony” that “blend[s] together all created things, however dissimilar in form and attributes” (1.2-3). Even as it is prone to failures, literary form might offer a mechanism for circumscribing global nature because it offers a “suppressive” lens through which “all unnecessary detail”—the problem of unruly particularity—drops out of the picture. As such, it presents a bird’s-eye view of nature. It airbrushes—perhaps even effaces—the gaps between things and so eliminates the threat of “endless division.” Here, literary form becomes the enforcer of what Rupke calls Humboldt’s “aesthetic-holistic epistemology” as it assimilates the world to an organic regime of logic.¹⁹

Humboldt identifies narrative as the form which will permit this assimilation. Writing against scholars who locate “a new genre [of travel writing]” in Humboldt’s works, Nigel Leask has argued that Humboldt’s *Personal Narrative* “represent[s] the *terminus* of the ‘integrated’ travel account of the late enlightenment and romantic period...rather than a new beginning.”²⁰ But what Leask calls Humboldt’s “distrust of narrative” seems to me something rather different: not distrust, but the invention of a new narrative genre. I argue that narrative form is decoupled in *Cosmos* from its conventional association with “itineraries” (Humboldt’s term) or, rather, linear series of events. It functions instead as a systematizing *pattern* of thought through which nature is quantified, catalogued and regulated. While this mode of narrative does not follow the temporal trajectory of the traditional personal narrative, as Leask suggests, there are nonetheless processes of temporal development bound up in the patterns of relation it maps. This temporal quality is what makes it narrative. Humboldt predicates a vision of scientific futurity, for instance, upon the cosmological patterns he

¹⁹ Rupke, x.

²⁰ Nigel Leask, *Curiosity and the Aesthetics of Travel Writing, 1770-1840* (Cambridge: Cambridge University Press, 2002), 282.

tracks, which frequently possess a prophetic function. “The discovery of each separate law of nature,” according to Humboldt, will “lea[d] to the establishment of some other more general law” (1.20). Here, he conveys how patterning the relations and systems of the cosmos authorizes the “anticipat[ion] of new facts” in future that “will probably be commensurate” with present knowledge (1.29). Narrative patterning locks a particular scientific and epistemological future in place as it conforms the cosmos and its forms to “general law.” Humboldt’s turn to natural history, too, demonstrates how the process of patterning cosmological forms and relations is narratological. To observe the forms of the cosmos, he contends, is to read the story the planet tells about its own creation. Crisscrossed with “the traces of the prior existence and destruction of an organic world,” cosmological formations are veritable time capsules. “Their form is their history” and in these forms “we behold the present and the past reciprocally incorporated” (1.55). Here, reading rocks and reading plots are analogous acts. To map and systematize cosmological forms and their interrelationships as Humboldt does is to narrativize them. He hopes that, if properly mapped or, rather, narrated, these stories might forecast the futures of nature and of science.

Visually, no object of Humboldt’s creation exhibits this model of narrative as a pattern of relation viewed from a distance better than the *Tableau physique des Andes*, a colossal representation of plant geography appended to the 1807 *Essay on the Geography of Plants* (see Figure 1).²¹ In the *Tableau*, a chaos of plants—whose Latin names unfold at divergent angles and curves at the center of the image—is bordered by side columns that quantify and systematize the otherwise disorderly biodiversity of the Andes, assimilating its particularities into a holistic vision of global nature. The height of Chimborazo, for instance, is quantified, but also situated in comparison to that of other mountains scattered across the globe. This comparative frame suggests a viewpoint that reaches far beyond South America. As such, it renders visible the enlarged and “suppressive” lens that

²¹ Dassow Walls deems the *Tableau* a “thumbnail *Cosmos*” (44).

undergirds Humboldt's vision global nature. Thus, Dassow Walls argues that the *Tableau* exemplifies the ways that "a unified composition" or "narrative must war with itself," "subordinating" certain elements to others to create a legible whole.²² The work of "subordination" on behalf of unification is most evident in its elevated perspective and distanced mode of vision, which smooths and thus minimizes the conceptual and formal discord of the landscape. Perched atop Chimborazo, Humboldt offers a view of nature that has been extracted from a landscape of "unnecessary detail" and airbrushed into picturesque harmony. The *Tableau* suggests a world that has been painstakingly measured, patterned and framed.²³

The *Tableau* presents a visual representation of the systematizing pattern of thought that Humboldt's language also performs. Both abide by a unifying logic in which, as Dettelbach argues, "global order is made locally visible."²⁴ Moving from the celestial to the terrestrial, the first volume of *Cosmos*—like the *Tableau*—is also top-down in its approach. Beginning with "Celestial Phenomena" in general and then moving on to describe particular phenomena ranging from "Planetary Systems" to the "Milky Way," from the "Figure of the Earth" to the "Aurora Borealis," *Cosmos'* narrative is increasingly local in its objects, but nonetheless maps those objects with respect to their place in a broader system of universal law. The format of the volume facilitates this totalizing project. Consisting of only three sections—a "Summary" and an "Introduction," which are followed by a "General Review of Natural Phenomena" that spans almost 300 pages—it is virtually seamless in structure. Descriptions of celestial phenomena flow uninterrupted into those of the terrestrial as narrative enacts a totalizing pattern of thought: in this case, one that knits together the astral and terrestrial, the general and local, "the physical history of the universe" and "the physical history of the globe" (1.55). Thus, narrative form constitutes a "vast edifice" (1.36)—rather

²² Dassow Walls, 44.

²³ *Ibid.*, 254.

²⁴ Dettelbach, 268.

than a mere “itinerary” of happenings—upon which to organize the world. Insofar as it is a mechanism of closure, narrative functions in *Cosmos* much as Peter Brooks suggests: it “demarcates, encloses, establishes limits, orders.” As “a vast” and regulatory “edifice,” it is a vehicle with which to navigate and contain, institutionalize and control global nature and its burgeoning forms. Under the regime of narrative, the world gains a distinct circumference or perimeter; its gaps are smoothed over, its aberrations contained. Likewise, Humboldt’s narrative form “circumscribes” the “inner world” or mind, delimiting an imaginative capacity whose gravitation toward recalcitrant materiality is particularly dangerous.

The narrative “edifice” of *Cosmos* urges a cosmopolitical agenda. Scholars have noted that Humboldt’s scientific, aesthetic and social ambitions are one and the same. Rupke, for instance, has argued that Humboldt’s insistence on “orderly arrangement” situates the politics of *Cosmos* “above party division,” the text’s social “argument” seeming to arise from nature itself. This “argument” possessed astonishing mobility: it appealed to and was invoked by “[t]hose who disapproved of revolutionary chaos, on the one hand, or reactionary despotism, on the other.” It would seem anyone “could take up the *Cosmos* banner.”²⁵ Others, such as Dassow Walls, focus their attention on the egalitarian implications of Humboldt’s world-view: “Humboldt consistently protested against the evils of colonial exploitation...and he deliberately incorporated the voices and knowledges of ethnic and colonial peoples into his planetary project.”²⁶ The anti-colonial valences of this “project” are especially apparent in those moments when Humboldt imagines how nature—as he has re-organized it—might reconfigure the sociopolitical structures of human society. Arguing against taxonomic distinction on the basis of racial difference, *Cosmos* contends that “we fail to recognise any typical sharpness of definition, or any general or well established principle, in the division of these groups”

²⁵ Rupke, xxvii.

²⁶ Dassow Walls, 7-8.

(1.365-6). As literary, natural and sociopolitical forms open onto one another in *Cosmos*, their re-arrangement ripples across categories, and transforms them into others. Here, the generalizing logic of narrative form and its rearrangement of global nature suggests a new cartography for human life, formulating an argument for a unity of species rather than its fragmentation into unstable, arbitrary “varieties” that are falsely naturalized and then marshaled on behalf of universal empire. The liberal politics scholars often locate in Humboldt’s unitary vision of nature posits the human species as a beautiful whole organized by inherent affinities. As one of Humboldt’s contemporaries puts it, the view of global nature promoted in *Cosmos* “hold[s] the key by which we may lock in one common brotherhood all the nations.”²⁷

But the organic “brotherhood” envisioned in *Cosmos* also suggests other, distinctly colonial possibilities. These possibilities are apparent in the reviewer’s remark I cited above, and which I now quote in full to better draw out its unsettling politics: “We hold the key by which we may lock in one common brotherhood all the nations *of Europe*— and finally the world; making peace the *universal desire* and the interchange of thought the *universal instinct of every people*.”²⁸ The language of the carceral conveys how an egalitarian organicism can quickly devolve into a mechanism of homogeneity, exclusion, closure. Whether willing or unwilling, all persons will be “lock[ed] in one common brotherhood.” The all-powerful “We” specifies this “brotherhood” as including the citizens of imperial Britain and, more broadly, a coalition of western European “nations.” When the reviewer invokes revolution, then, he imagines it as cyclical: it connotes the circular and encircling action of empire, which extends its power around the globe. So understood, revolution facilitates the naturalization of the very racial hierarchies Humboldt’s *Cosmos* purportedly protests. “[E]very people” must assimilate to “one common brotherhood” or to a predetermined taxonomic norm.

²⁷ “Cosmos: Sketch of a Physical Description of the Universe,” *The Athenaeum* (London, 12 February 1848), 162.

²⁸ *Ibid.*, emphasis mine.

Each must hold dear the same “universal desires” and exhibit the same “universal instincts,” even if the satisfaction of those “desires” and the making of those “instincts” unfold by way of the vast “edifice” of empire—a system that capitalizes on forcible “interchange” and which would establish “peace” on uneven terms.

That this reviewer locates a colonial politics in *Cosmos* is not anomalous or the product of bad reading, for Humboldt himself employs the language of empire to describe his cosmological project and its form. As the mechanism that works to pattern “the laws of nature” and “increase our sense of the calm of nature,” narrative is conceived in *Cosmos* as an instrument of colonial science: “the belief in a ‘discord of the elements,’ seems gradually to vanish in proportion as science extends her empire” (1.22). Here, Humboldt’s formal “edifice” helps to produce a flattened, organic, homogenized image of global nature. This vision manifests itself elsewhere in the text, such as when Humboldt observes how language assimilates otherwise “exotic” or unassimilable life forms:

As a true citizen of the world, man everywhere habituates himself to that which surrounds him; yet fearful, as it were, of breaking the links of association that bind him to the home of his childhood, the colonist applies to some few plants in a far distant clime the names he had been familiar with in his native land; and by the mysterious relations existing among all types of organisation, the forms of exotic vegetation present themselves to his mind as nobler and more perfect developments of those he had loved in earlier days. (1.5)

Humboldt describes what Londa Schiebinger calls “linguistic imperialism”: the “colonist,” “fearful” of becoming unmoored from his “native land” at the hands of an alien nature, “applies” those “names he had been familiar with” to local fauna, magically acculturating “exotic vegetation” to a system of organized and recognizable forms deriving from “earlier days.”²⁹ In this sense, *Cosmos* undertakes what Bewell attributes to “[c]olonial natural history.” Language is an instrument through which “to translate the very nature of a place itself”—to render unfamiliar natures familiar; to “translate” the world into a unitary system of knowledge; to establish a colonial regime of order that

²⁹ Londa Schiebinger, *Plants and Empire: Colonial Bioprospecting in the Atlantic World* (Cambridge, MA: Harvard University Press, 2004).

is cosmological scale.³⁰ With the help of narrative form, Humboldt imagines “new natures” that are, as Bewell argues, the product of “colonial expansion” and which “d[o] not so much enrich the globe as shrink it.”³¹ Predicated on systematic law and generalizing views, this is “a nature that,” to borrow Bewell’s phrasing, “could be replicated...in other parts of the globe.”³²

Humboldt’s narrative form mirrors his imperial vision of an orderly “globe” on formal as well as lexical registers. It is by way of narrative that Humboldt transforms nature into a homogenized and circumscribed totality—it constitutes a vehicle through which to move smoothly between the celestial and terrestrial, tracing seamless interconnections that occlude nature’s potential for disorder. Such interconnections and the easy navigations of scale they enable cover over the gaps through which disorder asserts itself. Scholars who defend Humboldt’s cosmopolitical sympathies have in this way overlooked how on the level of form *Cosmos* embodies a very different political agenda than the liberalizing and revolutionary one they prioritize. As Monique Allewaert points out, this insistence upon “a necessarily harmonious unity of complex systems” counteracts the possibility of “attending to difference and contestation.”³³ The homogenizing model of narrative through which Humboldt’s cosmological vision takes shape gestures to the not-so-distant possibility of a biopolitical future in which bodies and things are measured and weighed in accordance with a universalizing—and devastating—norm.³⁴

But Humboldt’s cosmological project is perhaps compelling because it fails to cover over the cracks in its narrative “edifice.” In so doing, it inadvertently preserves possibilities that circumvent biopolitical futurity. Despite its attempts to narrate a world that is seamless in appearance,

³⁰ Alan Bewell, “William Jones and Cosmopolitan Natural History,” *European Romantic Review* 16.2 (2005): 170.

³¹ *Ibid.*, 170 and 169.

³² Bewell, “Erasmus Darwin,” 40.

³³ Monique Allewaert, *Ariel’s Ecology: Plantations, Personhood, and Colonialism in the American Tropics* (Minneapolis: University of Minnesota Press, 2013), 70.

³⁴ In the coda of this dissertation, I sketch some of this argument as it pertains to contemporary concerns about the Anthropocene and planetary futurity.

circumscribed in limits and harmonic in form, *Cosmos* lingers with material possibilities that are recalcitrant in their openness—that refuse assimilation, homogenization, closure. These possibilities splinter Humboldt’s vision of cosmological order as they resist conformity, making evident the ways in which his universalizing vision is crisscrossed with obstructive gaps that will not and likely cannot be filled. I have noted above how *Cosmos* unfolds through a system of “select[ion]” that “foreground[s] some elements” and knowingly “silenc[es] others.”³⁵ But Humboldt explicitly acknowledges the arbitrary quality of this system of “selection” and in so doing undercuts the vision of nature it offers. His system requires the knowing “suppression of all unnecessary detail” and the forceful assimilation of global nature to “a harmony” that “blend[s] together all created things, however dissimilar in form and attributes.” Humboldt’s description of the colonist who renames foreign natures is another moment of wherein the arbitrary character and failures of scientific taxonomy become visible. Faced with an uncanny landscape in which familiar types of rock formations are “covered with vegetation of a character with which we are unacquainted,” the colonist can only make sense of this “physiognomy wholly unknown” by renaming its forms according to a system of “affinity” that the author knows and admits is constructed, subjective, flawed (1.5). Surging beneath the text’s unitary façade, then, is a sense of material nature that exceeds and fractures the narrative “edifice” that would otherwise contain the cosmos and its myriad life forms.

This disunity is evident, too, in the print history of *Cosmos*, which spiraled out of control even as Humboldt attempted to come to grips with a profusion of heterogeneous natures. “Originally conceived as a two-volume work,” Jackson writes, “*Cosmos*, like Humboldt’s *Personal Narrative*, turned into a prolonged and ultimately unfinished series.”³⁶ Rupke, too, outlines how Humboldt was

³⁵ Dassow Walls, 228.

³⁶ Jackson, 34.

“infamous for dragging out the writing of several of his major books.” *Cosmos* was plagued with the “same fate of delay, expansion, and ultimate incompleteness” as the earlier *Personal Narrative*.³⁷ In both texts, Humboldt struggled to establish an organizational plan that would successfully contain and systematize global nature under the rule of law. *Cosmos* grew unwieldy as it progressed, not only as a result of Humboldt’s attempts “to keep up with the latest scientific developments and literature” (as Rupke suggests) but also, I argue, because its unruly subject matter exceeded the scope and control of Humboldt’s narrative “edifice.”³⁸ In response Humboldt continued to produce volume after unplanned volume in an attempt to contain *Cosmos* and his argument. Yet, he was dogged by his inability to complete his narrative. Though it participates in what Bewell calls “the new consumerist vision of nature that would underpin Britain’s emergence as an imperial nation,” then, Humboldt’s *Cosmos* nevertheless attests to the impossibility of this “vision.” The forms of nature elude the “edifice” of narrative, which turns increasingly porous as it attempts to control them.

In the next section, I consider how *Prometheus Unbound* creates a poetic form that more explicitly suggests what *Cosmos* inadvertently admits. Although it failed in the marketplace (only a measly five copies were sold) as Humboldt’s *Cosmos* did not, Shelley’s poem constitutes an important counterpoint to *Cosmos*, both for the extent to which *Prometheus Unbound* protests a circumscribed and bounded notion of “world” and for how it asserts this resistance in part through its illegibility and unpopularity—its refusal to participate in “the new consumerist vision of nature” that Humboldt so forcefully championed.

³⁷ Rupke, ix.

³⁸ *Ibid.*, xii.

Shelley, *Prometheus Unbound* and Iterative Form

Shelley's *Prometheus Unbound* prioritizes lyric over narrative form. I argue that Shelley does so to challenge the globalized vision of nature that circulated so widely in the later Romantic period. Notorious for what Tilottama Rajan calls its resistance to "followability," *Prometheus Unbound* formally asserts what Shelley proclaims in his *Defence*: "Poetry cannot be made subservient."³⁹ Positioned as that which resists the circumscription of the "inner world" or mind at the hands of a scientific empire whose "calculations have outrun conception," poetic form emerges in *Prometheus Unbound* as that which will open up the cosmos to new possibilities through its resistance to the homogenizing force that Humboldt's *Cosmos* puts into action. Given both its cosmological scope and the extent to which it prioritizes poetic above narrative logic, I suggest that Shelley's *Prometheus Unbound* develops a cosmological verse form whose experimentalism suggests a new approach to imagining "world." Unfurling through an "unfollowable" and iterative form that produces more gaps than can be filled, the poem reclaims the cosmos from the undifferentiated unity championed in works such as Humboldt's *Cosmos*, exploring instead the cosmopolitical possibilities a fractured materiality might let loose.⁴⁰

Key to Shelley's counternarrative of "world" is Jupiter, who figures both the organic unity celebrated by the likes of Humboldt and its political consequences. While scholars such as Earl R. Wasserman have argued that Shelley aspires to create a "beautiful whole"—to "reform erroneous, misshapen myths according to the model of the mind's extraordinary apprehensions of perfect unity"—this "perfect unity" is put into question by way of its resonances with the invariable forms of Jupiter's universal empire.⁴¹ Jupiter's imperial project seeks to close the cosmos—to make one

³⁹ Tilottama Rajan, *Romantic Narrative: Shelley, Hays, Godwin, Wollstonecraft* (Baltimore: Johns Hopkins University Press, 2010), 78 and Shelley, *Defence*, 520.

⁴⁰ Allewaert, 79.

⁴¹ Earl R. Wasserman, *Shelley: A Critical Reading* (Baltimore: Johns Hopkins University Press, 1977), 527.

world of many; to gather the universe's bodies and forms under a single and absolute set of laws. Repeated by Jupiter's phantasm, Prometheus' original curse names Jupiter "the God and Lord" of the universe "Who fillest with [his] soul this world of woe, / To whom all things of Earth and Heaven do bow."⁴² Jupiter's vision of the cosmos is one in which all are gathered under the all-encompassing rule of "the God and Lord." Shelley's language, too, specifies how Jupiter's reign presents an undifferentiated and totalizing unity: Jupiter "fillest" the world with his "soul" to produce a cosmos without openness. Under Jupiter's reign, the world is muffled and static, its law absolute.

Earth, too, describes Jupiter's "antique empire" as "muffl[ing] round with black destruction" (4.340) all her forms. It "rounds" or englobes the world into a consolidated and centripetal planetary structure. For Shelley, a world so enclosed—a world without openness—is devoid of possibility. Jupiter's closed cosmos echoes the closure of organic form, albeit without its usual claim that form is created by a natural development. What makes Jupiter's reimagining of closed organic identity problematic is what it excludes: a democratic collectivity that might resist imperial homogeneity. Jupiter's "brain," as Shelley puts it, "dissolv[es]" (1.291) and "miscreat[es]" (1.448) the world and its heterogeneous forms by policing and translating them into absolute order. Thus, the totalizing pattern of thought that characterizes the systematizing projects of Romantic cosmological science is associated in *Prometheus Unbound* with an imperial mode of viewing nature: the generalizing logic of colonial science is mobilized to "dissolve" and "miscreate"—to distill and undo—the heterogeneity of the cosmos. In its place, Jupiter erects a uniform and absolute universal empire.

Shelley understands particular forms of speech as complicit in this imperial world-system, their rhythms and structures functioning as vehicles through which autocratic order takes hold of the cosmos. As Balachandra Rajan argues, *Prometheus Unbound* shows how "our perceptions of the

⁴² Shelley, "Prometheus Unbound," *Shelley's Poetry and Prose*, 1.282-4.

universe fall within patterns of thought that are brought into being by the dispositions and within the containment of language.”⁴³ Asia’s description of the Promethean revolution points to the co-constitutive relationship between the forms of speech and the forms of “world”: “He [Prometheus] gave man speech, and speech created thought, / Which is the measure of the Universe” (2.4.72-3). Asia conceives the relationship between language and the “measure of the Universe”—the shape, extent and structure of worlds—as one of profound interconnection, the forms of the former coming to bear upon the latter. Here, the doubled resonance of “measure” invokes not only the scientific delineation of the universe, but also the reincarnation of that universe in the meters of poetry. Shelley’s coupling of “our perceptions of the universe” with the “dispositions” of speech—and the “patterns” these “dispositions” map onto “thought”—posits the world as a formal problem for the Romantics, and conveys how this problem is worked out through the forms of poetry. Shelley imagines here how the world takes shape through an imbrication of different types of forms: those of the organic and inorganic, as well as the linguistic and literary.

Demogorgon’s riddling exchange with Asia in Act II unfolds through the collision of discursive and cosmological forms. Here, Shelley employs *stichomythia*, a mode of dramatic dialogue characteristic of Greek tragedy wherein speakers exchange short responses in rapid succession—responses which often echo one another imperfectly and whose forms Shelley deploys in telling ways.⁴⁴ Querying Demogorgon about the creator of “the living world” (2.4.8) and the maker of “terror, madness, crime, remorse” (2.4.19), Asia receives answers that while seemingly opaque are telling in their shape. Demogorgon’s unintelligible responses look less ambiguous, in other words, when they read as a formal pattern. When replying to Asia’s questions about the omnipotent, Demogorgon offers answers that vary in rhythm and structure (“God,” “God,

⁴³ Balachandra Rajan, *Under Western Eyes: India from Milton to Macaulay* (Durham: Duke University Press, 1999), 160.

⁴⁴ “stichomythia,” *The Oxford Classical Dictionary Online*, ed. Simon Hornblower and Antony Spawforth (Oxford: Oxford University Press, 2005).

Almighty God” and “Merciful God”). But when Asia inquires about Jupiter, Demogorgon thrice answers: “He reigns” (2.4.28-31). Significant, here, is how the forms of Demogorgon’s speech shift when he names Jupiter. While offering iterative descriptions of the maker of “the living world,” Demogorgon turns to an unvarying and even mechanical mode of response when asked to name the ruler of the “antique empire.” The rhythmic structure of his replies transforms, too, from more trochaic or metrically variable descriptions of “God” to the unvarying spondees of “He reigns.” Here, what Kelley describes as the “gnomic” substance and structures of Demogorgon’s speech recall the homogenizing force of empire, the monotony of its undeviating form performing the interrelationship between the “dissolving” labor of Jupiter’s “brain” and the uniformity of a “muffled” universe. “[S]trategically divided between dodginess and something akin to euphemistic speech,” as Kelley suggests, the responsorial rhythms of Demogorgon’s language during this stichomythic exchange implicate the forms of speech in the construction—or destruction—of entire world-orders.⁴⁵ In *Prometheus Unbound*, the shifting structures of Demogorgon’s speech show how repetition constitutes a disciplinary form that would overrun the world.

Demogorgon’s unvarying utterances call to mind an earlier and crucial moment of wished-for repetition wherein Prometheus calls upon Earth to repeat his curse back to him. In Act I, Prometheus goes in search of those venomous words he hurled at Jupiter: “The Curse / Once breathed on thee I would recall... / What was that curse? for ye all heard me speak” (1.58-73). But Earth and her “brethren” refuse to answer. Earth tells Prometheus: “We meditate / In secret joy and hope those dreadful words / But dare not speak them” (1.184-6). Only by conjuring the Phantasm of Jupiter is Prometheus finally able to “recall” his own biting speech. Earth’s refusal to release the curse back into the world constitutes a warning against invariable forms of language. Here, Earth recasts Prometheus’ original curse—whatever its revolutionary aspirations—as

⁴⁵ Kelley, “Reading Justice: From Shelley to Derrida and Back,” *Studies in Romanticism* 46.3 (2007): 269.

complicit in Jupiter's efforts to make an incessant and abominable repetition of nature. Reacting to the curse,

The tongueless Caverns of the craggy hills
Cried "Misery!" then; the hollowed Heaven replied,
"Misery!" And the Ocean's purple waves,
Climbing the land, howled to the lashing winds.
And the pale nations heard it,—"Misery!" (1.107-11)

Under the power of Prometheus' curse, nature's forms metamorphose into a grotesque permutation of repetitious speech and the homogeneous world-order it puts into place. Their "tongueless" and incessant cries of "Misery" perform Jupiter's terrible work of "miscreation," indicating how Prometheus' speech spirals out of his control, its reactionary venom intensifying (rather than disrupting) the inertia of those homogenizing forms against which it protests. Making a perverse echo chamber of the world, Prometheus inadvertently makes the cosmos into a monstrous and interminable "Misery!" and, in so doing, prophesies the rise of Jupiter's "antique empire." Repetition is thus conceived by Shelley as a linguistic form that marshals a force with which Prometheus does not wish to be aligned. That force is attributed to Jupiter, both as the Phantasm utters those "dreadful words" and, later, as Demogorgon utters "He reigns" over and over again.

Throughout *Prometheus Unbound*, Shelley explores the tyrannical consequences for repetition on prosodic, as well as lexical, registers. Echoes of Demogorgon's "gnomic" warning, for instance, unfold over the course of one of the poem's first and most pivotal song sequences, wherein the Phantasm of Jupiter recites Prometheus' curse (1.218-301). Repeating the prophecy of Jupiter's "lagging fall through boundless space and time" (1.301), the Phantasm's words are significant not only because they illustrate how such poisonous speech might have slipped just as easily from Jupiter's lips, but also because their rhyming structure embodies the circumscribed world over which he presides. Here, end rhymes and their repetitions enclose an otherwise "boundless" or open world, their monotonous and cyclical sonority shutting out whatever revolutionary possibilities

might have surfaced in the wake of Jupiter's fall. Rhyme produces a "monotonous jingle," as one nineteenth-century essayist puts it, that delivers mind and world into closure.⁴⁶ Elsewhere Shelley reasserts this sinister conception of repetitious speech. In the *Defence*, for instance, Shelley describes our "universe" as one that "has been annihilated in our minds by the recurrence of the impressions blunted by reiteration" (533). In *Prometheus Unbound*, Shelley puts this argument to poetic use by relying on monotonous repetitions that refigure the monotony of Jupiter's world-order as poetic sound. As the other face of the cosmological harmony that Humboldt and others seek during the Romantic era, Jupiter shows the dangers that accrue to universal harmony at the expense of difference.

Prometheus' decision to retract his curse separates his political project from the forms of empire, making room in the world for some other order to assert itself. Silence—the "refusal to repeat the curse"—and, later, Prometheus' retraction is, as Kelley argues, "paradoxically a speech act with extended dramatic power."⁴⁷ I argue that because these moments of silence amount to a refusal to preserve the futurity of the Jupiterian world, they are acts world-making. These reversals clear the way for and imagine a heterogeneous world in which Jupiter does not exist. Thus, in *Prometheus Unbound*, Shelley argues for what B. Rajan calls "a language of community" rather than of "homogeneity," the latter of which "might let Jupiter in the backdoor."⁴⁸ By stopping the vicious chain of repetition in its tracks, Prometheus's silence opens the world up to transformation. His retraction erodes the well-policed surfaces of Jupiter's universe, introducing into its midst an openness that threatens to catalyze an insurrection of cosmological proportions.

Beyond its protest against the totalitarian politics of repetitious language, the forms of Demogorgon's speech also constitute a broader argument about the co-constitutive relationship

⁴⁶ "On Blank Verse," *The Weekly Entertainer: or, Agreeable and Instructive Repository* 39 (28 June 1802): 510.

⁴⁷ Kelley, "Reading Justice," 277.

⁴⁸ B. Rajan, 165.

between the forms of language and of world: the ways we speak shape the structures of the cosmos and by extension its sociopolitical organization, at times putting into a place a world-order of “Imagination” (2.4.11) and at others one of terror. When those in “the living world” refuse to repeat his curse back to him, Prometheus comes to realize what William Keach calls the “arbitrary power” of language: its capacity to command an “unnatural, irrational, and unrepresentative” force that moves against the grain of its speaker’s “reason” or imagination.⁴⁹ These refusals make visible how insurrectionary speech possesses the unnerving capacity to compromise the intent of its speaker as it fortifies the very thing it seeks to destroy. In *Prometheus Unbound*, language thus functions “as a kind of co-tyrant, a usurer operating behind the monarchical façade” as Christopher Miller argues.⁵⁰ I contend that, for Shelley, this capacity one of form. No one will repeat Prometheus’ curse back to him because it threatens to unleash a particular *form* into and upon the world, making a uniform “Misery!” of all. For Shelley, the compromising capacity of language—its capacity to co-opt or subvert the world-vision of its speaker—derives not from the content of that which is spoken, but rather from the *forms* those utterances take. They dictate how language will act upon the world. The problem at the heart of *Prometheus Unbound* is, thus, most immediately a matter of form.

The dialogue between Demogorgon and Asia gestures to a second, slippery pattern of speech that might fissure Jupiterian empire. Here, I use the word “fissure” to describe textual gaps that open onto other ways of understanding and being in the world. This notion of “fissure” is very different from the geological one I explore in the third chapter of this project, which studies the open structures of earth. While I have until this point focused most of my attention on the repetitious set of Demogorgon’s replies (“He reigns”), the second series of replies is equally important for the linguistic pattern it deploys. Asked about the maker of “the living world” (2.4.8)

⁴⁹ William Keach, *Arbitrary Power* (Princeton: Princeton University Press, 2004), 6.

⁵⁰ Christopher Miller, “Shelley’s Uncertain Heaven,” *ELH* 72.3 (2005): 584.

who invested the cosmos with “thought, passion, reason, will, / Imagination” (2.4.10-1), Demogorgon employs a mode of response that is variable in form. Answering Asia, he utters: “God” (2.4.9), “God, Almighty God” (2.4.11), “Merciful God” (2.4.18). Here, the iterative patterns of Demogorgon’s speech constitute a compelling counterpoint to the repetitious phrasing with which he designates Jupiter. Each of Demogorgon’s utterances echoes the others and yet at the same time materializes a new and divergent facet of God: the singular, the omnipotent, and the merciful. Asia thus encounters a plural image of the maker of “the living world” that unfolds across a series of shifting phrases that transform in meaning as they do in structure. Here, iteration acts as an imperfect echo—a not-quite-repetition, or a repetition askance—that proliferates openness within the text. These iterative forms structure the entirety of the riddling exchange between Asia and Demogorgon and, more broadly, *Prometheus Unbound* as a whole.

The precise timing of Demogorgon’s shift from iterative to repetitious modes of speech illustrates how the forms of language might intervene in a Jupiterian world. When Asia departs from her querying dialogue with Demogorgon in Act II, the forms of iterative speech fissure a path to other imaginative possibilities. Having been commanded by Demogorgon to “[a]sk what thou wouldst know,” Asia offers a hedging response: “What canst thou tell?” (2.4.7-8). Carrying on this riddling line of inquiry, Demogorgon answers cryptically: “All things thou dar’st demand” (2.4.8). While Demogorgon might seem poised to disclose those truths which Asia seeks, this is not the case. Instead, he refuses to respond directly to Asia’s questions about Jupiter, telling her “a voice is wanting” to “vomit forth the [abysm’s] secrets” (2.4.114-6). Here, as T. Rajan argues, Asia is “[f]rustrated by [Demogorgon’s] refusal to divulge a ‘deep truth’” and so “embarks on her own attempt to narrate the course of history as a phenomenology of the Promethean spirit” (*Narrative* 78). Encountering a slew of cryptic answers that multiply—rather than fill in—the gaps in her knowledge, Asia embarks on her own creation: a narrative of the world’s beginnings in love and joy,

the tale of Prometheus' gift to man and his subsequent punishment, and the world-shattering prophecy of Jupiter's fall. Here, the stanzaic and rhythmic promiscuity of Asia's exchange with Demogorgon—and *Prometheus Unbound* as a whole—is revealing. Taking initial shape through sudden stops and starts (2.4.7-11), the dialogue becomes increasingly unencumbered in form as Demogorgon's responses drive Asia to verbal excess (2.4.12-18 and 2.4.19-28). Stanzaic forms and rhythms loosen as the exchange unfolds. Asia speaks at greater and greater lengths, shifting the conversation into a progressively lop-sided tempo. Eventually, she tumbles into an "all-prophetic song" of revolution (2.4.32-109) whose unbounded stanzaic structure, unrestrained blank verse meters, and fluid enjambments constitute a heterogeneous vision of a world much freer in "measure." Here, formal slippage conveys a distinctly non-Jupiterian imagining that opens up, rather than fixes, the possibilities of a world and its futures.

Panthea's dream sequence unfolds by way of similarly iterative forms. In it, she recounts one dream and chases the spectral remains of a second with Asia. Setting her sights on the "rude" (2.1.127) and nebulous shape of the second dream—"a thing of air" (2.1.129) that moves between her and Panthea—Asia follows hard on its heels, chasing its iterative calls: "Follow, follow!" (2.1.132), "O follow, follow!" (2.1.141), "Follow, O follow!" (2.1.153), "O follow, follow, follow me!" (2.1.159). Together, Panthea and Asia co-narrate their pursuit as the dream passes in and out of their minds, barreling toward what they later discover is Demogorgon's cave. Inhabiting the "pauses" in Asia and Panthea's oscillating narrative, the dream takes on a particular "shape": "pause by pause" (2.1.142) it materializes as a series of narrative gaps. This narrative sequence "speaks of its own rupture," as Carol Jacobs puts it, its "pauses speak[ing] most meaningfully."⁵¹ Openness, I argue, is the structuring principle of *Prometheus Unbound*: the slippages of iterative speech comprise the formal blueprint of the work as a whole. Though Miller and others often argue that *Prometheus*

⁵¹ Carol Jacobs, *Uncontainable Romanticism* (Baltimore: Johns Hopkins University Press, 1989), 40.

Unbound is “short on dramatic action,” its “work” transpiring at “the level of the word,” the interrelationship between linguistic slippage and narrative movement tells a much different story.⁵² In *Prometheus Unbound*, “dramatic action” is lodged in the lexical and formal footwork of the poem, its events unfolding through the interstices of speech. As their interrelationship with dramatic action suggests, these interstices constitute events in and of themselves. In Act II, in particular, formal slippages generate the narrative momentum of *Prometheus Unbound*, rather than producing the narrative stasis a reader might otherwise expect.

I argue that Demogorgon is a figure for the openness the poem internalizes in its form. Upon first encountering Demogorgon, Panthea describes him as “a mighty darkness,” “shapeless,” possessing “neither limb, / Nor form, nor outline” (2.4.1-5). He possesses no distinct “form” or “outline,” his “darkness” resisting visual penetration and organization. As such, he is a figure for the slippery forms of language and of nature, revealing how they are co-constitutive. Thus, as Panthea chases her dream through “caverns hollow” (2.1.197), deeper and deeper into “the rents and gulphs and chasms” of earth (2.1.202), she declares:

Hither the sound has borne us—to the realm
Of Demogorgon, and the mighty portal,
Like a Volcano’s meteor-breathing chasm,
Whence the oracular vapour is hurled up
Which lonely men drink wandering in their youth
And call truth, virtue, love, genius or joy. (2.3.1-6)

Demogorgon’s “shapeless” form parallels the terrestrial formations wherein he resides. Occupying a space not unlike the “meteor-breathing chasm” of a volcanic crater, he functions as “the mighty portal” of the text itself, his formlessness inflecting the structure of *Prometheus Unbound* with gaps. While it might seem as though Demogorgon is, in his shapelessness, the very antithesis of form, I argue that this shapelessness is itself a kind of form—an indeterminate and shape-shifting structure whose formal function emerges most recognizably in the edifice of Shelley’s drama. As such,

⁵² Miller, 586.

Prometheus Unbound—like the prophecies of Delphic sibyls—seems the product of an “oracular vapour” imbued with the generative potential of those open structures from which it seeps.

Shelley draws on a literary archive that capitalizes on these potentials—that mirrors the iterative forms of Demogorgon’s speech and the cavernous structures of earth from which it reverberates. In the preface to *Prometheus Unbound*, Shelley celebrates the Greek dramatists for how they rework a “common” mythological subject matter without committing repetitions of one another:

The Greek tragic writers, in selecting as their subject any portion of their natural history or mythology, employed in their treatment of it a certain arbitrary discretion. They by no means conceived themselves bound to adhere to the common interpretation or to imitate in story as in title their rivals and predecessors. Such a system would have amounted to a resignation of those claims to preference over their competitors which incited the composition. (206)

As Shelley presents them, the Greek dramatists deployed parts of the same mythological system—a “common” cosmos—to profoundly different ends. Employing “a certain arbitrary discretion,” these writers were not “bound to adhere to the common interpretation or to imitate in story.” The dramatists of ancient Greece labored, in other words, within and upon the same world or universe—a simultaneously mythological and cosmogonic one—but never in repetitious ways. Working with the same set of figures and narratives, each dramatist nonetheless commands “a certain arbitrary discretion” through which the homogeneity of repetition is disavowed and deviation becomes the rule. Together, the works of Aeschylus and other Greek dramatists constitute a “common” world that is nevertheless rife with openness. This world evolves through the “arbitrary” turns of each respective dramatist’s work. As such, it embodies metamorphosing potentialities for the world.

Prometheus Unbound participates in this tradition of world-imagining. A very loose reimagining of the second (and almost entirely lost) installment of Aeschylus’ *Prometheia* trilogy, the poem is the most recent work in a long tradition of cosmological dramaturgy. It inhabits an archival gap in this tradition, garnering its power from a Promethean narrative left fragmentary by the ravages of time.

Shelley is thus informed by a syncretic mythological tradition, as Wasserman has argued, but he does not understand its “variant efforts” as “apprehend[ing] the same truth.”⁵³ He “is not,” as Hogle argues, “advocating syncretism at all.” Instead, Shelley aims to “reope[n]” a myth that historically “has been constantly reinterpreted.”⁵⁴ He understands this act of cosmo-mythological “reopening”—of “reinterpretation” or what I would call iteration—as renovating the world. *Prometheus Unbound* lingers in the slippages between (and even within) the “variants” of the Prometheus myth and their errant possibilities. As he takes up the Greeks’ tradition of iterative world-making, Shelley discovers a formal model for his cosmological project in the archives of literary history. This model abides by the same apertured logic as the forms of earth. Positioned as such, *Prometheus Unbound* is itself a diversifying iteration. It constitutes a fissure in the mythological world of the Greeks and, as such, participates in a tradition of world-imagining whose form is challenges the closure a Jupiterian universe presents.

If Demogorgon figures the iterative force through which *Prometheus Unbound* unfolds, then Asia is an embodiment of a dynamic cosmos in transformation. The possibilities opened up by the apertured forms at play in the text are written on Asia’s body, which metamorphoses as the poem’s forms unsettle Jupiter’s “antique empire.” Having just traced what T. Rajan describes as a “backtracking” and episodic narrative of “Promethean dispensation” (*Narrative* 79), Asia is reborn before Panthea’s eyes:

How thou art changed! I dare not look on thee;
I feel, but see thee not. I scarce endure
The radiance of thy beauty. Some good change
Is working in the elements which suffer
Thy presence thus unveiled. (2.5.16-20)

Panthea tells the story of Asia’s birth long ago, wherein she emerged from “a veined shell” and brought “love” to the “Aegean isles,” which gushed from within her to “illumin[e] Earth and

⁵³ Wasserman, 271.

⁵⁴ Hogle, 168 and 170-1.

Heaven / And the deep ocean and the sunless caves, / And all that dwells within them” (2.5.23-30). In *Prometheus Unbound*, Asia is “changed”—she is born again. In so doing, “illuminates” the universe and its myriad forms anew, inaugurating an anti-colonial world-order. Invoking figures ranging from Botticelli’s Venus to Aphrodite, Shelley’s Asia is a microcosmic embodiment of a liberated cosmos. A figure of cosmological “change”, she “illuminates” a newly attainable world wherein forms are profoundly open to one another. The new world-order that Asia embodies is also manifest in Shelley’s heterogeneous interpolation of poetic forms throughout the text. Interwoven with heterogeneous lyric, song and dramatic poetic structures, the myriad forms of *Prometheus Unbound* dovetail with and cascade unpredictably into one another. In so doing, they incarnate this newly open world and its more “radiant” order on the page.

As Asia bursts from her confinement in the Indian Caucasus and sets out on her mission to “illuminate” the world, the forms of nature are unbound. Here, *Prometheus Unbound* imagines a future that breaks from the fantasy of an organicist universe. The Earth rings out with joy, proclaiming the inauguration of a new cosmological order. Directing Prometheus and Asia to the “Cavern” that will become their home, Earth describes such open structures as scenes of cosmic rebirth, their “breath[s]” akin to “[a] violet’s exhalation” (3.3.126-34), their openings the sites of a Promethean “restor[ation]” (3.3.147). Figured as veritable wombs wherein brews the “breath” of a coming revolution, the planet’s “caverns” soon “[l]augh with a vast and inextinguishable laughter,” the “unmeasured wildernesses” of global nature “echoing” the news of an unmeasuring and measureless revolution (4.332-7). It is in the “Void’s loose field”—the apertured spaces of both language and cosmos—that a “world for the Spirit of Wisdom to wield” is birthed. Proclaiming this “new world of man” are the iterative echoes of nature’s cavernous depths, whose laughter “shatter[s] the framework of institutions” and “blow[s] up the law,” as Hélène Cixous puts it. The laughing forms

of nature usher in a new and uncontainable order of things.⁵⁵ In this new world, Jupiter is “drunk up / By thirsty nothing” (4.50-1), leaving behind a “void annihilation” through which “love” might “Burst in like light on caves cloven by the thunder-ball” (4.354-5).

Brewing in the open structures of earth, Promethean revolution breaches the bounds between nature and culture, reconfiguring the sociopolitical structures of humankind. Shelley’s *Defence* imagines an ancient “chorus” that, like the joyful caverns of earth in *Prometheus Unbound*, announces a “renovated world” whose “music has penetrated the *caverns* of society” (526, emphasis mine). His phrasing posits this revolution in formal terms: it unfolds through the imbrication of nature’s cavernous forms and the “caverns” or frameworks of sociopolitical structures. As Asia traverses the globe, “love dissolv[ing]” into “the sphered world” in her wake (3.4.102-3), Jupiterian monarchy falls. The Spirit of the Hour cries out, “behold!,” at the sight of “thrones” that are “kingless” (3.4.131). Unchained, “men wal[k] / One with the other even as spirits do, / None fawned, none trampled” (3.4.132-3). Once bound to a hierarchical system of power, men now mingle with one another on equal footing, none “fawned” or “trampled” by another. They speak differently, too: “None wrought his lips in truth-entangling lines / Which smiled the lie his tongue disdained to speak” (3.4.142-3). In this world, there is no more “common, false, cold, hollow talk / Which makes the heart deny the *yes* it breathes” (3.4.149-50). Here, Shelley describes Jupiterian language as covering over what the body innately feels and knows. Rather than employ a language that subjects bodies to a “false” system of law, men now speak *from* their “hearts.” Liberated from the disciplinary rhythms of empire, language makes room for some other and more egalitarian notion of “world.”

The final act of *Prometheus Unbound* probes the possibilities this revolution imagines for the stratigraphic formations of earth and the stories of “world” they tell. Shelley imagines how this revolution might transform records of the world’s past and, through that transformation, its futures.

⁵⁵ Hélène Cixous, “The Laugh of the Medusa,” *Signs* 1.4 (1976): 888.

Experimenting with the intersections between the forms of nature, poetry and culture, the poem explores how the aestheticization of the cosmos might renovate (or destroy) the world as we know it. These possibilities emerge in Act IV of the poem wherein Shelley imagines the earth's "cancelled cycles." Scholars of Romantic geology have read this passage in economic and uniformitarian terms. Noah Heringman argues that it "calls for natural resources to make themselves perfectly available." In Act IV, he contends, Shelley equates "[t]he domestication of nature" with "absolute human sovereignty, to which resources willingly yield."⁵⁶ As such, the earth is "a fund of resources."⁵⁷ Michelle Geric understands Act IV as "the reawakening of a living, yet stable earth" wherein Jupiter's fall "ushers in a new order of harmonious motion coupled with stability."⁵⁸ Here, the earth is a figure for geological uniformity. But I argue that Shelley's "cancelled cycles" convey something different from the domesticating—even imperial—vision Heringman asserts, and the organic harmony of uniformitarian geology Geric identifies. Shelley's "cancelled cycles," I argue, do not figure nature as an object of "domestication" or a purveyor of organic stability. Instead, they imagine a world that is aleatory in form and futurity.

In Act IV, the earth is literally opened up, its depths "[p]ierce[d]" with "sunlike lightnings" that illuminate "the secrets of the Earth's deep heart"—the records of worlds past. Contained in this "[i]nfinite mine" are all manner of "unimagined gems," "melancholy ruins" and terrible forms. Remnants of war-torn human histories and "cancelled cycles" glimmer in the darkness, their instruments and "wrecks" lying side by side in "ruin." Entombed in "the hard black deep" are "[t]he anatomies of unknown winged things" and "over these" the fossilized remains of "monarch beasts" (4.270-318). The wrecks of self-destroyed and annihilated worlds make an endless "ruin within

⁵⁶ Noah Heringman, *Romantic Rocks, Aesthetic Geology* (Ithaca: Cornell University Press, 2004), 179.

⁵⁷ *Ibid.*, 180.

⁵⁸ Michelle Geric, "Shelley's 'cancelled cycles': Huttonian Geomorphology and Catastrophe in *Prometheus Unbound*," *Romanticism* 19.1 (2013): 31-43.

ruin.” Here, Shelley’s language (the doubled “ruin”) conveys the “ruin” that repetition (or organic uniformity) might proliferate. It thus demonstrates how the forms of language might lock uniform patterns of temporality into place, condemning nonconformist futures to “annihilation.” What Michel Serres describes as our fascination with unity is played out in Act IV to devastating consequence as ruin self-multiplies and lays hold upon the earth through language.⁵⁹ Geological stratigraphy emerges in this passage as both the partial product of linguistic forms and the reliquary of a world’s “cancelled cycles” or terrible pasts—the tombs of presents and futures that never came to fruition, the dreams of their warring makers driving them to the very “melancholy” means of their undoing.

But even as it dwells upon these monstrous “cycles” of ruin, the passage speculates about the aesthetic legacy of the Promethean revolution. Imagining a cosmological metamorphosis that transpires on literary as well as material registers, Shelley’s *Prometheus Unbound* asks how the aesthetic might conform to, transform or overwrite the horror emblazoned in “the hard black deep.” If poetic language possesses consequences for the world and its forms, Shelley argues, then those consequences will be registered in the formations of earth. Envisioning iterative forms that splinter empire and remap the relationships between men, the poem figures the aesthetic as a geohistorical force that might inscribe previously unimagined futures into the fabric of the cosmos. Though the final and cataclysmic rending of the earth in Act IV of *Prometheus Unbound* unleashes its own Pandora’s box of monsters, it at the same time enacts a literal opening up of earth. The poem unleashes a multiplicity of “possibles,” to borrow Serres’ term. For Shelley, poetic language is the “carrier of a thousand temporalities” that were previously foreclosed. It unbinds the stratigraphic formations of earth from the homogenous and uniformitarian “ruin within ruin” of empire.⁶⁰ The

⁵⁹ Michel Serres, *Genesis*, trans. Geneviève James and James Nielson (Ann Arbor: University of Michigan Press, 1995), 2.

⁶⁰ *Ibid.*, 23 and 24.

poem thus gestures to the potentials an aesthetic revolution affords not only for the present, but also for the future.

Act IV does not bring *Prometheus Unbound* neatly to a close, but rather facilitates rupture. As T. Rajan observes, its insurrectionist “aria” seems haphazardly “tacked on to a three act drama,” instead of offering “a resolution which grows organically” from the text.⁶¹ I argue that the break between the first three acts and the drama’s final “aria” is as much a temporal as a formal one, demonstrating how the collusions between aesthetic and cosmological forms might radicalize time itself. In Act IV, time becomes a web of shifting possibility, offering glimpses of revolutionary futures that are forged through the co-constitutive relationship between poetry and earth. Geological stratigraphy is a site of cosmic reformation in the poem, wherein the universe becomes something other than what Serres calls the “*universe*.” For Shelley, geologic structures contain a plurality of imaginative and chaotic “possibles” with which poetic language experiments to resist “the reign of a single rule.”⁶² Thus, in *Prometheus Unbound*, nature and poetry together resist the “domestication of nature” and the “consumerist vision” with which this Humboldtian project is coupled. They refuse to be contained within the uniform laws and harmonic vision of organic form, tracing instead a cosmos whose material and temporal forms abide by an iterative and diversifying logic of their own. What emerges in Shelley’s cosmological drama is a vision of a world uncircumscribed, of time unbound.

⁶¹ T. Rajan, 318.

⁶² Serres, 111.

VOID

Writing of the numberless planets and stars populating the night sky, Ephraim Chambers surmises in his *Cyclopædia* (1728) that worlds “must either be at a distance from one another, or contiguous.” Yet “neither” claim is possible, he adds:

For were they contiguous, they would only constitute one; and were they distant, there must be something between. But what can be between? If it be extended, it is corporeal; and instead of separating the several *Worlds*, will connect ‘em into one.¹

Chambers marks the problem of figuring a heavens structured as much by voids as pluralities of worlds. He describes these tracts of space as both vacant and substantive; immaterial and paradoxically “corporeal”; disunifying, but nonetheless encompassing a celestial contiguity or “one.” Here, openness is, on the one hand, an instrument of rupture and, on the other, one of touch. In the Romantic period, the capacious forms of the skyscape trouble and yet also transform notions of “world.” Registering a multitude of formal possibilities and frictions, “world” for the Romantics conveys novel forms of “contiguity” or relation that crisscross materialities ranging from poems to publics to planets. This chapter traces a nineteenth-century tradition of world-making that understood void space not as antithetical to contiguity, but instead as the precondition of its possibility. Here, I move beyond Alexander Regier’s and Susan Wolfson’s accounts of Romantic fracture and fragmentation to consider how open forms provoke political critique, but not necessarily by manufacturing ideological fault lines and discontinuities.² The void, I argue, is an experimentalist form in the period. Its open and yet touching contours afford a poetic mechanism for reconfiguring the sociopolitical organization of the world.

As a form, the void captivated poets and scientists alike, who imagine the heavens as teeming with vacuities in an ongoing state of expansion. Sir William Herschel, pioneer of the new astronomy,

¹ Ephraim Chambers, *Cyclopædia: or, An Universal Dictionary of the Arts and Sciences*, volume 1 (London, 1728), 380.

² See Alexander Regier, *Fracture and Fragmentation in British Romanticism* (Cambridge: Cambridge University Press, 2010) and Susan Wolfson, *Formal Charges: The Shaping of Poetry in British Romanticism* (Palo Alto: Stanford University Press, 1997).

understood the universe to be as open-ended as it is interconnected. Marilyn Gaull, Anna Henchman and Anne Janowitz understand late eighteenth- and early nineteenth-century astronomy in Newtonian terms. Romantic astronomers, they argue, viewed the heavens as a source of sublime alienation that required systematization.³ Yet, Herschel's scientific papers envision a world of unsystematizable forms that provoked interest for their aesthetic resistance to legibility and totalization. As such, they invited modes of engagement that re-figured science as a speculative—rather than purely rational—endeavor. Invoking this open-ended view of the heavens, Anna Letitia Barbauld's "A Summer Evening's Meditation" (1773) figures the void as a womb to imagine a world whose structures are analogous to those of the female body. Employing the flexible forms of blank verse to materialize this openness on the page, she probes the possibilities such a world might hold for reconceptualizing the categories of subjectivity and collectivity. For Barbauld, the void offers new formal possibilities for the relationship between subject and world. "A Summer Evening's Meditation" asks the question this chapter considers: how might the world—a unit capable of extraordinary scalar and formal metamorphoses—reconfigure not only celestial and terrestrial space, but also the forms of interior and public life?

Void Space, Stellar Cartography, Speculation

Herschel's extensive body of work—consisting of descriptive and instructive essays on telescopes, narratives of astronomical observation, and ever-expanding catalogues of stars and nebulae—tracks a restless celestial world that is as full of aberrancy as it is of perfect mathematical beauty. While "Newton and most eighteenth-century astronomers had conceived of a largely stable

³ See Marilyn Gaull, "Under Romantic Skies: Astronomy and the Poets," *Wordsworth Circle* 21.1 (1990): 34-42; Anna Henchman, *The Starry Sky Within: Astronomy and the Reach of the Mind in Victorian Literature* (Cambridge University Press, 2014); Anne Janowitz, "'What a Rich Fund of Images is Treasured up Here': Poetic Commonplaces of the Sublime Universe," *Studies in Romanticism* 44.4 (2005): 469-92.

cosmos,” as Henchman argues, Herschel “map[ped] the stellar skies comprehensively” and worked to “replac[e] the sphere of symmetrical fixed stars with shifting astral systems separated by vast tracts of void space.”⁴ His essays on astronomical phenomena document a universe whose open structures and limitless possibilities put into question the methodologies and tools of empiricist science. Criticizing scientists who trust too much in received theories of celestial physics, Herschel doubts whether “any clock would have discovered to us the aberration of the fixed stars.” Astronomers are predisposed, he argues, “to suspect the clock than the diurnal motion.” They are more likely, in other words, to attribute “aberration” to a defect in the instrument than to take seriously the possibility that celestial nature is deranged.⁵ By the mid-eighteenth century Newtonian astronomy had become something of a self-fulfilling prophecy, its mathematical world-system believed to be so perfect that evidence of the wayward motions of the stars was chalked up to user error.

Herschel, however, took these wayward motions seriously, describing a starry world in a constant state of change. Rather than figuring it as a sphere—the form most emblematic of Newtonian perfection—Herschel imagines the heavens as comprised of starry strata that are multidimensional and dynamic. In his “Account of some Observations tending to investigate the Construction of the Heavens” (1784), Herschel is emphatic that the heavens should not be “represented by the concave surface of a sphere,” but instead by stratigraphic forms: “*nebulous and sidereal strata* (to borrow a term from the natural historian).”⁶ Akin to the “strata variously inclined and directed” across the interior of the earth, celestial nature is a labyrinth of fissures and faults. For Herschel, this newly material understanding of the night sky “illustrate[s] and enforce[s] the

⁴ Henchman, 20.

⁵ Sir William Herschel, “Observations on the Rotation of the Planets round their Axes” (1781), *The Scientific Papers of Sir William Herschel*, volume 1., ed. J. L. E. Dreyer (London, 1912), 16-7. All quotations from Herschel’s scientific papers are taken from this edition and volume.

⁶ Herschel, “Account of some Observations tending to investigate the Construction of the Heavens” (1784), 157.

necessity” that astronomy contend with, rather than shy away from, discontinuous bodies and forms.⁷ Imagining a skyscape whose uneven forms disrupt the perfect contours of a mechanized universe, Herschel notes in a 1780 essay titled “On the Existence of Space” that “[Christiaan] Huygens said that it was possible some of the fixed Stars might be so far off from us that their light tho’ it travelled ever since creation at the inconceivable rate of 12 Millions of Miles per Minute, was not yet arrived to us.”⁸ Herschel wonders whether the human mind is capable of producing a representation of such an “inconceivable” universe, speculating the answer hinges on whether void space is immaterial or material. He asks: “But shall we call this immense distance a mere imagination? Can it be an abstract Idea? Is there no such thing as Space?”⁹ Like Chambers, Herschel figures the open forms of the heavens as intangible and at the same time profoundly material; as distant while also enveloping; as “abstract” in form but formative in function.

Herschel argues that the paradoxical physicality of the void gives the cosmos its shape or, rather, its body. “It is to me the most inconceivable thing,” he writes,

that the very name of Space does not convey to every one who hears, and understands the meaning of it, the Idea of something really existing. Inane, vacuum, plenum, room, place, distance; call it what you please; How could we exist but in space? How could I stretch out my hand if there was no room! Could we get up and walk if we did not leave the place we were in! If we go sometime straight forward are we not at a distance from the place we set out? How idle it would be for philosophers to talk of a plenum or vacuum if neither of these terms meant anything really existing. Nor is there any great refinement required to perceive that space is something besides a mere Idea...If it be thought absurd to deny the existence of matter, how much more so must it be to deny the existence of Space. Every sense furnishes us with the Idea of it; and every particle of matter which can not exist but in space: can not move but to one part of it into another, is an evident witness of its actual existence.¹⁰

As both “vacuum” and “plenum” (words that are, of course, nearly antonymic), “space” conditions the life of “matter” insofar as it facilitates animation. Organic and inorganic bodies move through and are moved by structures that, while seemingly formless, are nonetheless deeply formative in power. Herschel resorts to self-experimentation to emphasize this power. Stretching his arm into the

⁷ Ibid., 158 and 157.

⁸ Herschel, “On the Existence of Space” (1780), lxxxvii.

⁹ Ibid.

¹⁰ Ibid.

open air, Herschel's hand assumes an eerie life of its own. Suspended in a moment of out-of-body experience, he watches as his hand becomes as distant from as it is integral to his body. At this moment, he enters into a dissociative state wherein his body is not his body. Unable to differentiate where one form ends and another begins, Herschel metamorphoses into a subject interrupted. He becomes acutely aware, in other words, of his own physical vulnerability—of the extent to which he does not possess the universe, but is permeated by it. This interpenetrative experience suggests a world that reconfigures the astronomer's relationship to the luminous bodies he observes. Conceived as a kind of dark matter, void space here transports the astronomer and his objects of study into touch. For Herschel, the void does not solidify physical distance. Instead, it entangles seemingly opposed categories and forms in mutual embrace.

In his observational essays and star catalogues, Herschel tracks how voids reconfigure the night sky and, in so doing, unsettle established cartographies. The second of his seminal essays on the construction of the heavens observes that “there will be formed great cavities or vacancies by the retreat of the stars towards the various centers which attract them.”¹¹ One of these “vacancies” appears unexpectedly as Herschel “star-gages” the region of the heavens where Scorpius is located. “Gaging” (as Herschel spelled it) is an observational method used to calculate the average number of stars in a given section of the heavens. Moving across the familiar contours of the constellation under study, Herschel works out calculations that are initially consistent with previous findings. But upon encountering “an opening, or hole” in the Scorpion's body that should not exist, Herschel notes that “all of a sudden, they [the stars] fell down to nothing,” there being only “a very few pretty large stars” in the area. Trying to make sense of his data, Herschel concludes that his telescope's lens had moved across a void undocumented in previous observational records. He suspects it to be relatively new, having likely taken shape with the help of “one of the richest and most compressed

¹¹ Herschel, “On the Construction of the Heavens” (1785), 225.

clusters of small stars” nearby. The cluster’s gravitational pull likely “collected from that place” a number of stars, leaving “the vacancy” in its wake.¹²

Scorpius’ gappy physiognomy shows how voids might make a mess of stellar cartography, rendering some of astronomy’s most longstanding findings obsolete. This obsolescence is evident when Herschel compares his observations to those recorded in John Flamsteed’s earlier catalogue of stars, which Michael Hoskin has called the eighteenth-century “bible of observers.” This catalogue functioned as the cartographic basis for Herschel’s later observations.¹³ When Herschel discovered previously unobserved or uncatalogued objects, he verified his findings using Flamsteed’s earlier blueprint of the heavens. But his predecessor’s catalogue presented significant observational challenges as a result of its form. Organized according to constellation, it was unsuited to Herschel’s observational technique of “sweeping” the telescope across the heavens “in a kind of very slow oscillations,” and then “lower[ing] or rais[ing]” the instrument to move to new sections of sky.¹⁴ Caroline Herschel, William’s sister, reorganized the contents of the British catalogue to correspond the order of objects as they would appear during his sweeps, making it much easier to track how stellar cartography had changed over time.¹⁵ Reconfigured according to the method of the sweep, the contents of Flamsteed’s catalogues become much easier to track with respect to those stars brought under the lens of Herschel’s telescope. Herschel’s star catalogues record these references back to Flamsteed’s catalogue and document the discrepancies between them. As such, they encapsulate not one but two systems of celestial cartography. They internalize an older taxonomy of the heavens, in other words, so as to trace a stratigraphic history of the heavens that is attuned to the variant forms and cartographies of nature.

¹² Ibid.

¹³ Michael Hoskin, *Discoverers of the Universe: William and Caroline Herschel* (Princeton: Princeton University Press, 2011), 96.

¹⁴ Herschel, “Catalogue of One Thousand new Nebulae and Clusters of Stars” (1786), 261.

¹⁵ Hoskin, *Discoverers*, 143.

That the landscape of the heavens was subject to profound change is evident in Herschel's writings about "star-deaths" and the open spaces they leave behind. These voids litter Herschel's catalogues, revealing a heavens that deviates markedly from the one Flamsteed mapped. In "On the proper Motion of the Sun and Solar System" (1783), Herschel reserves a section for the discussion of "Stars that are lost, or have undergone some capital change, since FLAMSTEED'S time." Searching for "two remarkable stars of the fourth magnitude in the constellation of Hercules," for instance, he comes up empty. "They [the two stars] are no more to be seen," he concludes. Likewise, "[i]n the northern claw of Cancer FLAMSTEED has placed three stars of the sixth magnitude," Herschel writes, but "[t]he latter of them is vanished"—a "remarkable change," he concludes.¹⁶ Lost and extinct stars pile up upon one another, ripping holes in the fabric of the heavens. These wandering, dying and dead objects make visible a changeful universe whose spheroidal form transforms, upon closer inspection, into a network of vacancies. Herschel admits in a 1797 essay that he had "[t]ak[en] it for granted that this [Flamsteed's] catalogue was faultless."¹⁷ The heavens proved him wrong. Here, the geological resonances of the word "faultless" gesture to the resilient (if not irresolvable) gaps that riddle taxonomic systems of knowledge. Tracking an infinite and agitated heavens which eludes the eye of the observer, Herschel's catalogues negate the possibility of celestial taxonomy even as they achieve new and unprecedented degrees of comprehension.

The catalogues thus posit Herschel's mapping project as self-consciously incomplete. They figure celestial taxonomy as an open-ended rather than totalizing enterprise. Herschel emphasizes this anti-totalizing impulse when he considers the significant temporal problems the skyscape presents for natural history. "[D]oes it not seem very natural," he asks,

that so many changes among stars,—many increasing their magnitude, while numbers seem gradually to vanish;—several of them strongly suspected to be new-comers, while we are sure that others are lost out of our sight;—the distance of many actually changing, while many more are suspected to have a considerable

¹⁶ Herschel, "On the proper Motion of the Sun and Solar System" (1783), 110.

¹⁷ Herschel, "Third Catalogue of the comparative Brightness of the Stars" (1797), 572.

motion:—I say, does it not seem natural that these observations should cause a strong suspicion that most probably every star in the heavens is more or less in motion?¹⁸

Celestial nature is in the throes of “general agitation,” transforming more quickly than it can be mapped.¹⁹ There are “so many changes among the stars”—some metamorphose in “magnitude” and configuration, others mysteriously “vanish” or seem “new-comers”—it becomes difficult, if not impossible, to track them. The observer can proceed only upon “suspicious[ion].” He cannot be sure which stars are truly “new-comers” and which might have been missed; which have definitively “vanish[ed]” and which “are lost out of *our sight*”; which are newborns and which in decay.

Occasions of beginning and ending are nearly impossible to mark, the distinction between the past, present and future vanishing as the forms of the night sky undergo continual change. This involution of the creative and the degenerative—of temporal and developmental forms—deactivates taxonomic vision and systematic order. The world transforms from an object of the subject’s possession into an entity that obstructs received knowledge and interrupts the observing, colonizing subject.

Thus, Herschel’s oeuvre is emblematic neither of totality nor taxonomic mastery. Tracking a restless universe whose metamorphosing voids condition all life, he envisions a world that diverges from the one imagined in Flamsteed’s star catalogues and Sir Isaac Newton’s *Principia* (1687). Surely, the catalogues do undertake a project of accumulation: they amass stars and track comets, plot planets and trace orbits. They document a lifetime of counting and classifying on an intergalactic scale, and would seem to tell a story of human progress and power over material nature. Yet, Herschel’s fascination with the cavernous face of the night sky underlines the open-ended and anti-systematic quality of his undertaking. Accumulative and telescoping, Herschel’s oeuvre posits its own taxonomic incompleteness and, by extension, a world that is open in both extent and contents.

¹⁸ Herschel, “On the proper Motion of the Sun and Solar System,” 115.

¹⁹ *Ibid.*

The catalogues revel in—rather than mechanize or contain—the disruptive capacity celestial forms, envisioning how a new world-system irrupts from within them. Herschel neither describes the world as it superficially appears nor attempts to take possession of it. His catalogues do not reify the closed systems toward which science had formerly progressed but instead map another, more open world-order that conveys alternative potentialities for subjectivity, for imagination, for science.

These potentialities come to the fore in Herschel’s speculative musings, some of which center on the void as an experimentalist form. In an essay titled “On the Utility of Speculative Inquiries” (1780), Herschel defends the value of “a speculative turn of mind” both to science and to “mankind.” As he understands it, the “speculative turn” does not coincide with the German Romantic tradition, but rather connotes a metaphysical engagement with the world and its forms. Arguing that “the superior intellectual powers” of the human mind are “improved by the frequent exercise in speculative researches,” he suggests the most beneficial “experiments” follow through on the implications of their data “to draw general conclusions” that are more global in scope. A “general conclusion,” for Herschel, is not totalizing or imperial in its aims. Rather, it considers the metaphysical and ethical implications a scientific experiment might hold for the world and its beings. Thus, he argues that such conclusions are imbued with a visionary “wisdom”: they inform our sense of “duty towards the Author of our existence, and to our fellow creatures.”²⁰ Here, it is telling that the word “speculation” connotes the act of seeing and, more specifically, that of observing the stars, while at the same time referring to a contemplative mode of thought that is abstract, conjectural, imaginative. While Herschel in other essays warns against conjecturing to such an extreme that we end up “build[ing] worlds of our own” and “going wide from the path of truth and nature,” he

²⁰ Herschel, “On the Utility of Speculative Inquiries” (1780), lxxxiii.

nonetheless understands speculation as necessary for considering the possibilities—including the existence of extraterrestrial life—which coincide with a more capacious vision of the world.²¹

Herschel employs conjecture in his own scientific writing to better understand natural phenomena, including the gaping forms of the heavens. Having described the formation of “great cavities or vacancies,” for instance, he wonders whether the universe “tend[s] to a general destruction, by the shock of one star’s falling upon another.”²² Troubled by the possibility of a decaying heavens, Herschel turns to speculative inquiry in an essay titled “On the central Powers of the Particles of Matter” (1780) to imagine a force that might keep the universe in balance. This force is a projectile power that might counteract the force of gravity, “which must otherwise in time, tho’ perhaps not in many thousand ages, destroy that equilibrium.”²³ But Herschel cannot verify the existence of such a force using material evidence. His claim that it exists, in other words, is purely speculative: “I say, that such a power does *not* exist, is by no means clear to me.” Turning a conceptual gap to his advantage—an utter lack of proof one way or the other—Herschel is at his most radical when occupying spaces of conceptual ambiguity. Later essays will continue to linger in these spaces, taking them as experimental points of departure. One of these essays conjectures that the ever-expanding voids of the universe make visible a reparative form of destruction wherein decay is “the very means by which the whole is preserved and renewed.”²⁴ Here, the fictive or visionary character of astronomy as a science is on display. “[I]reating phenomena that are inaccessible or difficult to observe,” as Frédérique Aït-Touati puts it, astronomy is unique because it “makes deliberate use of the imagination.”²⁵ For Herschel, astronomy is a deeply imaginative enterprise that opens up new forms and potentials for the world. His catalogues, I argue, are as

²¹ Herschel, Herschel, “On the Construction of the Heavens” (1785), 225.

²² Ibid.

²³ Herschel, “On the central Powers of the Particles of Matter” (1780), lxxv.

²⁴ Herschel, “On the Construction of the Heavens” (1785), 225.

²⁵ Frédérique Aït-Touati, *Fictions of the Cosmos*, trans. Susan Emanuel (Chicago: University of Chicago Press, 2011), 10.

concerned with the speculative as they are with the scientific. They do not seek to englobe the cosmos in scientific law. Instead, they reveal a world whose open and yet touching contours convey novel patterns of relation, of motion, of becoming.

Deep Space, Blank Verse, Interstellar Touch

Anna Letitia Barbauld's "A Summer Evening's Meditation" imagines a heavens that, like Herschel's, is profoundly open in its structure and capacities. Published in 1773, the poem traces a skyscape that does not estrange the terrestrial onlooker, but rather remaps the speaker's world as it opens up a series of unexpected intimacies. Critics of the poem have situated it in a tradition of astronomical poetry that is concerned with the aesthetics of numerosity. These readings tend to privilege the poem's Enlightenment contexts. Penny Bradshaw, for instance, argues that Barbauld's poem employs astronomy to stage a critique of the Enlightenment's emphasis upon scientific advancement and progress.²⁶ Understanding the poem in Newtonian terms, Janowitz reads its vision of the night sky as sublime: "The skyscape becomes something strangely alienated from the mind: unreciprocal, natural yet inhuman, mineral, visually unintelligible, and unmoored from the conventions of the Aristotelian intelligibility of the 'Book of Nature' as the visible language of Divinity."²⁷ These accounts are suggestive of what Daniel Watkins describes as the poem's largely "philosophical" vision, which he argues fails to account for its own bearing upon "lived experience."²⁸ But the politics of Barbauld's world-vision, I argue, take shape through a structuring principle much different from plurality: void. Her poetic rendering of "starless regions" constructs multiple interrelations between subject and object, individual and collective, self and world. So

²⁶ Penny Bradshaw, "Gendering the Enlightenment: Conflicting Images of Progress in the Poetry of Anna Letitia Barbauld," *Women's Writing* 5.3 (1998): 353-71.

²⁷ Janowitz, "Poetic Commonplaces of the Sublime Universe," 471.

²⁸ Daniel Watkins, *Anna Letitia Barbauld and Eighteenth-Century Visionary Poetics* (Baltimore: Johns Hopkins University Press, 2012), 186.

understood, the poem offers us an ecological world-vision that gathers its political strength not from the structuring principle of interconnection or what Timothy Morton would call “the mesh,” but rather from its experimentalist turn to the open forms of nature and their de-familiarizing function.²⁹ Re-writing the subject by way of the celestial, Barbauld imagines a world whose formal and scalar variability provides alternatives to received models of space and time, as well as individual and collective life. The poem thus participates in a Romantic tradition of world-making that re-routes our understanding of nineteenth-century cosmopolitanism by way of its enlarged and, indeed, capacious vision of nature.

“A Summer Evening’s Meditation” employs the forms of poetry to imagine the massive expanses of celestial nature. These expanses take initial shape through images of closure, such as the fixed movements of sun and moon, whose spherical bodies vie for a place in the skies. As figured in the poem’s opening lines, the skyscape takes the form of a “concave” dome or “sphere” over which the stars move equidistantly and uniformly.³⁰ Formal closure is embodied, too, in the juxtaposition of sun and moon, figures for a closed and dialectical world-system. “The sultry tyrant of the south” sinks beneath the horizon as “DIAN’S bright crescent” vies for her transitory spot in the nighttime sky (1 and 7). Here is a vision of the heavens that is unchanging in its order. Bound in an eternal struggle, sun and moon rise and set in a monotonous and never-ending dance. As such, the world of the speaker-observer is a fixed container—a closed circuit wherein the same celestial events that were the markers of daily life in ancient times will continue as such in present and future, regardless of a person’s particular position in space and time. Thus, the measured motions of celestial bodies

²⁹ Timothy Morton, *The Ecological Thought* (Cambridge, MA: Harvard University Press, 2010).

³⁰ Anna Letitia Barbauld, “A Summer Evening’s Meditation,” *The Poems of Anna Letitia Barbauld*, ed. William McCarthy and Elizabeth Kraft (University of Georgia Press), 24 and 6. All subsequent references to the poem are taken from this edition and will be cited parenthetically in the main text.

across the “blue concave” (24) are themselves indicative of a kind of form whose mechanics are beautifully regular and whose structure is akin to a perfect, sealed sphere.

But Barbauld does not linger on this sense of organic totality for long. Instead, she goes on to develop a very different, less masterful world-vision. Embarking on a space odyssey of sorts, Barbauld’s speaker catapults beyond the “boundless blaze” (27) of the night sky and into “the suburbs of the system” (78), eventually coming to a halt in “the trackless deeps of space” (82). A “hand unseen” wills her to travel past “habitable nature”—the boundaries of the known universe and the very limits of life—to a region

far remote,
To the dread confines of eternal night,
To the solitudes of vast unpeopled space,
The deserts of creation, wide and wild;
Where embryo systems and unkindled suns
Sleep in the womb of chaos. (92-7)

Here, Barbauld imagines the heavens as defined just as much by its void-space as its numerosity.³¹ At its center is a strange, yawning chasm—a rent in the fabric of the skyscape whose “dread confines” are sites of celestial genesis. Recalling a classical association between “chaos” and the fecund dating back to the cosmo-mythology of ancient Greece, void-space is conceived here not simply as a source of pure anarchy, but rather as a “womb” whose mechanisms undo the binding physics of a Newtonian world. Invested with a deeply formative power that is as generative as it is destructive, this celestial void unleashes chaotic energies which birth “embryo systems and unkindled suns” from the “dread” depths of “unpeopled space.” Figured as analogous to the female body in both form and force, the gaping “womb” described here does not tend toward closure. Instead, it is paradoxically open in “confines.” These gaping contours are engines of cosmic evolution: they bring the seeds of cosmic “creation” to fruition.

³¹ The language of this passage recalls John Milton’s description of Chaos in *Paradise Lost* (1667), who alongside Chance conjures “Worlds” upon worlds from a “wilde Abyss, / The womb of nature” (2.916 and 910-1).

Drawing an analogy between void space and the “womb,” Barbauld’s poem conceives women’s bodies—specifically, their open forms and reproductive capacities—as the emergent structures of a transformed world. The language of “chaos” and devastation conveys the radical capacity of these open forms to subvert those mechanistic and sublime world-visions that colonize the observer’s body and mind. The “wide and wild” forms of Barbauld’s sexed cosmos resist systematization and enclosure, their shaping force eluding and even exploding orderly visions of the heavens. Thus, I argue that Barbauld’s speaker soars into space not “to establish the limits of the solar system,” as Dometa Wiegand suggests, but rather for precisely the opposite reason: to put those limits into question and even to demolish them.³² Calling to mind the “cavities” and “vacancies” to which Herschel’s writings ascribe both powers of “general destruction” and regeneration, the womb-like void of “A Summer Evening’s Meditation” possesses the power to both destroy the universe as we know it and supplant it with some other, more radical system of organization.³³ For Barbauld, the void facilitates a moment of profound—and unexpected—affinity between its female speaker and an open heavens. Here, the kinship of otherwise distinct categories—woman and heavens, subject and world—puts into question the notion that the Romantic skyscape was a source of sublime alienation.

This vision of an open world is asserted on formal, as well as conceptual, registers. Spanning a short 123 lines, the poem makes use of the elastic affordances of poetic form to create a cavernous space for imagining the heavens above. In particular, Barbauld’s manipulation of blank verse—a system of asymmetries and gaps, pauses and oscillations that is open as rhymed verse is not—materializes these celestial expanses on the page. The formal features of blank verse counteract the

³² Dometa Wiegand, “Barbauld: ‘Embryo Systems and Unkindled Suns,’” *The New Science and Women’s Literary Discourse: Prefiguring Frankenstein*, ed. Judy A. Hayden (New York: Palgrave Macmillan, 2011), 210.

³³ Herschel, “On the Construction of the Heavens” (1785), 225.

closed world-vision with which the poem begins, creating instead a world that—like the “womb of chaos”—is open in form and potentiality. The very first line of the poem, for instance, takes shape through fissure: “’Tis past! The sultry tyrant of the south / Has spent his short-liv’d rage” (1-2). Most immediately, this line can be read as a simple declaration of the world’s passing into night. But the initial caesura which fractures the first line also announces the poem’s purpose: to imagine a much different world than the Newtonian one, wherein sun and moon trace the contours of a mechanistic world-system. The poem’s inaugural line employs the caesura as a mechanism of rupture, announcing from the outset its interest in unbounded world-forms.

For Barbauld, enjambents are also sites of formal experiment. One of its most disruptive instantiations occurs just after the speaker’s mention of “the gates of day”:

The shadows spread apace; while meeker’d Eve
Her cheek yet warm with blushes, slow retires
Thro’ the Hesperian gardens of the west,
And shuts the gates of day. ’Tis now the hour
When Contemplation, from her sunless haunts,
The cool damp grotto, or the lonely depth
Of unpierc’d woods, where wrapt solid shade
She mused away the gaudy hours of noon,
And fed on thoughts unripen’d by the sun,
Moves forward... (14-23)

Here, enjambment implements a gap in the middle of a verse paragraph, echoing the formal counterargument embodied in the poem’s inaugural caesura. The cessation of the line mid-paragraph reiterates the rupture with which the poem began as it negates the image of closure (the “shut[ting] gates of day”) that precedes it. A new world-vision wells up in the interstices between enjambed lines as the poem’s succinct description of closure gives way to an effervescent image of “Contemplation” (18) that billows and swells over some fourteen lines, initiating a more speculative line of thought.

Like enjambments, end-stops are sources of formal commentary. Under the wing of Contemplation, the speaker “fe[eds] on thoughts unripen’d by the sun” and turns her eyes toward

the night sky. In the first of the poem's free-flowing verse-phrases, the concluding end-stopped line performs important formal work, the pause that follows it bespeaking the forms of celestial nature and their relationship to the terrestrial spectator:

...one by one, the living eyes of heaven
 Awake, quick kindling o'er the face of ether
 One boundless blaze; ten thousand trembling fires,
 And dancing lustres, where th' unsteady eye
 Restless, and dazzled wanders unconfin'd
 O'er all this field of glories: spacious field! (25-30)

The "spacious field" upon which the speaker looks might here appear delimited or circumscribed by punctuation. I suggest, however, that Barbauld's end-stop achieves precisely the opposite: positioning the reader upon the brink, the line's cessation materializes the capacious and infinite scale of the heavens on the page. The line break, in other words, conveys the boundless sprawl of the heavens, its sudden drop-off provoking the same sense of vertigo that one might experience if standing upon the edge of a vast crevasse.

The pause that follows resonates with the language of the "unconfin'd" eye developed in the lines prior. Demonstrating the visionary possibilities of a heavens that is "boundless" or open in form, the end-stop functions as a moment in which the eye of the mind is unmoored from the confines of the verse-paragraph. But this eye is not indicative of a desire to possess the world upon which it looks. Here, blank verse fissures the association between seeing and imperial mastery, figuring the organ instead as "unsteady" in its mechanics and disruptive in its function. The "unsteady" and "unconfin'd" vulnerability of the speaker's eye intersects with the "trembling fires" and "dancing lustres" of the heavens' forms, performing the visionary possibilities of this disunification. Both eye and skyscape are figured as deeply affective in their corporeality, their forms vibrating with fragility. Such images counter those of "boundless" and mechanic stability—such as the seamlessness of the "spacious field"—suggesting instead a world uncircumscribed and porous in

form. In this way, Barbauld's "A Summer Evening's Meditation" employs blank verse and its inner network of pauses as an invitation to luxuriate in new imaginative possibilities for the world.

For Barbauld and other eighteenth-century poets, the politics of blank verse resonated with the model of "world" imagined in "A Summer Evening's Meditation." That blank verse is politically charged is evident in the contents of *Poems* (1773), the volume in which Barbauld's poem first appeared. Of the 33 poems published in the first edition of her first book of verse, only two are rendered in blank verse: "Corsica" and "A Summer Evening's Meditation."³⁴ Of all the poems in the volume, these are the most radical. Opening with "Corsica"—which employs geological science to tout the revolutionary cause of an "unconquer'd isle" in the Mediterranean—*Poems* closes with "A Summer Evening's Meditation," the astronomical and political analog of "Corsica." Bookended by blank verse compositions, *Poems* aligns this particular verse form with an emphatically revolutionary world-vision. This holds true when considered in the context of Barbauld's oeuvre as a whole. In comparison to her vastly preferred verse forms—the heroic couplet and balladic structures—blank verse compositions comprise a much smaller portion of her poetic works.³⁵ While over time Barbauld's use of the form expands to include dedicatory and elegiac poetic addresses, she continues to employ it on behalf of her politics, such as her critique of gender in "Washing-Day" (1797) and her egalitarian vision of human / nonhuman relations in "The Caterpillar" (1825). And when Barbauld marshals closed forms, such as the heroic couplet, she does so in ways that reinforce my reading of blank verse and its anti-Newtonian politics. Using the heroic couplet to condemn the bondage of slaves and the chokehold of empire in the "Epistle to William Wilberforce, Esq. on the Rejection of the Bill of abolishing the Slave Trade" (1791) and *Eighteen Hundred and Eleven* (1812),

³⁴ This chapter is primarily concerned with the first edition of *Poems*. Later editions were printed in octavo, rather than quarto, format and expanded to include the "Epistle to William Wilberforce," which displaced "ASEM" as the volume's concluding poem.

³⁵ Of the 169 poems in McCarthy and Kraft's edition of Barbauld, 19 are blank verse compositions.

Barbauld mobilizes poetic form to trace the fallout of a globe so enclosed. Antithetical to the “Epistle” and *Eighteenth Hundred and Eleven* in its form, blank verse compositions such as “A Summer Evening’s Meditation” occupy one side of a formal dichotomy that, for Barbauld, is highly politicized.

Barbauld’s politicization of blank verse is not anomalous, either. Critics from Samuel Johnson to Cornelia Pearsall have argued that blank verse is especially powerful (and potentially dangerous) for how it undercuts disciplinary forms that would seek to contain the world.³⁶ Perhaps most famous in the political history of blank verse is Milton’s theorization of the form in the preface to *Paradise Lost* (1667), which Henry Weinfield situates in a Romantic tradition of “free-thinking” that derives its power from “the possibilities of asymmetry.”³⁷ Milton sets blank verse against rhyme, which he calls “the Invention of a barbarous Age.” Rhyme, according to Milton, tends toward closure, discipline, totalitarian order: it is a “vexation, hindrance, and constraint” to poets, a product of unchallenged “Custom” or tradition, a system whose “apt Numbers, fit quantity of Syllables,” and “jingling” endings bring comfort to those who would like things to remain ordered as they are. Situated against rhyme, blank verse is that which will administer a healthy dose of chaos to the world. Unleashing a host of asymmetries that undo the “jingling” uniformity of rhyme, it is an instrument of “ancient liberty”: a reservoir of political potential through which to counter the “modern bondage of Rimeing” and its homogenizing force.

Other Romantic sources expand upon Milton’s conception of the structures and affordances of blank verse. An 1802 “Essay on Blank Verse” published in *The Weekly entertainer*, for instance, conceives blank verse as a subtle negotiation of “pauses,” the “varying and adjusting” of which

³⁶ Cornelia Pearsall, “Blank Verse and the Expansion of England: The Meter of Tennyson’s *Demeter*,” *Meter Matters: Verse Cultures of the Long Nineteenth Century*, ed. Jason David Hall (Columbus: Ohio University Press), 217-36.

³⁷ Henry Weinfield, *The Blank Verse Tradition from Milton to Stevens: Freethinking and the Crisis of Modernity* (Cambridge: Cambridge University Press, 2012), 2 and 1.

require “the utmost attention...and the nicest ear.”³⁸ Johnson also describes blank verse as defined in particular by the structuring principle of the pause in his *The Lives of the English Poets* (1795).

Describing the mechanics of “the English heroick line,” he argues that this verse-form is unsuccessful “unless all the syllables of every line co-operate together.” He continues:

this co-operation can be only obtained by the preservation of every verse unmingled with another, as a distinct system of sounds; and this distinctness is obtained and preserved by the artifice of rhyme. The variety of pauses, so much boasted by lovers of blank verse, changes the measures of an English poet to the periods of a declaimer; and there are only a few skillful and happy readers of Milton, who enable their audience to perceive where the lines end or begin. *Blank verse*, said an ingenious critic, *seems to be verse only to the eye*.³⁹

Johnson understands the gaps that pockmark blank verse as sources of ambiguity, their elusive soundings lacking the finality of rhyme. Pauses are described as inhibiting “co-operation”—as disordering the “system of sounds” that is poetry and thus mucking up its “artifice.” Johnson’s use of the word “declaim” is especially significant, here. As a system of pauses, blank verse is figured as an agitating and disruptive form. It is the form of choice for the political poet, its breaks and halts transforming poetic speech into rhetorical elocution. In blank verse, the pause becomes a source of protest, its silent suspense offering a vehicle for forceful declarations and condemnations.

The blank verse form is dangerous not only for its capacity to disrupt the organic coherence of poetry, but also the imagination. In “On Blank Verse” (1776), published in the same decade as Barbauld’s *Poems*, an anonymous essayist deplores the political possibilities entrenched in blank verse:

The advantages which rhyme has over blank verse, are so many, that it were lost time to name them...the help it brings to memory; which rhyme so knits up by the affinity of sounds, that by remembering the last word in one line, we often call to mind both the verses...But the benefit which I consider most in it, because I have not seldom found it, is that it bounds and circumscribes the fancy: for imagination in a poet, is a faculty so wild and lawless, that like an high ranking spaniel, it must have clogs tied to it, left to outrun the judgment. The great easiness of blank verse renders the poet too luxuriant.⁴⁰

³⁸ “On Blank Verse,” *The Weekly entertainer: or, Agreeable and instructive repository* (London, 28 June 1802), 510.

³⁹ Samuel Johnson, *The Lives of the English Poets* (London, 1795), 229.

⁴⁰ “On Blank Verse and Rhyme,” *The Town and country magazine, or, Universal repository of knowledge, instruction, and entertainment* (London, June 1776), 316.

The essayist figures blank verse in opposition to what Johnson calls “co-operation”—to order, both within the text and without. Roping in the visionary capacities of the mind, rhyme subjects the imagination to bondage. Commanding a centripetal force that “knits up” the world and its possibilities, these forms make of it one “circumscribe[d]” whole. Rhyme brings the poet to order just as an undisciplined and “high ranking spaniel” is tamed by “clogs.” “[T]oo luxuriant” in imaginative and political potentiality, blank verse poses grave danger to the “circumscrib[ing]” or totalizing systems of the world embodied in the closure of rhyme. The porous structures of blank verse—the gaps that take shape through its enjambments and end-stops—threaten to loose the world from its disciplinary tethers. Thus, Barbauld’s decision to compose “A Summer Evening’s Meditation” in blank verse was, I argue, a political one. It conveys the “lawless” formal and political ambitions encapsulated in the poem’s vision of “world.” As a network of pauses and gaps, the blank verse form announces from the outset what the language of the poem will go on to assert: that we might imagine a world whose unruly forms embody an equally “wide and wild” politics.

In addition to its form, the poem’s format facilitates Barbauld’s political world-vision. While it might seem a stretch to read print format in formal terms, I argue that the original layout of the 1773 edition of “A Summer Evening’s Meditation” is an integral formal feature of the text. This is not to say that Barbauld engineered the volume with the help of her publisher, Joseph Johnson, so as to ensure the formatting of *Poems* would coincide with its content. Rather, I am arguing that we consider how common practices in eighteenth-century publishing might unwittingly resonate with the arguments of the texts they structure. As Caroline Levine suggests, the “material shape” of a literary work—in the case of the novel, “its size, binding, volume breaks, margins, and typeface”—are no less fundamental to a formalist reading than are perhaps more traditional formal elements, such as narrative or meter.⁴¹ Catchwords and page breaks—like caesurae, enjambments and end-

⁴¹ Caroline Levine, *Forms: Whole, Rhythm, Hierarchy, Network* (Princeton: Princeton University Press, 2015), 1.

stops—convey Barbauld’s open sense of the world. The speaker’s vision of “[o]ne boundless blaze,” for instance, might seem indicative of a unified and totalizing world wherein all parts are accounted for and working in cooperation with one another. But a page break fractures this sense of continuity (see Figures 1 and 2). The phrase “one boundless blaze” is fissured in two by the gap between pages and the insertion of a catchword—“One”—that makes a multitude of what was initially a unity. The catchword is pluralizing in function, materializing a fractured image of celestial nature on the page. Here, the material shape of Barbauld’s poem collides with the singular form of a “boundless” heavens. In this way, the format of “A Summer Evening’s Meditation” sometimes gestures to the plural and open world that Barbauld figures in the poem as a “womb of chaos.”

Not only do the structures of blank verse and print format resonate with this world-vision, but they also point toward new forms for subjectivity and for material relations. They suggest an alternative blueprint for the self—a new and more capacious cartography of subjectivity. This model of subjectivity is theorized in opposition to the normative model, which posits the self as totalizing and centripetal in structure:

At this still hour the self-collected soul
Turns inward, and beholds a stranger there
Of high descent, and more than mortal rank;
An embryo GOD; a spark of fire divine,
Which must burn on for ages, when the sun,
(Fair transitory creature of a day!)
Has clos’d his golden eye, and wrapt in shades
Forgets his wonted journey thro’ the east. (53-60)

The speaker describes her self as a “self-collected” nucleus of individual being that commands a gravitational pull. It gathers the self into itself, producing a singular, consolidated and legible locus of identity. But this more familiar model of subjectivity is soon problematized. Turning inward, the speaker discovers a protean “stranger” who troubles the impermeable contours of the “self-collected soul.” Like the “unsteady” and “unconfined” eye, the “I” is disrupted to reveal a self that is plural and diffuse. In language that anticipates her womb-like vision of the heavens, Barbauld figures this

stranger as an “embryo GOD.” She traces a self that is open—rather than enclosed or coherent—in form and which is thus structurally akin to the capacious “womb of chaos” from whence all things are birthed.

The formal connotations of the word “embryo” facilitate the poem’s imagining of an unconsolidated subject. “Theories of embryogeny,” as Eve Keller argues, here “engage questions about the *contours* of human identity.”⁴² Eighteenth-century definitions of “embryo” are frequently situated in formal opposition to “fetus,” the latter being construed as determined and perfect in form. Johnson, for instance, defines “fetus” as the “perfectly formed” child in utero, while “embryo” designates a changeful and elusive moment of formal development wherein structural clarity is absent. Chambers’s entry for “embryo” describes it as “the first Beginning, or Rudiments of the Body of an Animal, in its Mother’s Womb, before it have received all the Dispositions of Parts, necessary to become animated.”⁴³ A mere “beginning,” the embryo is structurally rudimentary and undeveloped. Though suggestive of some ultimate and “animated” body, it thus nevertheless connotes a formal indeterminacy or, rather, possibility. The embryo in this way embodies “potential forms.”⁴⁴ Eighteenth-century epigenesis science argued precisely this point. Contra theories of pre-existence and preformation, which understood embryonic development as a determinate process that operates the same across all bodies and is settled prior to the moment of conception, epigenesis science emphasized what Keller describes as processes of “*sequential* production” and “an originally *homogeneous* substance.” But the embryo, according to epigenetic theory, is imbued with potentiality. Its development is gradual and variable, differing with each embryo, whether by a little or by a lot.⁴⁵ Embryonic indeterminacy, moreover, was radical in its aesthetic and political potentials,

⁴² Eve Keller, “Embryonic Individuals: The Rhetoric of Seventeenth-Century Embryology and the Construction of Early Modern Identity,” *Eighteenth-Century Studies* 33.3 (2000): 323. Emphasis mine.

⁴³ Chambers, *Cyclopædia*, volume 1, 298.

⁴⁴ Wiegand, 210.

⁴⁵ Keller, 331-2.

as Stefani Engelstein illustrates in her reading of William Blake's *The Book of Urizen* (1794).⁴⁶ Thus, while not strictly formless, the embryo represents a powerful formal mobility which Barbauld invokes to theorize a centrifugal notion of self.

Barbauld employs the language of the embryo, both in "A Summer Evening's Meditation" and elsewhere in her oeuvre, to develop this notion of subjectivity. In "To a Little Invisible Being Who is Expected Soon to Become Visible" (1825), she conceives the embryo as amorphous both in its physiological form and narrative trajectories.⁴⁷ The embryo is figured in this poem as a "germ" (1), its "curious" or indeterminate "frame" imbued with a multitude of possibilities for the "powers" (5) to be unleashed and the events to follow once the unborn child "Launch[es] on the living world" (30). But perhaps most significant are the parallels between the interrelationship of mother and embryo in "To a Little Invisible Being" and that of speaker and self in "A Summer Evening's Meditation." Like the speaker of "A Summer Evening's Meditation," who discovers a "stranger" within, "To a Little Invisible Being" posits the "curious" creature in utero as a "stranger guest" (23). Here, pregnancy is imagined as a process through which, as Julie Kipp argues in her study of Romantic maternity, a woman "become[s] something other than which she had been prior to her pregnancy"—she is "Other, rather than mother."⁴⁸ For Barbauld, the embryo points toward a self that is paradoxically "Part of [the] self, yet to [the] self unknown" (22). It unveils the "curious" and strange capacities of a body that is the mother's even as it operates beyond or out of her control—of a self that is and is not oneself, that is riddled with an ineradicable and self-fissuring strangeness. The very title of the poem, "To a Little Invisible Being Who is Expected Soon to Become Visible,"

⁴⁶ Stefani Engelstein, "'Natural' Reproduction and Reproducing Nature," *Anxious Anatomy: The Conception of the Human Form in Literary and Naturalist Discourse* (Albany: State University of New York Press, 2008), 61-112.

⁴⁷ Barbauld, "To A Little Invisible Being Who is Expected Soon to Become Visible" (1825), *The Poems of Anna Letitia Barbauld*. All quotations are taken from this edition and will be cited parenthetically in the text.

⁴⁸ Julie Kipp, *Romanticism, Maternity, and the Body Politic* (Cambridge: Cambridge University Press, 2003), 6.

emphasizes this defamiliarizing potentiality. The embryo is “invisible” or illegible in structure and, thus, exceeds that which is probable, fore^{seeable}, “Expected.”

Both poems thus figure the embryo as resistant to the dissecting and violent mode of vision at work in late eighteenth-century studies of pregnant women’s bodies, such as William Hunter’s *Anatomia uteri umani gravidi* (1774), a text rife with grisly illustrations of dismembered female torsos in various states of pregnancy.⁴⁹ Instead, Barbauld emphasizes the invisible forms and contingent processes of female corporeality that destabilize scientific vision and its taxonomies. By dwelling upon the “wide and wild” autonomous biological processes that take hold of the female body in maternity—processes that are simultaneously inextricable from the mother and yet lie beyond her purview—Barbauld gestures to a sense of body and self that are as unfamiliar as they are intimate, and which behave in ways that are otherwise disallowed or foreclosed. I argue that Barbauld invokes the embryonic in “A Summer Evening’s Meditation” to draw on precisely this sense of formal possibility. Positing the speaking “I” as embryonic in structure—and, thus, as antithetical to “self-collected,” enclosed and consolidated forms of normative subjectivity—the poem develops a notion of self that is diffusive and multi-directional. This new model of subjectivity is indeterminate and diffusive: it fractures and pluralizes subjectivity into “stranger” forms, freeing the speaker from closure. In this sense, the “stranger” within is, as William McCarthy argues, the speaker’s “Epicetan self, the self that cannot be contained or constrained.”⁵⁰ “A Summer Evening’s Meditation” thus invokes the language of the embryo to envision previously foreclosed forms of being that tend toward the centrifugal over the centripetal, the diffusive over the “self-collected,” the nebulous over the determinate.

⁴⁹ See Engelstein for a discussion of Hunter’s *Anatomia* and its critique in Blake’s *Urizen*.

⁵⁰ William McCarthy, *Anna Letitia Barbauld: Voice of the Enlightenment* (Baltimore: Johns Hopkins University Press, 2008), 95.

Barbauld's anthropomorphic figures extend this argument. As she figures the distant forms of the heavens as personified beings, the speaker constellates her self across the vast expanse of the night sky. These moments of self-identification with the alien bodies of the skyscape suggest a model of subjectivity that is dispersed and diffuse in form. The poem envisions the expanse of the night sky, for instance, as akin to the human face. At nightfall, "one by one, the living eyes of heaven / Awake, quick kindling o'er the face of ether" (25-6). This celestial face—like the human face—is a "living" and expressive instrument of affective intercourse. Yet, it is also unfamiliar in its cartography. A plurality of free-floating eyes, its contours are open and scattered, its mien dispersed across vast tracts of space. Nevertheless, the speaker self-identifies with the many-eyed organism upon which she looks. Their gazes meet, the glow of "living" orbs joining the speaker's "unconfin'd" eye in a moment of interplanetary communion that reconfigures vision as a mechanism of touch instead of possession. This anthropomorphic line of thought carries through the remainder of the poem as the speaker goes on to posit the existence of "A tongue in every star that talks with man, / And woos him to be wise; nor woos in vain" (49-50). The poem reaches its climax as the speaker discovers a gaping "womb" in the deeps of space. As she imagines the heavens as a fragmented version of her own body and mind—a jumble of organs that are inextricable from her interiority—the speaker thus sheds her "self-collected" form to become multiple and fractured. Through this act of self-fissure, the speaker enters into communion with her world and its myriad forms. Barbauld imagines openness as, perhaps surprisingly, a throughway to unanticipated intimacies—as a conduit through which to establish new ecologies of kinship. When Barbauld's speaker looks upon the night sky, she finds a self that is capacious and plural in form, familiar and alien in its attachments, porous to the world.

Nowhere is this argument more palpable than in the poem's erotic undertones, through which it participates in a tradition of erotically-charged popular writing on astronomy that stretches back to

Bernard le Bovier de Fontenelle's *Entretiens sur la pluralité des Mondes* (1686) and its "literary romance of night."⁵¹ This eroticism emerges most immediately from within Barbauld's anthropomorphic figures, which are symbolic of a touching and even pleasurable intimacy. Disembodied eyes, wombs, lips and tongues are constellated in the heavens, their forms "wooing" and romancing the observer. As the speaker turns inward, the poem's eroticism intensifies. Plumbing the depths of her "embryo" self, the speaker engages in the exploratory and profoundly intimate act of self-touch—an erotic reply to the open and slippery forms of her interiority and the skyscape with which they are analogous. While this act might seem egotistical or self-involved in its orientation, the defamiliarizing union of celestial forms and human organs in the poem suggests precisely the opposite. Rather than unfolding through the strictly policed order of subject and object or observer and observed, stargazing and self-touch are figured in "A Summer Evening's Meditation" as contemporaneous acts. Turning without so as to look within and in so doing gazing within so as to turn without, the speaker enters into an erotic communion with the heavens through a chiasmic exploration of world and self. Immersed in the "silent" and "hush'd" hours of night, the speaker couples with "Nature's self": her "rais'd ear, / Intensely listening, drinks in every breath. / How deep the silence yet how loud the praise!" (41-7). Silence gives way to ecstasy as the tranquility of the speaker's world makes audible a host of rhythmic entanglements. Listening to the hushed music of night—the whispering "rustles" of "thick-wove foliage"—the speaker becomes acutely aware of her body's own quiet music. She feels the circulatory pulses of blood and respiratory measures of breath. To commune with the self, here, is to couple with "Nature's self." These hushed, vibratory tempos make perceptible a deep ecology of kinship.

As the poem imagines a heavens that communicates with and among its beings through its vacancies, "A Summer Evening's Meditation" traces new forms for collectivity. Scholars have long

⁵¹ McCarthy, 45.

argued that Barbauld mobilizes astronomy to “imagine herself...a citizen of a more true and genuine country, the universe,” as McCarthy puts it.⁵² But I suggest instead that the poem envisions forms of collectivity that exist outside the bounds of the nation state and liberal personhood. Imagining a future in which her “soul” (62) has ascended to the “citadels of light” (61) upon which she looks, the speaker figures the heavens as brimming with multitudes of starry embryo souls. In their depths she discovers a distinctly alien collective of which she, as an “embryo GOD,” is a part. Multitudinous in contents and embryonic in structure, this protean collective is the product of a world wherein the boundaries between stranger and self are porous—a world in which the self is fissured across space and time, and so is interconnected with a profusion of otherworldly beings. At the same time, this notion of collectivity does not homogenize or flatten, but rather preserves material and formal particularity. It defamiliarizes even as it interconnects and, as such, conveys a model of sociopolitical organization that stand in stark contrast to the centripetal forms of nation and empire, Enlightenment citizenship and Newtonian mechanics.

This blazing collective is radical, too, for its intergalactic sprawl. As demonstrated by the poem’s careful distinction between the “boundless blaze” of planets and the “vast unpeopled space” that lies beyond, this multiverse is *peopled* with a multitude of organisms. Here, the poem invokes theories of cosmic pluralism, which suggested with certainty that other planets were occupied by alien and distinctly non-human life forms. Barbauld would have encountered these hypotheses at a very young age in her childhood French reader, Fontenelle’s *Entretiens sur la pluralité des mondes*. They were also confirmed in the work of her scientific contemporaries. Herschel, for instance, argued forcefully that the similarities between the sun and other theoretically life-bearing planets “leads us to suppose that [the sun] is most probably inhabited,” though most certainly “by beings whose

⁵² McCarthy, 54.

organs are adapted to the peculiar circumstances of that vast globe.”⁵³ Thus, when the poem marks a distinction between the “boundless” and life-bearing “blaze” that is its initial object of inquiry and the “vast unpeopled space” that lies beyond the “suburbs of the system,” it invites and lingers with the possibility of alien life. This distinction, in other words, marks the worlds that constitute the “boundless blaze” of the night sky as *peopled*.

This notion of a peopled, heterogeneous world is not isolated to “A Summer Evening’s Meditation” and, indeed, is an important component of Barbauld’s educational program for children. In *Hymns in Prose for Children* (1781), for instance, a child receives a lesson in telescoping that posits the Romantic skyscape as populated by alien life:

The earth has a variety of inhabitants; the sea, the air, the surface of the ground, swarm with creatures of different natures, sizes, and powers; to know a very little of them is to be wise among the sons of men.

What then, thinkest thou, are the various forms and natures and senses and occupations of the peopled universe?

Who can tell the birth and generation of so many worlds? who can relate their histories? who can describe their inhabitants?⁵⁴

Hymns invites its young readers to envision themselves as part of an extra-national and interspecies collective of living forms. The text focuses broadly on expanding the child’s ethical horizons to include not only the poor and disenfranchised, but also other nations and—as illustrated by Barbauld’s turn to alien “inhabitants”—other worlds. *Hymns* invites the child to imagine forms of subjectivity and citizenship that are capacious, distributed, ecological. The child discovers she belongs to a protean collective which unfolds across the vastly “different natures, sizes, and powers” of life. This is the very same collective envisioned in “A Summer Evening’s Meditation”—a collective rendered paradoxically tangible by way of the world’s vacuities. While Barbauld employs anthropomorphism to imagine alien life, this gesture neither reproduces an anthropocentric

⁵³ Herschel, “On the Nature and Construction of the Sun and fixed Stars” (1794), 479.

⁵⁴ Barbauld, “Hymn XI” (1781), *Anna Letitia Barbauld: Selected Poetry and Prose*, 255.

worldview nor assimilates “the various forms and natures” of the universe into conformity with the human form. Instead, as the poem’s anthropomorphic figures destabilize the subject, they at the same time defamiliarize—or denaturalize—the human form. In so doing, they present a model of collectivity that cuts across the myriad life forms found both on and off the earth. This collectivity is extra-national and distinctly feminist. It reaches through and beyond the limits of national belonging and Enlightenment citizenship. As such, it intersects with Barbauld’s poetic identity as an outsider or, perhaps, alien in her own country—so defined by her sex and her religion—and puts into question the normative categories of individual and public life.

Barbauld imagines this collective as inaugurated through the very same act of “reading” with which her speaker is engaged: stargazing. As she narrates the creation of the “spacious field” above, the speaker envisions “the master...whose hand / With hieroglyphics elder than the Nile, / Inscib’d the mystic tablet; hung on high / To public gaze, and said, adore O man! / The finger of thy God” (31-5). The reference to “the mystic tablet” might be interpreted in a number of ways. It refers perhaps most immediately to the Ten Commandments or the Bible itself. A second possibility—which though less obvious is authorized by the poem’s interest in astronomy and its mention of hieroglyphics—is those ancient Mesopotamian stones upon which astronomical observations and prophetic descriptions of comets were recorded. These tablets began to attract widespread interest in the late eighteenth and early nineteenth centuries, as illustrated by their mention in popular travel narratives and educational treatises. Priscilla Wakefield, for instance, describes such “ancient astronomical tables” in one of her educational texts intended for juvenile readers, *The Traveller in Asia* (1817). Wakefield’s narrator observes that these tablets are still used by the “Bramins” to “compose almanacks and foretel eclipses.”⁵⁵ And this referent points the way to a third and coexistent possibility: that “the mystic tablet” is the night sky itself, whose countless stars

⁵⁵ Priscilla Wakefield, *The Traveller in Asia* (London, 1817), 45.

are nature's "hieroglyphics." Here, Barbauld conceives the heavens as a "public" text, available to all readers regardless of sex, race, creed or nationality. Thus, "A Summer Evening's Meditation" not only understands astronomical forms as alternative models for collectivity, but also imagines those forms as the very texts through these models are promulgated.

The scope and mechanics of this astral text necessitate readerly travel and, in so doing, interweave the globe with patterns of kinship that disrupt the received cartography of nation. Unlike a printed text that is fixed on the page, the starry text of "A Summer Evening's Meditation" shape-shifts—its contents are in motion and provoke movement. Watching the "dancing" stars "slide along their lucid spheres," the speaker describes the contents of the night sky as mobile, the locations of its parts shifting through space and time. To read such a kinetic text, readers must travel. As Letitia Elizabeth Landon observes in her poem, "Night at Sea" (1839), written on her journey to Africa: "The very stars are strangers... / They shine not there, as here they are now shining."⁵⁶ Envisioning a similarly mobile and unfamiliar skyscape, Barbauld's poem points to a mode of reading that puts readers, rather than texts, into circulation. Just as Romantic astronomy revealed "a universe with *many* centers," as Henschman argues, so too does Barbauld's poem reveal a *text* and by extension a collective with many centers.⁵⁷ This collective materializes through the dual principles of motion and void: readers, like atoms, travel across vast distances so as to discover the stranger-stars in foreign skies and, by extension, distant persons from distant places. So imagined, the night sky is a book that facilitates kinship by way its capaciousness and voids. It bespeaks a world that is simultaneously strange and familiar, distant and touching, open and thus interconnected.

⁵⁶ Letitia Elizabeth Landon, "Night at Sea," *Letitia Elizabeth Landon: Selected Writings*, ed. Jerome McGann and Daniel Riess (Ontario: Broadview Press, 1997), 21-5.

⁵⁷ Henschman, 2.

In this way, Barbauld's poem asserts a powerful vision of social change that locates its shape in the open forms of the heavens and the transformative eroticism they make available. Analogous to the void-space of the womb, these structures and their affinity with the female body also gesture to the important political labor undertaken by women, whether as mothers who educate future citizens or writers whose interventions are staged in public print. Despite the poem's radical world-vision, however, scholars have long argued that "A Summer Evening's Meditation" is a narrative—and thus political—failure. This reading is premised on the fact that the speaker ultimately "drops her weary wing" and descends to her "known accustom'd spot" on earth. Such readings take these lines as admissions of visionary exhaustion: the speaker's powers of imagination, overcome by the sublime depths of space, involuntarily retreat and so put an end to the travel narrative. But I argue that these readings fail to track the temporality of the poem and how it positions Barbauld's political vision as realizable in future.⁵⁸ Upon returning to earth, the speaker occupies a space of temporal *suspension*—not termination, as scholars have argued. This is a space of ecstatic possibility. It marks a temporal pause whose erotic luxuriance does not bring the speaker's political world-vision to determinate failure, but rather ensures its longevity:

But now my soul unused to stretch her powers
 In flight so daring, drops her wear wing,
 And seeks again the known accustom'd spot,
 Drest up with sun, and shade, and lawns, and streams,
 A mansion fair and spacious for its guest,
 And full replete with wonders. Let me here
 Content and grateful, wait th' appointed time
 And ripen for the skies: the hour will come
 When all these splendors bursting on my sight
 Shall stand unveil'd, and to my ravished sense
 Unlock the glories of the world unknown. (113-23)

Occupying the space of what Robert Browning calls "the instant made eternity," Barbauld's "A Summer Evening's Meditation" comes to rest in a moment of sheer possibility.⁵⁹ The speaker

⁵⁸ See Janowitz, 489; Jones, 131; McCarthy, 95; Wiegand, 211.

⁵⁹ Robert Browning, "The Last Ride Together," *Robert Browning's Poetry*, ed. James F. Loucks and Andrew M. Stauffer (New York: W. W. Norton, 2007), 108.

“waits,” biding her time in a moment of stasis. Time stretches and slows, putting off the culminating narrative event until some unspoken and distant “appointed time.” The erotic character of this poetic event sustains the poem’s political vision as it transforms the speaker’s experience of body—and collectivity—on earth. Basking in “sun, and shade,” she is in total communion with material nature. She “ripen[s] for the skies,” her “ravished sense” positioned on the brink of visionary and perhaps even physical orgasm. I argue that, as it is amplified in this zone of erotic suspension, the temporal arc of “A Summer Evening’s Meditation” is not brought to a close but rather deferred. The poem’s last lines in this way foretell a future in which a “world unknown” will ascend and, with it, the possibility of “unlock[ing]” those forms of subjectivity and collectivity imagined elsewhere in the poem. Indeed, the protraction of narrative time, here, is itself a political strategy insofar as it defers transformation until the world is “ripe” for change.

Poetic forms work to amplify this sense of narrative suspension over the course of “A Summer Evening’s Meditation.” The repeated use of “and” in the final lines, for example, becomes a recursive, elastic refrain that works to draw out and turn back time—to prolong a sense of deep possibility for the world and thus elongate the poem’s political payoff. These formal techniques are not isolated to the poem’s conclusion. As Barbauld provides an outline of the speaker’s ascent into the heavens earlier in the poem, for instance, the repeated use of the word “from” functions to slow and even obstruct temporal progress. Even as the speaker moves from earth, to planets, to suburbs, to void, the recursive effects of anaphora stop up the flow of syntax and decelerate time. This technique carries into the moment wherein the celestial “womb” comes into view: anaphora (85-6 and 94-5) and alliteration (96-7) produce a vibratory rhythm that works against the engine of narrative as it creates pockets of temporal suspense. This technique produces a kind of rhythmic oscillation that obstructs narrative progress and heightens the poem’s sense of indeterminacy or openness. The poem’s form thus advances Barbauld’s political world-vision, removing the world

from the grips of narrative closure. So understood, “A Summer Evening’s Meditation” aspires to prophecy. As the poem’s final lines suggest, the ascendance of a new world is not a matter of “if.” It is, rather, a matter of “when” (121). In the meantime, the reader—like the speaker—occupies a space of ripening expectations for her world.

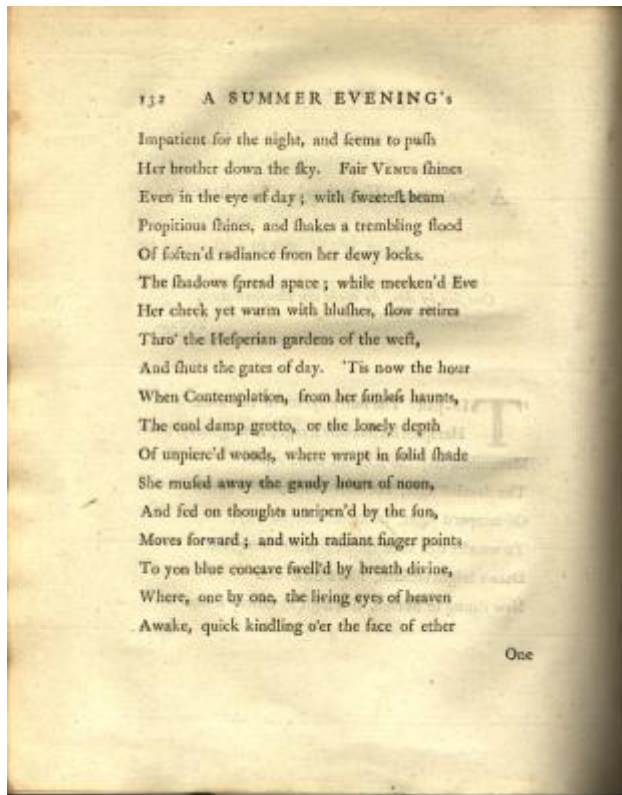


Figure 1. Anna Letitia Barbauld, "A Summer Evening's
 Meditation," *Poems* (1773).

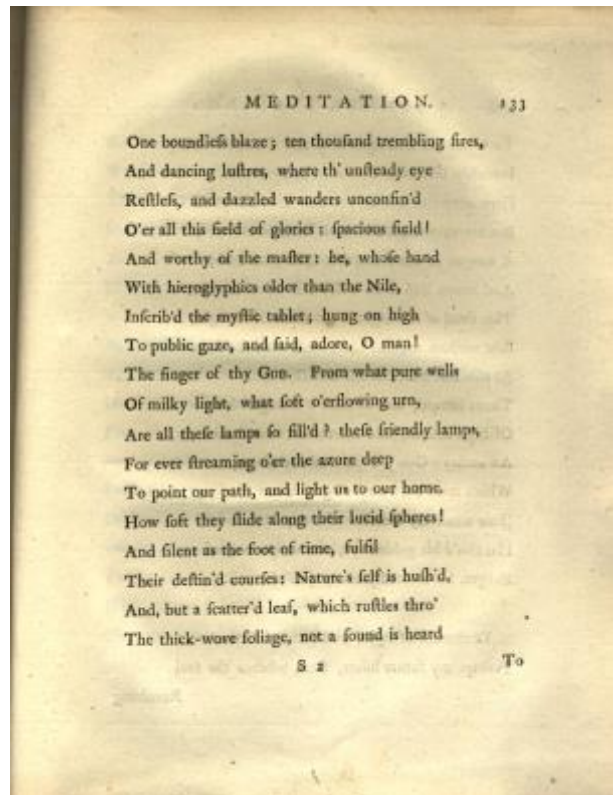


Figure 2. Anna Letitia Barbauld, "A Summer Evening's
 Meditation," *Poems* (1773).

FISSURE

This chapter reads William Blake's *America: A Prophecy* (1793) alongside James Hutton's *Theory of the Earth* (1788) to trace the fissured view of "world" emergent in Romantic geology and at issue in Blake's poem. Hutton's recognition that the history of the earth offers "no vestige of a beginning" and "no prospect of an end" radically altered the scale of time inherited from earlier writers.¹ This geohistorical model figured the planet as including multiple worlds whose dynamic forms and forces might disrupt gradualist theories of terrestrial change. Geological form here fissures the orderly succession of past, present and future. Blake and Hutton respond with different formal commitments to planetary fissure and the volatile energies it channels. Hutton—the grandfather of uniformitarianism—develops a successive, progressive, and uniform theory of the earth that would confine these forms and energies within a system of successive worlds. In this system, the terrestrial forces at work in the present connote the conditions of both past and future. As John Wyatt observes, it "trust[s]" in "a discoverable order, underpinned by discoverable laws."² I argue that, for Hutton, these "laws" proclaim a succession of future and equally orderly worlds. His theory of geologic time fixes the world and its futures firmly in place, as Blake does not.

In *America* Blake describes the earth as fissured and irruptive, rather than the engine of uniform change. Drawing on a catastrophist theory of geology, Blake conceives the earth's fissured forms as especially powerful throughways for political and prophetic energies that might circumvent the closed historical circuits of uniformitarian geology. Prophecy, as Ian Balfour puts it, "act[s] violently." In *America* it "explodes, erupts, disrupts, and even destroys."³ Mary A. Favret agrees,

¹ James Hutton, *Theory of the Earth*, 1788 (Darien: Hafner, 1970), 128. All quotations will hereafter be cited parenthetically in the main text. In this chapter, I occasionally cite the 1795 edition of Hutton's *Theory*. Parenthetical citations will specify the edition to which I refer.

² John Wyatt, *Wordsworth and the Geologists* (Cambridge: Cambridge University Press, 1995), 106.

³ Ian Balfour, *The Rhetoric of Romantic Prophecy* (Palo Alto: Stanford University Press, 2002), 25.

calling prophecy the work of “volatility and irrationality.”⁴ I argue that in *America* prophecy’s volatile power arises from its “generality”—its temporal and referential mobility, which Balfour marks as crucial to its efficacy in the Romantic period. This is not to say that prophecy produces a uniform and all-encompassing futurity, nor do I claim that it covers all possibilities. Like Balfour, I understand the “generality” of prophecy as resisting the “cognitive certainty that prophecy seems ultimately to promise.”⁵ Unmoored from the “promise” of a singular, fixed and predetermined future, prophecy opens to other, potential worlds in *America*. These worlds jostle against one another, disordering futurity and, by extension, closed systems of temporal succession.

My argument resituates the relationship between Blake and Hutton that other scholars have offered. Whereas Noah Heringman and David Worrall suggest that both Blake and Hutton imagined geological change as taking place gradually over time, I argue to the contrary that Blake challenges the uniformitarian model of terrestrial development and the world it imagines.⁶ Invoking a volatile geology that came to the fore most forcefully in the work of Georges Cuvier, Blake’s *America* imagines the geology of the earth’s formation not as what Wyatt calls a site of “discoverable order” and “discoverable laws.” On the contrary, for Blake the earth’s geological history promised to launch myriad worlds into orbit.

Uniformitarian Geology, “Open Structures,” Historical Form

In his *Theory of the Earth*, James Hutton asserted a geological conception of the planet that would, in the wake of Charles Lyell, be categorized as uniformitarian. Hutton conceived of the earth as a self-regulating organism governed by global processes of change that remain uniform over time.

⁴ Mary Favret, *War at a Distance: Romanticism and the Making of Modern Wartime* (Princeton: Princeton University Press, 2010), 84.

⁵ Balfour, 71.

⁶ Noah Heringman, *Romantic Rocks, Aesthetic Geology* (Ithaca: Cornell University Press, 2004) and David Worrall, “William Blake and Erasmus Darwin’s *Botanic Garden*,” *Bulletin of the New York Public Library* 79 (1975): 397-417.

His *Theory* radically expanded the chronologies of geohistory. Declaring geological time had “no vestige of a beginning” and “no prospect of an end,” its uniformitarian thesis offered humankind a means of seeing into the planet’s past and future by way of its present. Hutton suggested, in other words, that by establishing a theory of terrestrial law as it acts in the present, scientists could uncover the secrets of the earth’s history and its future. Confronted with natural formations that appeared to embody an especially volatile narrative of geological development in which catastrophe and contingency held sway, Hutton’s *Theory* attempted to intervene in scientific debates surrounding what Wyatt calls “visible discontinuities between one stratum and the next.” To explain these “discontinuities,” Hutton offered “[w]orld-wide hypotheses” that might “explain large-scale stratigraphic phenomena.”⁷ These hypotheses understand the planet as shaped by “general” (or universal) processes, and geohistory as uniform. Hutton’s uniformitarian perspective attempts to dispel concerns about temporal “discontinuities” or breaks of a catastrophic, unpredictable, uncontrollable nature. He therefore presents a “world” whose cyclicity might contain the forms and politics of fissure. Yet Hutton’s “succession” triggers a series of consequences that threaten to collapse his world-system. In what follows, I track these turns in Hutton’s syntax and the formal claims they make.

The successive notion of “world” developed in the *Theory* is both physical and temporal. Hutton traces a chronology of “world” by studying deep earth processes and their effects upon terrestrial formations. He argues that “it is by means of heat and fusion”—and not water—“that the loose and porous structure of strata shall be supposed to have been consolidated” (1788, 53). This process, he contends, occurs in the depths of oceans, where this material is “closed by means of softness and compression” or filled in by “foreign matter” that “may be introduced into the open structure of strata, in form of steam or exhalation” (1788, 54). What he calls “the open structure of

⁷ Wyatt, 39.

strata” makes room for “foreign matter” (or what are called “intrusions”) that then give partial shape to the stratigraphy of earth. In addition to processes of “consolidation,” Hutton traces those of “circulation,” wherein terrestrial matter eroded by certain dynamic “bodies”—such as oceans or the atmosphere—“collect[s]” on the ocean floors (1788, 114). Circulation, in other words, feeds consolidation: it cycles matter through those processes of “heat and fusion” from which new formations will emerge.

The dual processes of consolidation and circulation are the engine that propels Hutton’s notion of “world.” He posits an earth composed of successive worlds, whose endless (re)creation and demolition constitute a cyclical geohistory that is always in some state of regeneration. The cyclical processes of consolidation, circulation and erosion, in other words, make visible “a succession of worlds” on our earth (1788, 128). He adds: “But, if the earth on which we live, began to appear in the ocean at the time when the last began to be resolved, it could not be from the materials of the continent immediately preceding this which we examine, that the present earth had been constructed” (1788, 127). For Hutton, then, the kind of matter determines the kind of world, and no worlds are exactly the same. They exist in varying states of dissipation, collection and consolidation. Thus, he concludes that “the materials of this great body”—the present world on earth—“must have been collected from the destruction of an earth which does not now appear” (1788, 127). “World,” here, is neither singular nor double. Rather, it is *plural*, and exists in varying stages of development. As Tom Furniss notes, “in Hutton’s world system there are always, necessarily, the materials of at least *three* worlds being cycled and recycled.”⁸ While one might expect the plurality of “world” to challenge Hutton’s totalizing system, it is in fact the bedrock of his commitment to uniformitarianism. As Hutton declares at the end of his *Theory*: “For having, in the natural history of this earth, seen a succession of worlds, we may from this conclude that there is a

⁸ Tom Furniss, “A Romantic Geology: James Hutton’s 1788 ‘Theory of the Earth,’” *Romanticism* 16.3 (2010): 316.

system in nature...there is a system by which they are intended to continue those revolutions” (1788, 128). Worlds ascend and decline in a cycle of terrestrial transformation that is slow, peaceful, controlled. Embodied in Hutton’s theory of “world” is what Paolo Rossi calls a reproductive “power” that “assure[s]—beyond the destruction and the disappearance of worlds that succeed one another in time—duration, stability, and equilibrium.”⁹ These worlds give a form to an infinite and unimaginable swathe of time that is otherwise formless and, as such, monstrous.

Hutton’s notion of orderly succession is crucial to his world-system not only because it encloses an otherwise uncontainable notion of time, but also because it offers a response to the problem of infinite regress. Catastrophist models of terrestrial development endangered the progressive, gradualist and anthropocentric conceptions of the earth which, as Martin J. S. Rudwick observes, were the foundation for Hutton’s *Theory*: “In Hutton’s view, the capacities of human thought and rationality alone gave meaning to nature; so a wisely designed world would necessarily make provision for the permanent existence of the human race.”¹⁰ It was critical, then, for Hutton to craft a system in which “operations of extreme heat, and violent mechanic force” were not “only in the system as a matter of accident” (1788, 96). The apparent “violence” of earth processes, in other words, must be subsumed into a system that would regularize them—that would posit degeneration as always giving way to regeneration, and which would neutralize the apparent catastrophism of earth by understanding it as the product of humankind’s limited vantage point. To theorize such a model, Hutton turned to Newtonian astronomy. Newtonian law, as Stephen J. Gould suggests, allowed him to maintain that, “[i]f the apparent messiness of complex history could be ordered as a stately cycle of strictly repeating events, then the making and unmaking of continents might become

⁹ Paolo Rossi, *The Dark Abyss of Time: The History of the Earth and the History of the Nations from Hooke to Vico* (Chicago: University of Chicago Press, 1984), 114.

¹⁰ Martin J. S. Rudwick, *Bursting the Limits of Time: The Reconstruction of Geobiology in the Age of Revolution* (University of Chicago, 2005), 160-1.

as lawlike as the revolution of planets.”¹¹ So constrained, processes of terrestrial development deliver the promise of a globe immune to perpetual decay. As Hutton states: “Chaos and confusion are not to be introduced into the order of nature, because certain things appear to our partial views as being in some disorder.”¹²

Thus, it is by way of his successive world-system that Hutton systematizes catastrophe: the dynamic energies of “extreme heat” and violent events such as earthquakes are here naturalized as orderly, for they are depicted as part and parcel of the earth’s regenerative cycles—of a uniform, predictable succession of worlds. Hutton presents “Man” as “the possessor of this world...who foresees events to come, and who in contemplating his future interest, is led to enquire concerning causes, in order that he may judge of events which he would otherwise not know” (1788, 38). The human species, here, is first and foremost concerned with things that “are to be.” Confronted with the growing possibility of extinction—a concept that would gain traction in the work of Cuvier—Hutton’s *Theory* demonstrates how geology was pursued in the Romantic period as much for the purpose of understanding the world as for discovering (or perhaps assuring) that humankind had been and always would be its “possessor.” Utilizing a geological mode of foresight derived from the general processes that make available the world’s past while also, to borrow Rossi’s phrasing, “permit[ting] us to foresee the continuity of future changes,” Hutton sought to guarantee the futurity of “*this* world” (dictated by *these* laws and *those* processes) and, by extension, the duration of humankind.¹³

The word “succession” takes on special significance, here, for it not only expresses the particular temporality of Hutton’s conception of “world,” but also assists his prophetic project.

¹¹ Stephen J. Gould, *Time’s Arrow, Time’s Cycle: Myth and Metaphor in the Discovery of Geological Time* (Cambridge, MA: Harvard University Press, 1987), 78.

¹² James Hutton, *Theory of the Earth, with Proofs and Illustrations*, Vol. II (Edinburgh, 1795), 547.

¹³ Rossi, 116.

According to the *Oxford English Dictionary*, “succession” is explicitly temporal in its connotations, referring to “[t]he course, lapse, or process of time.” Further definitions, however, expand upon what this “course” of time actually looks like. The word describes, for instance, “[a] series of persons or things in orderly sequence” or “an unbroken line or stretch.”¹⁴ Hutton’s notion of “world” is temporally seamless: he reads order in the disorder of the broken forms of earth, their “irregularity” paradoxically producing an “instructive” lesson with regards to “a former period of time” and its sequential relationship to present and future (1788, 90). The use of the word “succession” also aligns the geological with the sociopolitical, for it echoes the language of monarchical succession and the inheritance of property: “one person succeeds another in the occupation or possession of an estate, throne, or the like” and does so “according to custom or law.”¹⁵ Here, Hutton’s successive conception of “world” is revealed as a shaping force that works upon not only time, but also the forms of human society. Naturalizing an “orderly,” “unbroken” and inexorable model of time that encloses both past, present and future, the lineage of worlds described in the *Theory* also locks a system of human “law” or inheritance into place. This system unfolds through what Reinhart Koselleck describes as a “naturalistic metaphor of political ‘revolution’” wherein “historical time” is a “uniform quality, contained within itself, repeatable.”¹⁶ When Hutton’s world-system prophesies the uniformity of futurity, then, it also prophesies the continuity of particular cultural forms.

Under the regime of this world-system, Hutton describes the motion of “matter” and “the scenes of life” as “a continued or repeated series of agitations or events” with little if any room for variation or interruption (1788, 33). While the reference to “agitations,” here, might seem to contradict Hutton’s vision of seamless, cyclical and infinite time, his emphasis on “continued or

¹⁴ “succession, n.,” *OED Online* (Oxford University Press, 2014).

¹⁵ *Ibid.*

¹⁶ Reinhart Koselleck, *Futures Past: On the Semantics of Historical Time*, trans. Keith Tribe (New York: Columbia University Press, 2004), 46.

repeated series”—on repetitious and predictable patterns—demonstrates how catastrophic events are actually mechanisms of gradualist continuity. The globe is thus homogenized into successive order, its various forms and spaces declared to be “of the same nature” (1788, 107) despite their altering material specificity, magnitude or location in space-time. Expanding upon this belief, Hutton’s Eurocentrism comes to the fore as he declares that there is “sufficient reason to believe, that in knowing the construction of the land in Europe, we know the constitution of the land in every part of the globe” and might thus “proceed to form general conclusions” from the examination of whichever “parts” are most conveniently available to the eye. Here, Hutton espouses what we might call an armchair geology for which he was later criticized by his contemporaries, including Jean-André de Luc and Cuvier—a geology that permitted him to remain comfortably at home with his personal collection of geological specimens.

One of these specimens—an agate—illustrates the totalizing and uniformitarian force of Hutton’s world-system: “That concretion has proceeded from the surface of the agate body inwards. This necessarily follows from the nature of those figured bodies, the figures of the external coats always determining the shape of those within, and never, contrarily, those within affecting those without” (1788, 73). Like “concretion,” Hutton’s “succession of worlds” embodies a centripetal model of time wherein all bodies and histories work within an “indefinite successions of ages,” which “always determin[e] the shape” or possibilities “of those within.” Here, Hutton’s worlds constitute a prophecy that aligns with Gould’s theorization of “time’s cycle,” in which “events have no meaning as distinct episodes with causal impact upon a contingent history.”¹⁷ Rudwick, too, argues that “Hutton showed no interest in plotting the particularities of geohistory” and describes his world-system “as unspecific as the successive orbits of the planets around the sun, events with

¹⁷ Gould, 11. Gould claims that Hutton “impos[ed] upon the earth, *a priori*, the most pure and rigid concept of time’s cycle ever represented in geology” (63).

temporality but without history.”¹⁸ Describing the earth’s development in terms of a ceaseless line of succession with “no vestige of a beginning” or “prospect of an end,” Hutton fills in and covers over any fissures through which non-cyclical processes of revolution might assert themselves. “World” is thus figured as enclosed, uniform and passive, its possibilities delimited by the seamless and fixed sequentiality of time.

But despite Hutton’s claims that his system rests upon “data from which to reason,” his “supposition that the operations of nature are equable and steady” is frequently revealed as just that: a “supposition” (1788, 41). Critics such as Gould have noted the suppositional (or what Cuvier would call “conjectural”) nature of Huttonian geology, pointing out that “his theory is an argument made *a priori*, and logically necessary to resolve a paradox in final cause.”¹⁹ Hutton admits as much: “We have been representing the system of this earth as proceeding with a certain regularity, which is not perhaps in nature, but which is necessary for our clear conception of the system of nature... We are under a necessity, therefore, of making regular suppositions in order to come at certain conclusions which may be compared with the present state of things” (1788, 125-6). Anatomizing the world through the lens of a desired and largely predetermined future, Hutton employs a cyclical, *a priori* form of logic throughout the *Theory* that forces the world into conformation with the future he envisions for the planet and, by extension, for humankind. That Hutton is so often accused of being a poor and repetitive writer here takes on new significance. Gould’s observation that “Hutton’s rambling style provides the virtue of redundancy,” for instance—a “redundancy” through which Hutton seems to signal “what he regarded as important” by “say[ing] it over and over again”—indicates how the *Theory*’s form actually parallels and internalizes its own understanding of “world.”²⁰ Structured by a self-fulfilling pattern of logic and a repetitious mode of argument,

¹⁸ Rudwick, *Bursting the Limits of Time*, 172.

¹⁹ Gould, 76.

²⁰ *Ibid.*, 64.

Hutton's *Theory* formally embodies and performs the very theory of geological uniformity he asserts. Gould's complaints about the intolerable nature of Hutton's style might here be understood as emblematic of the "indefinite" brutality its uniformity presents.

The fissured forms of earth which lie at the heart of the *Theory*, however, disrupt the cyclical prophecy of "world" it envisions. In his descriptions of consolidation, Hutton refers to the earth as porous and, moreover, equates that porosity with disorder. Terrestrial formations are produced, for example, through "the consolidation of porous or incoherent bodies" (1788, 87). Cavities, a second form of fissure, function as windows into the earth's past, for they "are every where found closely lined with crystallizations, of every different substance which may be supposed in those places" (1788, 71). These cavities disrupt the seamlessness of what are otherwise "perfectly solid strata" and provoke Hutton to imagine how those "strata" were themselves "originally of an open structure" (1788, 72). Veins, too, render visible the "perpendicular fissures and separations in strata" that are omnipresent in the structures of earth: "there is no consolidated stratum that wants these appearances" (1788, 83). Whereas Hutton elsewhere suggests that strata were "originally of an open structure" which then inevitably ceded to "solidity," here he offers an image of stratigraphic form that is "of an open structure" even following its subjection to the process of consolidation. Indeed, in his critique of diluvialist geology, Hutton describes the earth in terms of its fissures and situates these forms at the center of geological debates. The Neptunist / Plutonist argument, for instance, hinges upon how "cavities and endless labyrinths of the strata" were "consolidated," as well as the manner in which "the numberless cavities in those masses are to be filled" (1788, 51). Here, Hutton discovers a conceptual or theoretical openness that emerges from within the earth's enigmatic fissures, and whose material particularities and forms challenge systematization and disrupt uniformitarian theories of terrestrial development.

Stratigraphic formations introduce additional gaps that the *Theory* cannot smooth over so easily. They raise questions about how matter is “introduced into the interstices of strata” (1788, 53) and unsettle terrestrial uniformity: “[t]he strata of the globe are actually found in every possible position: For from horizontal, they are frequently found vertical; from continuous, they are broken and separated in every possible direction; and, from a plane, they are bent and doubled. It is impossible that they could have originally been formed, by the known laws of nature, in their present state and position” (1788, 89). These stratigraphic fissures mark ineradicable discontinuities, their broken forms fragmenting evidence of “original” structures and disrupting the uniformity of time. “Unconformities”—or non-depositional breaks in geological strata—are a particular problem for Hutton. They are figures of rupture, demarcating the break between a culminated sequence of terrestrial processes and the beginning of a new sequence a while later. Visualized in a now famous engraving included in the first volume of the 1795 edition of the *Theory*, unconformities open up time—and not in ways that Hutton could always contain (see Figure 1). As Wyatt suggests, unconformity “signifie[d] a protracted time span with a separation of two different periods in the earth’s history,” which lent support to Hutton’s regenerative theory of the earth.²¹ And yet, they also very often unsettled his claims. These geohistorical ruptures forced Hutton to admit that the terrestrial processes he was attempting to theorize exceeded the perceptual, conceptual and temporal scope of the geologist and, as such, could not be systematized. Describing coastal erosion, for example, Hutton acknowledges that “this operation is so extremely slow, that we cannot find a measure of the quantity in order to form an estimate” (1788, 125). Here, the fissured and fissuring forms of geology bring with them limitations, inequities and failures that unsettle his argument.

As I briefly noted above, Hutton turns to conjecture—and not to physical observation or evidence—to account for and smooth over these limitations. As Rudwick notes, this predilection for

²¹ Wyatt, 157.

conjecture led contemporaries to suggest that Hutton was a “speculative geologist” who offered imaginative visions “in place of precise descriptions of the changes effected in known spans of time.”²² These moments of conjecture, speculation or, perhaps, indeterminacy make visible how Hutton’s text is itself structured as much by fissure as seamless repetition. The *Theory* is open in its structure, in other words, as a result of the “speculative geology” its argument performs. These speculative forays introduce a variety of conceptual indeterminacies or, perhaps, openesses into the text that then shape its direction and fissure its repeated claims. In a descriptive list of geological events that resist observation, Hutton turns to conjecture to understand unobservable processes: “We never see a river in a flood, but we must acknowledge the carrying away of part of our land, to be sunk at the bottom of the sea; we never see a storm upon the coast, but we are informed of a hostile attack of the sea upon our country; attacks which must, in time, wear away the bulwarks of our soil, and sap the foundations of our dwellings” (1788, 119). In both the 1788 and 1795 editions, too, Hutton returns incessantly to the unanswered question of stratigraphic “fracture and separation,” as well as the origin of “the matter with which those chasms are filled”—questions and origins for which he repeatedly fails to account (1795, 2.544).

These gaps in the system fissure Hutton’s text, their openesses directing him either into imaginative inquiry or an unfillable, recalcitrant pause. When Hutton confesses to having “represent[ed] the system of this earth as proceeding with [a] certain regularity” that “is not perhaps in nature,” he admits that the uniform, successive and closed notion of “world” envisioned in the *Theory* is predicated upon an unfillable gap. He thus commits himself to serial omissions, artificial modes of vision and empty speculations so as to consolidate his world-system into a unitary, cyclical, orderly whole. These fissures within the system are of special interest to Blake, whose *America* imagines similar structures that pulsate with philosophic energies. For Blake, these fissured forms

²² Rudwick, 313.

and fissuring energies might possess the capacity to transform futurity into a dynamic network of projected worlds.

Catastrophism, Prophecy, Revolution

Hutton and Blake's conceptions of "world" have something in common. Like Hutton, Blake's *America* conceives the earth in terms of dynamic energies and the open forms through which they move. Heringman notes that in *Urizen* (1794) "Blake creates a world akin to Hutton's dynamic earth" in part "[b]y emphasizing plutonic processes such as earthquakes and vulcanism."²³ He suggests further that geological forms such as "[r]ocks and mountains must have appealed to the later Blake because they represented a territory not yet claimed by one established 'system'."²⁴ One of the first images of Orc in *America*, for example, situates him deep within a cavity in earth, his body curled in upon itself as if he were in gestation.²⁵ Just beside Orc is Blake's recurrent image of the serpent, figured in the open space beneath what we might think of as the textual strata of the poem (3). The serpent's involuted body is suggestive of an energy that is both revolving and explosive, and hints at the dynamic powers Blake attributes to the gaping structures of earth. It is on the next plate that we see Orc emerge from his cavity, as if birthed from some terrestrial womb (4). The womb is a recurring figure for the earth's open forms and their capacities in *America*. This figure appears in Orc's notorious act of rape in the "Preludium," wherein Urthona is synecdochically reduced to a "panting struggling womb" (4.3). Likewise, Albion's Angel later uses the language of the womb in his description of revolution: "I see thee in thick clouds and darkness on Americas shore. / Writhing in pangs of abhorred birth: red flames the crest rebellious / And eyes of death; the

²³ Heringman, 104.

²⁴ *Ibid.*, 108.

²⁵ William Blake, "America: a Prophecy," *The Continental Prophecies*, ed. D. W. Dörrebecker (Princeton: Princeton University Press, 1995), 3. All citations will hereafter appear parenthetically in the main text. When referring to an image, the plate number will be cited.

harlot womb oft opened in vain / Heaves in enormous circles, now the times are return'd upon thee, / Devourer of thy parent, now thy unutterable torment renews" (11.16-20).

Blake imagines the open structures of earth as channeling volatile energies that might renovate the world. Steven Goldsmith has suggested that these “transformational energies” are significant to Blake because they “are at once intellectual *and* embodied,” and “work in opposition to ‘instrumental reason’.”²⁶ The rape imagined in the “Preludium” is indicative of this “embodied” quality, as well as the interrelationship between the earth’s open structures and volatile terrestrial energy. Repeatedly associated with “caverns” and cavities (3.18), Orc is a figure for the dynamism of the earth’s internal heat. He is called “the Demon red, who burnt towards America, / In black smoke thunders and loud winds rejoicing in its terror / Breaking in smoky wreaths from the wild deep. & gath’ring thick / In flames as of a furnace on the land from North to South” (12.9-12). In this sense, the rape can be read in geological terms: Urthona embodies the fissures through which move the “flames” and “thunders” of earth. Like Hutton, Blake conceives of the world as taking shape through a cycle of erosion, consolidation and circulation:

The fiery joy, that Urizen perverted to ten commands,
What night he led the starry hosts thro’ the wide wilderness:
That stony law I stamp to dust: and scatter religion abroad
To the four winds as a torn book, & none shall gather the leaves:
But they shall rot on desart sands, & consume in bottomless deeps;
To make the desarts blossom. (10.3-8)

In language that echoes Hutton’s notion of worlds in differing states of erosion and re-consolidation “in the bottomless deeps,” *America* imagines a world in which intellectual matter proceeds through processes of geologic transformation: the “ten commands” are worn to “dust” only to be re-consolidated into regenerative material from which “the desarts blossom.” Here, Blake’s move to geologize the intellectual—to cast it in the physiological terms of earth—indicates how natural formations serve as sites of radical experiment in *America*. These open structures are omnipresent,

²⁶ Steven Goldsmith, *Blake’s Agitation: Criticism and the Emotions* (Baltimore: Johns Hopkins University Press, 2012).

turning up in even the most surprising of places. “[T]he atmosphere,” for instance, is composed of a network of fissures: “human blood shoot[s] its veins all round the orb’d heaven” and “a Human fire” courses through its labyrinth of vessels. Blake invokes a conception of the atmosphere similar to Hutton’s, which Furniss describes as a “circulatory system...that carries out crucial ecological or physiological functions for the world’s body.”²⁷

But these parallels between Blake and Hutton’s worlds are finally overwhelmed by a key divergence. While the *Theory* conceives of a successive and cyclical system of worlds, *America* explores the consequences of such a (geo)historical cyclicity and the futurity it prophesies. Noting Blake’s move to explore futurity by way of the past, Balfour asks what many critics have wondered about *America*: “What could it mean to write a prophecy of an event already in the past and now receding farther into it? In what does the prophetic character of the poem lie?”²⁸ Balfour’s reading of Blake’s George Washington offers the beginnings of an answer: “He [Washington] rehearses the repetitive history of oppression in order *that* history not be repeated.”²⁹ Acutely aware of the hegemonic temporality of a successive world-system like Hutton’s, Blake’s *America* protests such a cyclical conception of “world.” The above quotation from Plate 10 of *America* articulates this protest as it imagines a world in which terrestrial processes might proceed in more wayward or transformative ways. Here, the perverse “commands” of Urizen are associated with a cyclical geological system in which the “fiery joy” of deep earth is mutilated into a “stony law” that would seek to reproduce itself indefinitely. Yet, Blake imagines how Orc, as a figure for volatile and evolutionary time, might renovate such a system. Orc’s intervention—his “stamp[ing]” of “[t]hat stony law” to rubble—disrupts the brutal cyclicity of a successive world-system and, in so doing, produces something other than a mere recapitulation of Urizenic law from “dust.”

²⁷ Furniss, 310.

²⁸ Balfour, 136.

²⁹ *Ibid.*, 139.

The initial image of Urthona in the “Preludium” also specifies Blake’s protest against a world-system whose uniformity encloses the future in Urizen’s grasp. Supervising Orc’s incarceration, Urthona is associated with an iron-clad and immovable cyclicity that is eventually disrupted in the moment of rape: “The shadowy daughter of Urthona stood before red Orc, / When fourteen suns had faintly journey’d o’er his dark abode; / His food she brought in iron baskets, his drink in cups of iron... / Invulnerable” (3.1-7). Associated with the “invulnerable” or indefinite passing of “suns,” Urthona is a figure for a repetitious model of revolution. She embodies what Koselleck calls “natural revolution”: a form of history that possesses a “uniform quality” and is “contained within itself, repeatable.” This model of time came to the fore in the astronomy of Newton—a friend of Hutton’s but an old foe of Blake’s. It unfolds through the vicious “alignment of linearity and circularity,” both of which “read time as a sequence of one thing after another,” as James Swearingen observes.³⁰ Blake’s opposition to Newtonian cosmology is important in this context. As Gilpin argues: “The common thread that links the scientific efforts of a Newton, a Hutton, and a [William] Hunter is their shared effort to define creation by rational laws and divisive rules.” Together, “they become, in Blake’s view, a ‘Priesthood.’”³¹ This “Priesthood” is responsible for systematizing the world according to what Wai Chee Dimock calls a “serial form” of time.³² In the world-systems of Newton and Hutton, according to Dimock, “time functions in exactly the same way as a spatial coordinate”: “[i]t is a place, location, a sequence of units on a calibrated line...a *container* to which any event can be assigned.”³³ Thus, Blake’s argument against the “Priesthood” of which Newton and Hutton are members hinges takes issue with a temporal model that would seek to “contain” the world in a seamless, uniform, even pre-determined history. In contrast, Blake’s prophetic project requires the

³⁰ James Swearingen, “Time and History in Blake’s *Europe*,” *Clio* 20.2 (1991): 112 and 113.

³¹ George H. Gilpin, “William Blake and the World’s Body of Science,” *Studies in Romanticism* 43.1 (2004), 37.

³² Wai Chee Dimock, “Nonbiological Clock: Literary History against Newtonian Mechanics,” *South Atlantic Quarterly* 102.1 (2003), 167.

³³ *Ibid.*, 156. Emphasis mine.

open structures of earth, their energies and their possibilities. In *America*, Blake aims to open up the future and, with it, the world—to fissure uniformitarian world-systems and, in so doing, pluralize futurity.

The form of *America* dramatically stages this protest. The “Preludium,” in particular, signals a break from the Urizenic world. In its stead rises an Orcian world, wherein time is “deserialized,” to borrow Dimock’s term, and futurity unbound. To track *America*’s formal resistance to the successive temporality of a Urizenic world, I turn again to Plate 3, which figures Orc beneath the surfaces of earth as if confined or gestating in some terrestrial cavity (see Figure 2). Humanoid tree roots hang just above him and draw the eye up to a tree, under which a male figure is splayed and two others—female and male—are entwined, perhaps in altercation. There is a marked likeness between the figure of Orc crouched beneath the earth and the two male figures situated above. This likeness might invite a “serial” and Urizenic reading of the plate, wherein Orc escapes his prison and wreaks havoc upon the world, his terrible act of rape interconnecting with the terrorization of the female figure above ground. But the structure of the text on the page ruptures the cyclical reign of Urizen. This cyclical reign, described in the first stanza by way of the “invulnerable” revolutions of “suns,” meets with a break in the middle of the plate. I argue that the second stanza, inaugurated by Orc’s voice and followed soon after by a second instance of rupture—the act of rape—marks a temporal sea-change. We might read the stanzaic structure of the plate in terms of geologic unconformity, its stanzas (and the gap between them) constituting a stratigraphy that distinguishes the perverse world of Urizen from the contingent one of Orc. The plate’s broken stratigraphy conveys the indirect circuitry of Blake’s prophecy: having aligned Urizen with the uppermost (or secondary), more recent layer of strata and Orc with the bottommost (or primary), much older layer, Blake illustrates how the renovation of the world’s future hinges upon a wayward turn to something former. This turn, as

Dimock argues, effects an uneven “looping and layering of time” and thus “a brave detour before th[e] taut fishing line” of Urizenic history.³⁴

I argue that the “looping and layering of time” in *America* suggests a narrative form which disrupts Urizen’s cyclical monopoly on history and, by extension, the future. The break in Plate 3 and the subsequent turn to Plate 4 together disorder whatever linear sequence of events the “Preludium” might otherwise offer (see Figures 2 and 3). The emergence of Orc from his cavern on Plate 4 is belated. This event—which marks the middle of the sequence whose beginning and end is represented on Plate 3—appears out of order. To extrapolate a narrative from these images, then, the reader must move backward (from Plate 4 to Plate 3) so as to move forward. This involuted sequence of events disrupts the seriality of time. As such, time is compressed and fragmented in the “Preludium.” Plate 3 emphatically illustrates this compression, for it crowds together no less than three possible instantiations of Orc at distinct points in time. In so doing, it disorders the relationship between past, present and future. The plate offers a thick sense of contemporaneity, wherein each figuration of Orc conveys variant possibilities for the future that are synchronously opened up in the moment of temporal rupture. In other words, each figuration glimpses a distinct future: one in which Orc is imprisoned (3), one in which he escapes (4), one in which he is bound by the laws of nature (3), one in which he is an uncontrollable terror (3). The world, here, is in a constant state of becoming, its future(s) multiple and subject to change at any given moment. Its history and futurity metamorphose as time is re-circuited and variant possibilities are made available or foreclosed in the moment of the event.

Blake figures these temporal possibilities in catastrophist terms. Orc is frequently associated with—if not a figure for—volatile openness, as critics have often noted. Nicholas Williams describes Orc as a temporal “incompleteness,” while Goldsmith reads him as a figure of “[m]ovement,

³⁴ Dimock, 164.

exercise, and activity”—of “a world not yet settled permanently into place, a world where even death may be subject to change.”³⁵ So imagined, Orc is a volatile agent in the world: he is “Blasphemous” and an “Antichrist” (9.5), a “Lover of wild rebellion. and transgressor of Gods Law” (9.6), a “terror” (10.1) who frequently appears in a fiery guise. To imagine Orc’s disorganizing energies Blake invokes the catastrophist geology of Cuvier, whose geohistory was, in the words of Rudwick, “as contingent, as unrepeated, and as unpredictable (even in retrospect) as human history itself.”³⁶ Like Blake, Cuvier understands the fissured forms of earth as imbued with violent potential. In an 1807 essay, he laments that many geologists have “devised some principle, found in advance a priori, or based only on a very small number of partial [i.e. local] observations” so as to “submit to it [the principle]—well or badly—all the facts made known to him.”³⁷ These principles constitute entire “geological systems,” which Cuvier argues have “increased” exponentially: “We see new systems hatched every day” (104). This is a concern he will reiterate in his *Rapport historique* of 1810, which worries that geology is “so fertile in systems” that it has become “a purely hypothetical science.”³⁸ Cuvier’s complaint seems especially applicable to Hutton who imposed *a priori* the principle of uniformity upon the world. The drive to extricate perfect and all-containing geological systems from the incomplete and even violent records of earth, Cuvier argues, condemns the entire science of geology to a future in which systems multiply endlessly.

In opposition to this proliferation of system, Cuvier offers his own catastrophic conception of geological structures and processes. In perhaps the most important of his essays, the *Discours préliminaire* of 1812, Cuvier positions his vision of terrestrial development against those all-

³⁵ Nicholas Williams, *Ideology and Utopia in the Poetry of William Blake* (Cambridge: Cambridge University Press, 1998), 119 and Goldsmith, 11.

³⁶ Rudwick, *Bursting the Limits of Time*, 6.

³⁷ Georges Cuvier, excerpts from “Rapport sur l’ouvrage de M. André” (1807), *Georges Cuvier, Fossil Bones, and Geological Catastrophes: New Translations and Interpretations of the Primary Texts*, ed. and trans. Martin J. S. Rudwick (Chicago: University of Chicago Press, 1998), 104. All Cuvier quotations, unless otherwise specified, are taken from this edition.

³⁸ Cuvier, excerpts from “Rapport historique” (1810), *George Cuvier, Fossil Bones, and Geological Catastrophes*, 125.

encompassing theories or systems that rely heavily on speculation, and which are symptomatic of their creators' desires for uniformity and consolation. As John Playfair notes in his review of the English translation of the *Discours*, which was titled *Essay on the Theory of the Earth*: “the Editor has taken a liberty that is certainly not warranted by the original,” for the title of the original “makes no mention whatever of the theory of the earth” and “is yet of too limited a nature to be regarded as a theory of the earth.”³⁹ What Cuvier offers in his *Discours* is not another theory, but rather a vision of nature that attends to the “civil wars” and periodic eruption of “various catastrophes” over time.⁴⁰ He attributes these “catastrophes” to, among other things, the open forms of earth, which serve as conduits for dynamic energies and whose operations are localized. Volcanic formations, for instance, are described as “limited and local” in “action,” as well as “violent furnaces”—rather than universal and uniform in their operations, as Hutton claims (197). Furthermore, Cuvier concludes that the “catastrophes” he tracks “have not been slow at all, nor achieved by degrees” (190). “The tearing and upheaval of beds that happened in the earlier catastrophes,” for instance, “show that they were as sudden and violent as the last one” (190). “Thus,” Cuvier argues, “life on earth has often been disturbed by terrible events... These great and terrible events are clearly imprinted everywhere, for the eye that knows how to read history in their monuments” (190). Written upon the open structures or “monuments” of earth is a much different story than the one Hutton tells. According to Cuvier, these forms make visible a volatile and contingent planet whose fissured forms direct terrestrial energies in unpredictable ways.

These “monuments” point to an uneven and perhaps open conception of time that stands in stark contrast to the successive vision of Hutton’s *Theory*. Cuvier posits natural history in terms of its

³⁹ John Playfair, “Essay on the Theory of the Earth: Translated from the French of M. Cuvier, perpetual Secretary of the French Institute, Professor, Administrator of the Museum of Natural History, &c,” *The Edinburgh Review* (January 1814): 454 and 455.

⁴⁰ Cuvier, excerpts from “Discours préliminaire” (1812), *George Cuvier, Fossil Bones, and Geological Catastrophes*, 186.

“civil wars” and “catastrophes,” which do not accommodate a “slow” or gradualist conception of time. Following an extended description of this catastrophic earth in the *Discours*, he offers an account of the historical forms preserved in the “monuments” he studies:

[I]t has long been thought possible to explain earlier revolutions by these present causes, just as past events in political history are easily explained when no one knows well the passions and intrigues of our times. But we shall see that unhappily this is not so in physical history. The thread of operations is broken; nature has changed course, and none of the agents she employs today would have been sufficient to produce her former works. (193)

Here, Cuvier offers an alternative to the seamless, gradualist and unchanging temporal mechanisms at work in uniformitarian models of geology. Time takes on a very different texture when posited in catastrophist terms: the present no longer extends continuously into the past so as to resurrect a determinate vision of the future. Thus, nature is not “serial” or uniform, but rather is changeful and wayward in its temporal development. As Cuvier puts it, “[t]he thread of operations is broken.” Fissured and wandering, indirect and disunifying, catastrophist geohistory offers up new and experimental forms for understanding the structures of earth, their energetic capacities, and their futurity.

These forms and energies parallel the developmental volatility and open-ended narrative form of Blake’s *America* and its vision of “world.” The “Preludium” in particular figures the renovation of the world as proceeding by way of fissured forms and a catastrophist indeterminacy. Here, I return to the act of rape with which the poem begins. As I briefly note above, Urthona is figured as a womb: “Round the terrific loins he seiz’d the panting struggling womb; / It joy’d: she put aside her clouds & smiled her first-born smile; / As when a black cloud shews its light’nings to the silent deep” (4.3-5). Having just emerged from a terrestrial cavity that parallels “the panting struggling womb” of Urthona, Orc introduces a catastrophic and revolutionary energy into the world by way of an open form. Urthona-as-womb functions as a dynamic conduit for this volatility, her equivalence with female reproduction suggestive of the generative or even transformative

possibilities made available by and through this act. Here, Blake's figuration of terrestrial formations as wombs is in keeping with a long history of imagining the open structures of earth in female terms. As Heringman argues in his reading of *Jerusalem*, "British topography, as Albion's anatomy, is gendered male" whereas Derbyshire is female. He continues: "This association, too, has a strong geological basis, both in the ancient tradition of representing the earth as a womb and in more contemporary expressions such as 'horrid chasm'."⁴¹ Such an association is not unusual in the context of Blake's work, either. *Urizen*, for instance, refers to a cavern or "roof vast petrific / ...like a womb" (5.28-9). In the "Preludium," then, Orc inseminates the openness that is "world." Urthona-as-womb is a synecdochal figure for "the earth as a womb." Through the act of rape, then Orc unleashes a new and dynamic energy that might subvert the reign of Urizen. That Blake locates renovation in such a violent act demonstrates how, even as he understands catastrophist forms and energies in transformative, revolutionary terms, he is also deeply ambivalent about them—a point to which I return at the end of this chapter.

Reimagined through the act of rape as a figure of fissure and volatility, Urthona embodies temporal forms that contradict her initial association with the unwavering cyclicity of passing suns and, by extension, the indefinite succession of Huttonian worlds. As James Mulvihill argues, her "mute, nameless, unfulfilled" presence connotes an indeterminate or, perhaps, open-ended form of history—a temporal silence or gap that remains unfilled.⁴² In this sense, she is "the product of contingency, or rather the medium through which contingent circumstance will express itself."⁴³ In the scene of rape with which *America* begins, Urthona is the conduit through which "contingency" enters into the temporal processes of the earth. The rape thus marks a moment of temporal renewal

⁴¹ Heringman, 132.

⁴² James Mulvihill, "'The History of all Times and Places': William Blake and Historical Representation in America and Europe," *CLIO* 29 (2000): 383.

⁴³ *Ibid.*, 384.

wherein time is re-circuited and its possibilities transformed. Here, Blake's catastrophist conception of "world" is revealed. It can be called catastrophist because of the uneven and dynamic temporal mechanisms it would unleash—because of the open temporal circuit it forges by way of the fissured forms of earth.

Blake's *America* performs this open-ended conception of time on the level of form. Williams describes *America* as among "some of Blake's most narrative verse—or, rather, "the closest he comes...to a novel-in-verse." Makdisi, however, observes that "it is quite difficult to read *America* simply as a straightforward narrative of the American war."⁴⁴ He contends that "there is no sense of temporal flow in the prophecy." *America* is an "'open' tex[t]," to borrow Makdisi's phrasing, wherein meaning is "constituted by, even suspended in, the indefinite and expansive gap between words and images—a gap kept resolutely alive by the open nature of Blake's work."⁴⁵ Precisely this sort of gap emerges between Plates 6 and 7 of *America*, wherein the American revolutionaries are introduced alongside "Albion's wrathful Prince" (6.14). Described as "A dragon form" (6.15) with "glowing eyes" (6.17), Albion's Prince is not revealed in image until the next plate. Here, this "dragon form" follows close on the heels of a Urizenic figure whose serpentine body echoes the reptilian shape of Albion's Prince (see Figures 4 and 5). Plates 6 and 7 thus offer the reader two visions of Albion's Prince: one materializes through language and the other through image. Both are nonsynchronous, separated by the gap between plates.

This gap renders visible two different temporal trajectories. It illustrates how Blake's *America* posits time as an open and volatile circuit. Moving from Plate 6 to 7, Albion's Prince is positioned as a prophetic endpoint and yet also, paradoxically, as belated. In the movement from verse (Plate 6) to image (Plate 7), Blake gestures to a possible future for America: one in which Albion's Prince

⁴⁴ Williams, 121 and Saree Makdisi, *William Blake and the Impossible History of the 1790s* (Chicago: University of Chicago Press, 2003), 32.

⁴⁵ Makdisi, 32 and 162-3.

proliferates himself in a variety of different forms, maintaining his tyrannical reign indefinitely. Nonetheless, Plates 6 and 7 at the same time convey a second and very different temporal reading: the image of Albion's Prince is belated, lagging behind (and perhaps expunged by) the temporal motion of the prophetic word. Simultaneously representative of tyrannical succession and belated obsolescence, Albion's Prince makes visible a multidirectional crossroads within the text that unsettles the forms of linear reading and, by extension, uniform temporality. It seems no coincidence that the only involuntary or "soft" line breaks in *America*—"sea" (6.13) and "vision" (7.12)—appear on these plates. I call these breaks involuntary or "soft" because they are displaced from the line to which they belong for want of space on the plate, and in so doing they disrupt the semantic and formal logic of the line as a whole. While these words were positioned as such for practical purposes, it nevertheless remains that their position jostles the reader's eye out of the pattern according to which linear texts are consumed: left to right, top to bottom. Pulling the eye from right to left and bottom to top, Blake's involuntary line breaks signal a very different "vision" of futurity that might assert itself from within the gaping forms of the earth and their open temporal circuits. Liberated from the regimented linearity of serial form, this is a future that takes shape through pure and multidirectional temporal movement, rather than the sequentiality and determinacy of teleology.

The open circuitry of *America* might help to better explain Blake's cancellation of what scholars now refer to as "Plate B." It was here that Blake called upon the king by name, accusing "George the third" and "his Lords & Commons" of being in cahoots with Albion's Prince.⁴⁶ Critics have long speculated about this plate's cancellation. Some argue that it signals Blake's worry a direct reference to the king would leave him vulnerable to prosecution. Goldsmith, however, notes that Blake's erasure of "George the third" makes little difference to the meaning of the passage. It "does

⁴⁶ William Blake, "Three cancelled plates from 'America, a prophecy,'" (London, 1793), 2.9.

not explain why he would consider his final version so much less risky, referring openly as *it* does to ‘the King of England.’”⁴⁷ I am interested in how Blake’s removal of this plate assists the role of prophecy in *America*. I argue that we might interpret the change in reference as indicative of Blake’s attempts to create a generalized temporal circuit through which his prophecy might achieve new degrees of mobility. While the original line and its revision both invoke the English monarchy, one refers to *a* king while the other refers to *kings*. Blake’s reference to “the King of England” as opposed to “George the third,” in other words, lends his prophetic objection a temporal generality. The denunciation of George here becomes portable, its seditious call to revolution moving forwards and backwards in time rather than locked in on one particular historical figure or moment. Here, the “generality” of prophetic speech in *America* is visible. This “generality” ensures Blake’s prophecy will never become “a mere thing of the past” but rather will continue to *act* at unexpected times and in unanticipated ways. Dislodged from a specific king, *America* reroutes and generalizes time so that its prophecy might assert itself in future worlds.

America thus fissures futurity into a multitude of possible worlds. Rather than conceiving of “world” as the defined and uniform product of a “serial” or successive historical narrative, Blake deploys a multitudinous form of prophecy to inaugurate a diversified notion of “world”—one that is plural and fluctuating, and which radicalizes futurity by transforming it into a labyrinth of potentialities. Critics have tended to read Blake’s poem in two parts. First is the “Preludium,” which Williams argues should not be read “as an introduction to what follows” but rather “as a first draft, whose stationary, ahistorical approach to political events...is rejected in favor of the temporal, historical approach of the Prophecy.”⁴⁸ But I argue the opposite: the “Preludium” traces an open-ended series of events whose ruptured temporality may be read in any number of ways. As such, the

⁴⁷ Goldsmith, 121.

⁴⁸ Williams, 121.

“Preludium” marks the first of many prophecies that circulate within Blake’s *America*. When Urthona declares, “I know thee, I have found thee, & I will not let thee go” (4.7), she foretells the inauguration of a new world-order in which time is re-routed and futurity splintered into a plethora of potentialities—into a web of what Favret calls “rival synchronies.”⁴⁹ This fissuring of time is “the torment long foretold” (4.16-7). The “Preludium” prophecies the advent not of a particular event or end, but rather a new form of prophecy that is divorced from serial time and the confines of any single historical particularity.

Blake’s emphasis in the “Preludium” on a labyrinthine model of temporality invites notice of how the main body of *America*—which begins on Plate 5 and is titled “A Prophecy” (5)—deploys a multitude of prophecies, as opposed to a singular, contained and unidirectional prophetic articulation. There is, for instance, Washington’s prophecy of a “heavy iron chain” that “[d]escends link by link from Albions cliffs across the sea to bind / Brothers & sons of America.” This “chain” constitutes “the furrows of the whip” that will come to “[d]escend to generations that in future times forget” (5.7-12). Here, Washington projects the future of a world in which “Albions” hold upon America becomes indefinite—so indefinite that the nation’s “Brothers & sons” fail to recall a time when the “furrows” of that particular whip did not shape their existence. A second prophecy, articulated by Orc, follows soon after Washington’s. It proclaims that “[t]he grave is burst” (8.2), the dead “[r]eviving shake, inspiring move, breathing! awakening!” (8.4). Offering up a “rival synchrony” to Washington’s prophetic vision, Orc tells of a future world in which the slave is free: “his chains are loose, his dungeon doors are open” (8.10). And this prophecy contains within itself another prophecy: the song sung by the freed slave, which declares that “Empire is no more, and now the Lion & Wolf shall cease” (8.15). At this point, there are no less than three possible futures in circulation: one of enslavement and empire, one of material rejuvenation, one wherein empire falls.

⁴⁹ Favret, 84.

At this point in the text prophecies begin to accumulate at a rapid pace, their projected worlds coinciding and colliding with one another. On Plate 10, Orc tells of a post-Urizenic world that might serve as a continuation of the one envisioned in his initial prophecy, and which parallels the anti-imperial future envisioned by the slave:

The times are ended; shadows pass the morning gins to break:
 The fiery joy, that Urizen perverted to ten commands,
 What night he led the starry hosts thro' the wide wilderness:
 That stony law! I stamp to dust: and scatter religion abroad
 To the four winds as a torn book, & none shall gather the leaves;
 But they shall rot on desert sands. & consume in bottomless deeps,
 To make the deserts blossom, & the deeps shrink to their fountains,
 And to renew the fiery joy, and burst the stony roof. (10.2-9)

Orc's prophecy flows almost seamlessly into that of Albion's Angel on the next plate. Describing a future not of his own imagining but rather of a "vision from afar!," Albion's Angel utters the terrible prophecy of a world that is not his own and in which he has no place. In this future a "rebel form" reigns absolute: an "Eternal Viper self-renew'd, rolling in clouds...on America's shore" (11.14-6). As if attempting to introduce a "rival synchrony" into the future, Albion's Angel moves without notice into an opposing prophecy in which "the times are return'd upon thee [America], / Devourer of thy parent" (11.19-20). By now, there are at least six visions of futurity swarming across the plates of *America*. They continue to multiply as the poem progresses, and it is this multiplicity which conditions whatever parts of the poem might drill down to take up the localized historical narrative of America's revolutionary past.

Blake's *America* is not a prophecy, then, but rather a constellation of prophecies. The poem demonstrates that which Balfour argues about prophecy more generally in the Romantic period: "Prophecy is not a single thing, and one has to attend to the differences that are sometimes tenuously grouped together under a single word."⁵⁰ Blake attends to these differences closely, his choice of title—*America. A Prophecy*—offering a lexical argument against the grammar and logic of

⁵⁰ Balfour, 4.

serial temporalities. The form of Blake's subtitle on Plate 5 gestures to this protest, its sinuous and multidirectional shape gesturing to the how prophecy is radicalized and, by extension, futurity is pluralized through the open structures of "deserialized" time. The construction of Plate 11 renders this radicalization of prophecy in visual terms, illustrating how time passes unpredictably through the labyrinthine circuits of emergent futures. Crisscrossed with white lines that move in numerous directions, Blake creates a spectral vision of these "rival synchronies" and their energies—of these futures and their divergent trajectories—which hold the world and its futures in gestation. Here, time is a thick, uneven and divergent form that opens up conduits to unanticipated worlds.

Thus, Blake asserts a temporal notion of "world" that stands in direct opposition to the successive world-order that Hutton envisions. Probing the open circuitry of earth for its catastrophic energies, Blake seeks to pluralize prophecy for the purpose of fissuring the future into numerous potential worlds. I argue, in other words, that the various futures circulating within and throughout Blake's *America* should be understood as emergent worlds, each representative of a potential world-order that might take hold in future. The poem mobilizes prophecy to transport these worlds out of a successive temporal system that would fix a single one in place. Plate 7 of *America* illustrates this opening up of futurity and the liberation of worlds previously foreclosed:

Albions Angel stood beside the Stone of night, and saw /
The terror like a comet, or more like the planet red
That once inclos'd the terrible wandering comets in its sphere.
Then Mars thou wast our center, & the planets three flew round
Thy crimson disk; so e'er the Sun was rent from thy red sphere. (7.1-5)

This cryptic passage is the subject of frequent debate in Blake scholarship. Worrall, for instance, has situated it in relation to Blake's familiarity with the work of Erasmus Darwin, arguing that it registers the astronomical symbolism of *The Botanic Garden* (1791). The image of comets resonates with debates about "the return of Halley's comet according to prediction" and the production of "the

suns and satellites of heaven,” which Darwin suggests “were hurled out of chaos.”⁵¹ But I argue that the passage offers two terrible accounts of “world”—one from an Orcian perspective and the other from a Urizenic one. Read from the perspective of Orc, “the terrible wandering comets” are terrible because they are entrapped in a “sphere,” their paths following a centripetal pattern of motion. Here, we find the Newtonian version of Hutton’s successive worlds. Yet, “Albions Angel”—a Urizenic figure—likens the “terror” that is Orc to “a comet” that has become unmoored—that was once “inclos’d” in gravitational law but now “wander[s]” beyond its predetermined orbit. Here, Blake’s unlawful comets embody the future worlds that were once “inclos’d” or foreclosed—worlds that, now liberated, “wander” unpredictably into, through and out of time. Likewise, the image of a sun “rent from thy red sphere”—an image of a sphere “hurled out of chaos”—gestures to the birth of other worlds, which multiply as prophecy fissures futurity.

Even as it understands catastrophist geology as a mechanism for imagining potential worlds, *America* is nonetheless concerned about how this geological model might capitulate to the successive temporality the poem seeks to destabilize. As scholars have noted, the volcanic and terrible Orc sometimes appears all too similar to the perverse Urizen. Balfour, for instance, argues that though Orc embodies “a political romance of liberation,” he might also “become in time the very Urizen figure he had so adamantly opposed.”⁵² The act of rape demonstrates this tendency even as it also inaugurates a new and potentially radical world-order. Thus, John Beer describes the rape as a “death-dealing ravishment” wherein “[t]he revolutionary violence involved in achieving independence is the distorting of an energy that might have made the union between Britain and America a fruitful marriage.”⁵³ Beer’s reading gestures unequivocally to the sociopolitical

⁵¹ Worrall, 410.

⁵² Balfour, 138.

⁵³ John Beer, *Romanticism, Revolution and Language: The Fate of the Word from Samuel Johnson to George Eliot* (Cambridge: Cambridge University Press, 2009), 93.

implications of a catastrophist conception of “world.” If one’s geology corresponds to one’s politics, as Dennis R. Dean argues, what do we make of *America*, a work that appears to lament the “terror” of a fissured world-order even as it celebrates it?⁵⁴

I suggest that what justifies political terror for Blake are the radical futures this world-order makes possible. Blake conceives the earth in terms of its fissured structures and their capacity to transform past, present and future into a network of labyrinthine circuits (rather than a seamless and end-driven chronology). His interest in openness coincides with a catastrophist ethics of political action. Analysis of Blakean politics has often hinged on images of dynamic energy—of recognizable action. Makdisi and others have argued that “the scene of fierce rushing” on Plate 16—and others like it—posit “[t]he condition of possibility” in the poem.⁵⁵ But equally important, I argue, are those moments in which political action is not immediately recognizable, for they often circumvent or reroute the destructive potentials of revolutionary action. Prior to the scene of “fierce rushing,” Albion’s Angel is met with unanticipated silence following his prophecy of America’s fall and his call to war. At the end of his prophecy, Albion’s Angel describes empire and the revolutionary conflict it incites as indefinite: “Loud howls the eternal Wolf: the eternal Lion lashes his tail!” (11.27). Figuring empire as a successive power whose hold upon the world is “eternal,” though it will provoke “Wolf” and “Lion” to engage in futile conflict, Albion’s Angel sends “terrible blasts / Of trumpets...across the Atlantic deep” (12.1-2) as if in formal declaration of war. It seems inevitable that a scene of “fierce rushing” would come next in this revolutionary narrative, but it does not. Albion’s Angel is met instead with a deafening refusal: “No trumpets answer; no reply of clarions or of fifes. / Silent the Colonies remain and refuse the loud alarm” (12.3-4). Subverting the narrative expectations of both Albion’s Angel and Blake’s reader, the “Colonies” introduce a gap into this anticipated

⁵⁴ Dennis R. Dean, *Romantic Landscapes: Geology and its Cultural Influence in Britain, 1765-1835* (Ann Arbor: University of Michigan Press, 2007), 20.

⁵⁵ Makdisi, 39.

narrative by way of silence—a silence that leaves the forces of Albion “perturb’d” (12.11). And this is not the only moment in which such openness inserts itself into the narrative of *America*. Boston’s Angel, for instance, refuses to take recognizable action: “no more I follow, no more obedience pay” (13.12). The stratigraphic break that ruptures the text of Plate 3 in the “Preludium,” too, foreshadows how *America*’s narrative structure will turn as much upon unpredictable and sometimes inexplicable stops and gaps just as much as it will upon revolutionary events.

Blake’s *America* demonstrates how passive forms of political action may be just as catastrophic and transformative, disruptive and revolutionary as the “fierce rushing” of violent conflict. For Blake, openness connotes an obstructive capacity that is as disruptive as decisive action, but which offers different possibilities for intervention in the world and for futurity. In this context, the seemingly cyclical structure of Blake’s *Continental Prophecies* marks a political challenge. Concluding *The Song of Los*—the final poem in the *Continental Prophecies* sequence—with an iteration of the line which inaugurates the main body of *America*—“The Guardian Prince of Albion burns in his nightly tent” (*America* 3.1; *The Song of Los* 4.20)—Blake would seem to align himself with a successive or Huttonian vision of “world.” But to accept such a reading is too easy. Doing so would efface the fissured structure of the prophecies and the worlds they project; to deny the politics of their open forms and their uncontainable potentials; to fall into the Urizenic tendency that *America* warns against. Blake’s *Continental Prophecies* thus encourage a catastrophist method of reading, wherein the reader, like Orc, must learn to critically and vigilantly navigate what Makdisi calls the text’s “perpetually open channels.”⁵⁶ We might understand Blake’s *America* as challenging readers to see beyond easy similitudes and received forms, convenient modes of action and obvious paths forward. The poem invites its readers, in other words, to implement their own narrative refusals, whose implications might echo through time and shape future worlds.

⁵⁶ Makdisi, 168.

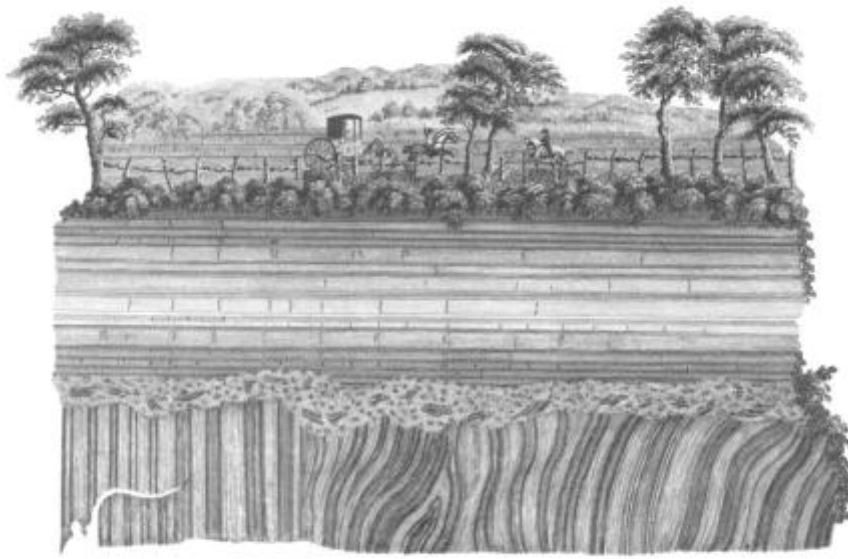


Figure 1. The unconformity at Jedburgh by John Clerk of Eldin (1787), used for Plate III of James Hutton's *Theory of the Earth* (1795).



Figure 2. *America: A Prophecy*, Plate 3 (Copy E).
Courtesy of the Blake Archive.

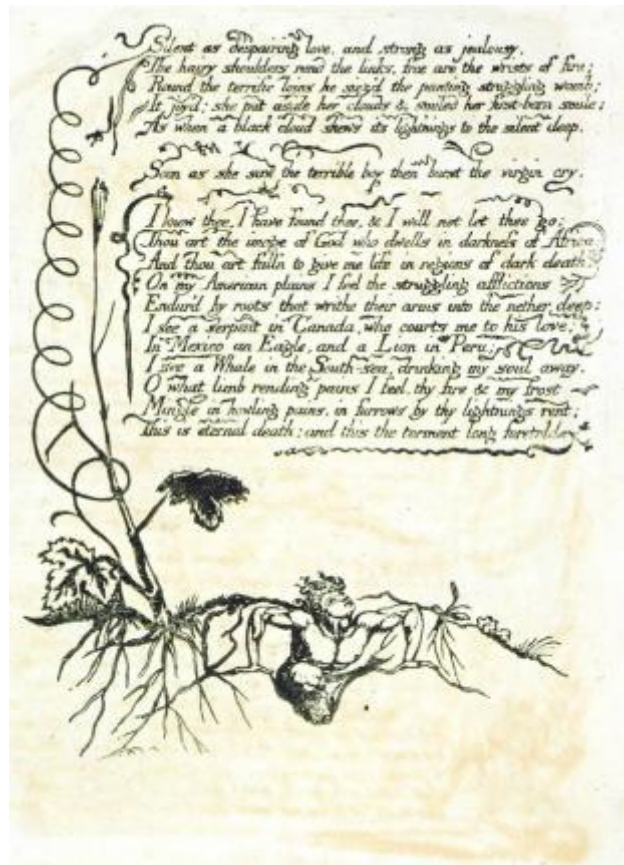


Figure 3. *America: A Prophecy*, Plate 4 (Copy E).
Courtesy of the Blake Archive.



Figure 4. *America: A Prophecy*, Plate 6 (Copy E).
Courtesy of the Blake Archive.



Figure 5. *America: A Prophecy*, Plate 7 (Copy E).
Courtesy of the Blake Archive.

HALO

“What’s a *nebula*, what’s a world, more or less?” So asks Thomas De Quincey in his 1846 essay, “System of the Heavens,” wherein he traces Victorian debates about the relationship between indistinct celestial forms and the notion of “world.”¹ Wondering whether a nebula comprises a world, however loosely, De Quincey identifies a confusion that developed as eighteenth- and nineteenth-century astronomers failed for decades to discern the luminous patches of dust and cloud floating in deep space. This chapter examines what De Quincey marks: the role of nebulae, and allied formal complexities, in nineteenth-century thinking about worlds. In the *Cyclopædia* (1728), Ephraim Chambers describes nebulae as “certain of the fix’d Stars, which shew a dull, hazy Light...scarce visible to the naked Eye, to which, at best, they only appear like little dusky Specks or Clouds.”² Over a century later, astronomers continued to figure these “curious objects” as “bodies manifestly stellar, but surrounded by a luminous chevelure or halo.”³ In nineteenth-century etymological and pronouncing dictionaries the word “nebula” refers to anything from “a cloud in the human body” to “films upon the eyes”;⁴ “a thin cloud, mist,” a “heaven,” “darkness” or “twilight”;⁵ “a faint, misty appearance in the heavens produced by innumerable stars” or any form which “ha[s] the appearance of clouds”;⁶ a “sky, atmosphere, æther,” and the actions of “swell[ing]” or “burst[ing],” as in “the bursting of rain-clouds and storms.”⁷ In this chapter, I consider what it would mean to envisage the world not as planetary—not as a consolidated assemblage of contour and curvature—but as an atmospheric glimmer of shadow and light. This idea was controversial among Victorian astronomers. Some speculated that nebulae were comprised of individual, isolable

¹ Thomas De Quincey, “System of the Heavens as Revealed by Lord Rosse’s Telescopes,” *Narrative and Miscellaneous Papers*, vol. 2 (Boston: 1853), 38.

² Ephraim Chambers, *Cyclopædia, or, An universal dictionary of arts and sciences*, volume 2 (London, 1728), 621.

³ “State of the Discovery and Speculation Concerning the Nebulæ,” *Westminster Review* (London, July 1836), 392.

⁴ Alexander Chalmers, *A Dictionary of the English Language...by Samuel Johnson* (London, 1853), 486.

⁵ Hensleigh Wedgwood, *A Dictionary of English Etymology*, second edition (London, 1872), 444.

⁶ James Donald, *Chambers’s Etymological Dictionary* (London, 1872), 337.

⁷ Walter W. Skeat, *An Etymological Dictionary of the English Language*, second edition (New York, 1893), 389.

planetary bodies, and believed that a telescope of sufficient power would soon consolidate their fuzzy appearances into lucid rounds. Others, however, maintained that nebulae were irresolvable, leaving open the possibility that worlds could take the form of an irreducible mist—of a halo.

Some Victorian poets and novelists were transfixed by the possibility of “halo-girt” worlds, to borrow phrase from Robert Browning.⁸ Oscar Wilde characterized Victorian fog as an aesthetic, as well as perceptual, epidemic: “At present, people see fogs, not because there are fogs, but because poets and painters have taught them the mysterious loveliness of such effects.”⁹ In *Aurora Leigh* (1856), Elizabeth Barrett Browning envisions a “twofold world” whose forms echo contemporary descriptions of nebulae insofar as their contours dissipate into thin air, disrupting the boundaries between the objective and the illusory, the real and the unreal, the natural and the spiritual.¹⁰ Astronomers and poets alike understand the halo as an experimental form that obstructs, interrogates and refutes modes of engagement that are intent on transforming the world into pure surface. Jesse Oak Taylor argues that such atmospheric structures “becom[e] a world”—a “habitat”—and, as such, “establis[h] the conditions of possibility,” whether for the literary text or the material life forms that exist outside of it.¹¹ I am indebted to Taylor’s account of the interrelationship between notions of “world” and atmospheric forms. My analysis suggests, however, that these forms do not “encircl[e]” or demarcate the bounds of “world” so much as they turn its contours to shadow.¹² Together, the scientific and poetic texts I examine in this chapter

⁸ Robert Browning, “Pauline,” *The Poetical Works of Robert Browning*, volume 1 (London, 1878), 14. Cited by page (rather than line) number for ease of reference.

⁹ Oscar Wilde, “The Decay of Lying” (1891), *De Profundis and Other Prison Writings* (New York: Penguin, 1984), 78.

¹⁰ Elizabeth Barrett Browning, *Aurora Leigh*, ed. Margaret Reynolds (New York: W. W. Norton, 1995), 7.762. All citations are taken this edition and will be cited parenthetically in the main text from this point forward.

¹¹ Jesse Oak Taylor, *The Sky of Our Manufacture: The London Fog from Dickens to Woolf* (Charlottesville: University of Virginia Press, 2016), 12.

¹² Tobias Menely, “Anthropocene Air,” *minnesota review* 83 (2014): 97. Contemporary scholars, on the other hand, argue almost universally that atmospheric forms are mechanisms of closure. In addition to Menely and Taylor, see Gernot Böhme on atmosphere as envelope in “Atmosphere as the Fundamental Concept of a New Aesthetics,” *Thesis Eleven* 36 (1993): 113-26 and Jane Elizabeth Lewis on the aesthetics of atmosphere in the eighteenth century in *Air’s Appearance: Literary Atmosphere in British Fiction, 1660-1794* (Chicago: University of Chicago Press, 2012).

imagine these crepuscular forms as centrifugal and interpenetrating, contourless and indistinct. As such, “world” is an amorphous halo that refuses to stay within its proprietary boundaries, unmooring even the most consolidated of forms. I contend that Barrett Browning understands the halo as a mechanism for reconfiguring the organization of material life to render visible humankind’s ethical obligations to an “Eart[h] crammed with heaven” (7.821).

This argument will unfold across two sections. In the first, I survey astronomy treatises and handbooks that were popular with Victorian mass reading audiences and which were published in the decades leading up to and following the publication of *Aurora Leigh*. In the section that follows, I track Barrett Browning’s notion of a “twofold world” and its shadowy parallels with the nebular debates outlined in the first section. I do not claim that Barrett Browning talks specifically about nebulae, for she does not. Rather, what I track is the poem’s atmospheric texture, which resembles contemporary descriptions of nebulae and lends a form to Barrett Browning’s notion of a doubled world. In the Victorian period, astronomers persistently figure apparitional phenomena, including the optical illusions that arise when telescope and eye conjoin, as real, corporeal and worldly. Such forms were not simply the immaterial manifestations of an otherwise invisible spiritual realm. Instead, the Victorians understood the apparitional as profoundly material—as the stuff of nonspiritual worlds, of substance, of flesh.¹³ That the word “halo” appears frequently in descriptions of nebulae demonstrates precisely this point. Possessing a rich discursive mobility, “halo” might refer to the luminous circlet surrounding the head of a religious figure, but it just as often connotes nebulous world-forms: atmospheres, incandescent matter, haze. Victorian astronomy makes visible how the spiritual valence of Barrett Browning’s “twofold” world is deeply material—how the language of the immaterial, the metaphysical, the otherworldly is deeply entwined with the visible, the material, the corporeal. The nebular debates offer a critical lens for understanding *Aurora*

¹³ “State of the Discovery and Speculation Concerning the Nebulae,” 398.

Leigh, whose spiritualist leanings are all too often understood as mutually exclusive to or covering over the material. Nebular form, I will argue, is *the* material frontier for the category of “world” in the poem.

Nebula, Planet, Analogy

In *Other Worlds Than Ours* (1870), an astronomical treatise wildly popular with Victorian mass reading audiences, Richard A. Proctor traces a universe without contour. Figuring deep space as akin to the “trackless deeps” which haunt the edges of the solar system in Anna Letitia Barbauld’s “A Summer Evening’s Meditation” (1773), Proctor contends that beyond “the region amid which stars and nebulae are scattered...lies on all sides a vast void.” Here, Proctor gestures to the formal questions I considered in the second chapter of this dissertation: “where are the limits of void or bound?” If “[i]nfinity of space, occupied or unoccupied, there must undoubtedly be,” he speculates, then the universe’s “centre is everywhere, its boundary nowhere.”¹⁴ Like the Romantics, the Victorians were preoccupied with the specter of a world without form. As *Other Worlds Than Ours* illustrates, nature’s openness continued to pose problems for conceptualizing the bounds of global space and time, especially with respect to planetary form. If the second chapter of this project is concerned with the structures and affordances of void as such, this chapter takes up the matter of contour—of bounds, of silhouette, of surface—by exploring Victorian debates about worlds that were ill-defined and crepuscular; that refused to stay in the lines.

These debates centered on nebular form. I contend that, as sites of star-formation—as *the* physical, material engines of world-production in the universe—the nebulae were entwined with the

¹⁴ Anna Letitia Barbauld, “A Summer Evening’s Meditation,” *The Poems of Anna Letitia Barbauld*, ed. William McCarthy and Elizabeth Kraft (Athens: University of Georgia Press, 1994), 82 and Richard A. Proctor, *Other Worlds Than Ours* (London, 1870), 298. Here, Proctor invokes Alfred Lord Tennyson’s famous vision of a universe that “‘has centre everywhere / Nor cares to fix itself to form.” See Tennyson, “In Memoriam,” *The Poems of Tennyson*, ed. Christopher Ricks, 3 vols. (Berkeley: University of California Press, 1987), 33.3-4.

notion of “world” and its forms in the nineteenth century. This is especially true for the organizing unit with which “world” is most often conflated: the planet. Globular and massy, centripetal and consolidated, the planet—perhaps more so than any other unit of global space and time—seems to steadfastly resist the open and multifarious world-model this project investigates. However, I will argue that planetary form goes gossamer over the course of the Victorian period. A mere fleck of paint on the canvas of the universe—a “globe” whose “dimensions,” when compared to “the giant Jupiter,” are “dwarf[ed]...almost to nothingness”—earth transforms from a massy and solid structure into a more rarefied form. Terra firma, in the blink of an eye, becomes terra incognita. The contours of worlds as immediate and familiar as our own planet dissolve into “nothingness,” their outlines dissipating into a penumbral haze. Here, I take seriously the atmospheric, elusive, evanescent undercurrents of Proctor’s diction, for to imagine an earth reduced “almost to nothingness” is to imagine worlds turned diaphanous—worlds that are all nimbus; planets rendered “almost” immaterial; spherical forms melting into shadow.

This argument contradicts much of what we think we know about the Victorian period, which marks the height of British imperial power and optical precision. It is widely accepted that revolutions in visual technology enabled the production of a newly apprehensible and anatomized world. The latter half of the nineteenth century, in this account, heralds the restoration of contour—the solidification of surface. Scholars from Jonathan Crary to Lorraine Daston and Peter Galison have traced these developments to the standardization of vision in the Victorian period, unseating objectivity from its longstanding place in eighteenth-century empiricism to relocate its emergence in the nineteenth century.¹⁵ Daston and Galison pay particular attention to botany and cartography, but the picture changes if we consider astronomy’s deliberate focus on bodies that were so distant and

¹⁵ Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA: MIT Press, 1990) and Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2007).

illegible they obstructed any and all techniques of objectification and representation. Some might be tempted to dismiss this claim on the basis of the nineteenth century's record of technological innovation. Whereas Sir William Herschel had constructed telescopes that reached twenty and even forty feet in length, the Victorian period marked the rise of the "monster" telescope. Bigger was, at least for the moment, better. No monster telescope was so famous as the Leviathan of Parsonstown, named for its builder, William Parsons, the Earl of Rosse. Armed with a six-foot speculum and a seventy-foot tube, the Leviathan "cost £12,000 to build and was developed between spring 1842 and spring 1845." The telescope was, as Simon Schaffer notes, the biggest in a series of increasingly gargantuan telescopes constructed during the late eighteenth and early nineteenth centuries.¹⁶ To say that the Leviathan caused a stir is an understatement. In an 1844 essay describing its initial revelations, Thomas Wood speculated that the instrument "promises extraordinary results," a "great advance" for "Astronomy," and a "triumph" for "Science."¹⁷ In his 1853 *Manual of Astronomy*, John Drew marveled at the Leviathan's seemingly infinite potential, its momentous "disclosures" having already "extended our knowledge of the universe" to reveal "stars whose existence had been previously unknown."¹⁸

But this story gets interesting where it gets fuzzy. While the monster telescope would turn its gaze upon a host of celestial objects over the years, Lord Rosse had constructed it principally to understand the nebulae, whose forms seemed irresolvable. Why? Because entire world-systems hung, quite literally, in the balance between two competing theories of nebular evolution: one that viewed the universe as static and another as plural and diffuse. The story begins with the elder Herschel's nebular hypothesis, which his son John revised as he conducted experiments over the

¹⁶ Simon Schaffer, "The Leviathan of Parsonstown: Literary Technology and Scientific Representation," *Inscribing Science: Scientific Texts and the Materiality of Communication*, ed. Timothy Lenoir (Palo Alto: Stanford University Press, 1998), 188.

¹⁷ Thomas Wood, *The Monster Telescopes, erected by the Earl of Rosse, Parsonstown*, second edition (Edinburgh, 1844), 52 and 53.

¹⁸ John Drew, *Manual of Astronomy: A Popular Treatise on Descriptive, Physical, and Practical Astronomy*, second edition (London, 1853), 136.

course of the mid-nineteenth century. Proctor's 1868 essay on the Orion nebula summarizes the key point of the Herschel hypothesis when it figures nebulae as composed of "self-luminous nebulous matter"—"a nebulous substance" or "fire-mist, as it has been termed"—from which "the stars ha[d] been originally formed."¹⁹ Should this hypothesis—that nebulae were gaseous, irresolvable bodies of incandescent "matter" that would eventually consolidate into planets—proved true, the implications would be staggering. As Alex Murray observes, such a finding would "demonstrate that the universe is not composed of static objects, but is instead in a process of evolution." Bound up in the nebular hypothesis, in other words, is the question of evolutionary form in space. As such, the hypothesis also represented a crisis of faith: it unsettled "the narrative of Divine Creation," inferring instead "that the Universe modulated and shifted according to its own natural process of creation."²⁰ No wonder its defenders had to fend off accusations of atheism for the whole of their careers. If Lord Rosse could resolve the nebulae into individual stars and thus bring them to heel, however, all would remain right with the world. To "resolv[e] many [nebulae] which were before thought irresolvable, or only diffusive matter" would, as Drew surmises, obliterate the substance "of future worlds" and assert the primacy of an invariable, unitary and bounded world-system.

At stake in this debate is the plasticity of "world" as a formal category. Should the nebular hypothesis prove true, it would suggest that worlds coincide not only with the consolidated form of the planet, but also with more diffuse, diaphanous, transitory structures. When De Quincey describes how the elder Herschel's attempts to "unmask" the nebulae resulted in the discovery of "a dreadful anomaly," De Quincey admits precisely this point. Herschel could never "persuade" the Andromeda and Orion nebulae—some of the most notoriously difficult celestial objects to observe—"to show a star." Orion, in particular, was "hardened" against this purpose: "he wouldn't

¹⁹ Proctor, "The Great Nebula in Orion," *Fraser's Magazine* (London, February 1868), 236-7.

²⁰ Alex Murray, "Vestiges of the Phoenix: De Quincey, Kant and the Heavens," *Victoriographies* 1.2 (2011): 247.

split.” The result was the inauguration of two classes of nebulae: “one that *were* worlds” in the planetary sense of the term (also known as stellar nebulae), and another “that were *not*” worlds so much as “the pabulum of future worlds.” De Quincey emphatically understood the problem of “world” as entangled with the chameleonic forms of the nebulae: “Why should any decent world wear an *alias*? There was nothing, you know, to be ashamed of, in being an honest cluster of stars.”²¹ Here, “world” is something of a double agent: it goes by more than one name and assumes many faces. So imagined, it bears a closer resemblance to halo than to planet.

Debates about what kind of world the nebulae convey hinge—as the manufacture of increasingly big and powerful telescopes suggests—on the inadequacies, errors and illusions to which visual sense perception is prone. The edges of the world lose definition in part because of the extent to which sight was anything but precise in the Victorian period, and because of how the nebulae exposed, heightened and exploited that tenuousness. Despite hopes to the contrary, telescopes often disappointed amateur astronomers, who expected to see the night sky with a clarity that was impossible. Consequently, professional astronomers often urge their inexpert readers not to give up on the stars. In his *Celestial Objects for Common Telescopes* (1859), Thomas William Webb makes the following plea: “Do not be dissatisfied with first impressions.” Another handbook, J. T. Slugg’s *Observational Astronomy, and Guide to the Use of the Telescope* (1862), states:

It is not uncommon for a person without experience in astronomical observations, to feel some disappointment in his first views of some of the heavenly bodies, both as to their aspect and size. He has heard, for instance, that when Jupiter is magnified 40 times only, he appears as large as the moon, and that on his surface are seen one, two, or more dusky-looking belts. But he can neither see the one, nor can he believe the other...Expecting all this to appear as plain to him as if delineated in a picture, he is perfect bewildered in looking at a small, uninteresting, red-looking disc...The unpracticed observer, on finding that everything is not so visible and well-defined as he expected, is apt to attribute his disappointment to some imperfection in his instrument.²²

Expecting to see precisely “delineated” surfaces and “well-defined” contours, amateur observers

²¹ De Quincey, 25-6.

²² Thomas William Webb, *Celestial Objects for Common Telescopes* (London, 1859), 13 and J. T. Slugg, *Observational Astronomy, and Guide to the Use of the Telescope* (London, 1862), 26.

encounter nothing of the kind. There are no “dusky-looking belts” or pristine landscapes to be found, even when the gaze is trained on an object as gigantic as Jupiter. Instead, with “disappointment” the observer sees only a minuscule and indistinct “disc” that seems barely deserving of a passing glance. William Wordsworth recounts a similarly disappointing experience in “Star Gazers” (1807), a poem about a crowd of Londoners who—having paid a “fee” to “pry and pore” into the heavens using a telescope in search of some great “insight”—“One after One” “slackly go away, as if dissatisfied.” As Slugg does in the passage above, Wordsworth wonders if the “implement”—or telescope—is to “blame,” or whether it is the “eyes” and “mind” of the individual observer that obscure the skyscape. Perhaps strangest of all, Wordsworth wonders whether the “resplendent Vault” above bears responsibility, its penumbral bodies tricking and taunting the observer as they recede into the shadowy deeps of space.²³ Disappointment results from the night sky’s steadfast refusal to resolve into neatly delineated surfaces and arcs, crisp contours and curvatures. Here, worlds are recalcitrant nimbuses.

Professional observers, however experienced, were by no means immune to this recalcitrance. Thus, Slugg concedes that the true “appearances” of celestial bodies “are only made out by—to *some extent*—a trained eye, as a result of patient painstaking.”²⁴ The qualifying phrase, “to some extent,” conveys how the astronomer can at best apprehend an uncertain picture of things. Truly, there are very few if any “delineated” forms to be had, and they come only with “patient painstaking” or practice. Telescopic vision is not innate, involving only the intuitive coupling of eyepiece and of eye. Rather, it is learned. As John Herschel puts it: “Almost all its [astronomy’s] conclusions stand in open and striking contradiction with those of superficial and vulgar observation, and with what appears to every one...the most positive evidence of the senses.”²⁵ “[S]uperficial and vulgar

²³ William Wordsworth, “Star Gazers,” *Poems in Two Volumes* (London, 1807), 7-12 and 29-32.

²⁴ Slugg, 26. Emphasis mine.

²⁵ John Herschel, *A Treatise on Astronomy* (London, 1833), 2.

observation” consists of taking immediate appearances for granted. To press beyond mere appearance, the observer must develop an awareness of how sight is mediated by a range of outside forms and forces. These include “the difference of telescopes and of eyes”—the material idiosyncrasies which characterize individual instruments and bodies that, when compounded, ensure no two observers see exactly the same thing. Here, “the human eye bec[omes] an object of knowledge,” as Bernard Lightman suggests, its physiological idiosyncrasies colluding with those of the telescope to render vision “fallible and limited.”²⁶ Perhaps surprisingly, these limitations are intensified by the use of “higher magnifying” powers, which Slugg says “make the inevitable imperfection of the telescope more visible.” The already indistinct enterprise of celestial observation becomes more “dim and indistinct” as the deficiencies of both eye and instrument “magnif[y the] motion of the earth” and material qualities of the “atmosphere.” They magnify “every defect” of body and apparatus, even those as mundane as the stability of “the stand” on which the telescope is placed.²⁷

To combat these contingencies, astronomers developed what was, essentially, a kind of second sight. The result of “painstaking” practice and counter-intuitive technique, vision possesses an almost mystical quality in nineteenth-century astronomical treatises and handbooks. The epigraphs to Webb’s *Celestial Objects* suggest as much. The first, taken from William Henry Smyth’s *Cycle of Celestial Objects* (1844), states that objects “deemed invisible to secondary instruments” will reveal themselves to “one who ‘knows how to see them.’” The second, attributed to the elder Herschel, observes that “[w]hen an object is once discovered by a superior power, an inferior one will suffice to see it afterwards.”²⁸ Together, the epigraphs understand vision as a mysterious, even secret form

²⁶ Bernard Lightman, “The Visual Theology of Victorian Popularizers of Science: From Reverent Eye to Chemical Retina,” *Isis* 91.4 (2000): 653. See also James Krasner, *The Entangled Eye: Visual Perception and the Representation of Nature in Post-Darwinian Narrative* (Oxford: Oxford University Press, 1992).

²⁷ Slugg, 29.

²⁸ Webb, n.p. and William Henry Smyth, *Cycle of Celestial Objects*, volume 1 (London, 1844), n.p.

of knowledge that contradicts “the most positive evidence of the senses,” as John Herschel puts it.²⁹ Astronomers thus relied on many techniques, including looking away, to delve deeper than surface. In his *Outlines of Astronomy* (1849), Herschel describes how only “six or seven stars may be noticed” in the Pleiades “if the eye be directed full upon” it, but “many more” become visible “if the *eye be turned carelessly aside*, while *the attention* is kept directed upon the group.”³⁰ Slugg, like Herschel, advises that, to “detec[t]” indistinct bodies which “cannot be seen by direct vision,” the observer might “loo[k] *sideways*” or askance at whatever lurks beneath the telescope’s lens.³¹ This turn away from the “directly perceivable” is an instance, I argue, of the predilection for “ephemeral perceptual experienc[e]”—for “phenomenophilia”—that Rei Terada locates in post-Kantian thought. These “oblique” or “false” visual techniques reveal forms perceptible only at the most exterior parts of the retina. They haunt the periphery of the eye. “The art of seeing,” as Schaffer argues, in this way “bec[ame] *experimental* and no longer self-evident.”³² It involved indirect, evanescent, even spectral modes of perceptual engagement with the world. Immersed in fog, astronomers fought fire with fire, so to speak: to observe the nebulae, they crept further into the shadows.

Here, I want to consider the language of the phantasmic at greater length. Nineteenth-century astronomy treatises and manuals are packed with lengthy descriptions of illusions or, as they were frequently called, “ghosts.” They describe a set of formal and aesthetic possibilities that transformed astronomers’ understanding of the heavens and of “world.” On the subject of selecting “proper test-object[s]” for telescopes, Webb warns of celestial bodies that would seem to possess “‘wings’, or rays, or mistiness, or false images, or appendages” that muddy the “regularly circular” forms presumably under study. Smyth describes this amorphous and illusory “mistiness” as a symptom of

²⁹ Herschel, *Treatise*, 2.

³⁰ Herschel, *Outlines of Astronomy* (London, 1849), 591.

³¹ Slugg, 29.

³² Schaffer, 194.

“[t]he ghost, or secondary spectrum,” which “will more or less haunt” an observer’s telescope.³³ It would be easy to dismiss these apparitions as the product of defects in the eye and telescope—to repudiate their actual existence or materiality. Following Elaine Freedgood’s recent provocation that scholars take seriously the materiality of the ghost, I contend that these optical illusions made possible “the free play of belief and the production of worlds” not only for fiction, but also and perhaps more surprisingly for science.³⁴ As Lindsay Smith argues, the “impetus...to classify and verify phenomena visually, produces as its counterpart, however, a fascination with the obverse of clear-sightedness” and “a desire for acts of visual perception more closely linked with metaphysical phenomena.”³⁵ Astronomy was no exception in this regard. For even the most expert of observers, “false images” were not always clearly false. In his *Myths and Marvels of Astronomy* (1877), Proctor explores at length how renowned astronomers from Giovanni Domenico Cassini to Sir William Herschel were often “deceived,” their eyes tricked into mistaking “stray light, ghosts, false images, or other optical illusions” for real, material celestial phenomena.³⁶

Proctor is correct about Cassini: the seventeenth-century Italian mathematician’s discovery of a phantom satellite orbiting Venus was indeed an illusion. But he runs into trouble in his assessment of Herschel. Having trained “his most powerful telescope” on the recently discovered Uranus, the eighteenth-century astronomer “saw the planet to all appearance girt about by two rings at right angles to one another.” Proctor dismisses Herschel’s discovery as a “mere optical illu[sio]n” and credits its “appearance” to “the imperfect defining qualities of the telescope with which [Herschel] saw the planet.” Even more shocking is how Herschel, an expert astronomer, “was more completely misled” into the discovery of “false Uranian satellites”—six in total—which, in addition to two

³³ Webb, 3 and Smyth, 378.

³⁴ Elaine Freedgood, “Ghostly Reference,” *Representations* 125 (2014): 40.

³⁵ Lindsay Smith, *Victorian Photography, Painting and Poetry: The Enigma of Visibility in Ruskin, Morris and the Pre-Raphaelites* (Cambridge: Cambridge University Press, 1995), 7.

³⁶ Smyth, 109.

more moons “discovered by [William] Lassell,” suggested the planet possessed “eight satellites in all.” As Proctor observes, this supposed myth “flourished in” and haunted “text-books of astronomy”—including William Whewell’s well-respected Bridgewater Treatise—into the late nineteenth century.³⁷

Why rehearse this ghost story? Because it turns out Proctor was wrong about Herschel: his sightings of Uranian satellites were no illusion. We now know that Uranus possesses a whopping twenty-seven moons (rather than the four Proctor verified). Taking their names not from Greek mythology (as is customary) but William Shakespeare’s plays and Alexander Pope’s poems, Herschel’s phantom moons were quite real, however much their detection stretched the limits of perception and belief. The same goes for Uranus’ halo-like rings. These appendages were not the “fancied discoveries” of an over-eager observer, as Proctor contends. Herschel may not have received credit for definitively discovering Uranus’ rings, but he has the honor of being the first to suspend disbelief and acknowledge their shadowy presence. As an astronomer, he willingly gave himself over to the ghost. Hindsight is always 20/20 and here it makes visible how even experienced observers such as Cassini and Proctor struggled to differentiate between the actual and the imaginary, the material and phantasmatic. Phantoms were as real for the Victorian astronomer as for the Spiritualist medium. The myth and marvel of astronomy (to play upon Proctor’s sensationalizing title) was not that astronomers were “led astray” time and time again in pursuit of specters that did not exist in the material world except as figments of faulty vision. Rather, it is that the night sky constituted a veritable “ghost spectrum” that interweaved the material and metaphysical worlds in a shared nimbus.

In the nineteenth century, nebulae are described using the language of the “ghost spectrum.” Their ghostly qualities rendered them especially resistant not only to observation, but also to

³⁷ Proctor, *Myths and Marvels of Astronomy* (London, 1877), 326-7.

representation. As such, they conveyed new possibilities for imagining the forms and politics of planetary life. Webb, for instance, figures nebular form as “an irregular branching mass of haze, in some directions pretty well defined” and “in others melting imperceptibly away.” Likewise, he describes optical illusions as masses of “wings, “appendages” and “mistiness” whose tendrils festoon eye and world in a shadowy “veil,” rendering all things indistinct.³⁸ After coming under attack for his inaccurate representation of the Orion nebula, De Quincey issues a revised version of his essay wherein he contends in an expansive footnote that “[a]ll such appearances” of the heavens, “whether seen in the fire, or in the clouds, or in the arbitrary combinations of the stars, are read differently by different people.” No matter how hard the observer tries to “exclude all action of caprice” from affecting the field of vision, results are never replicable: “I cannot complain of those who have not been able to read the same dreadful features...as I myself have read.” This is especially true of the Orion nebula, an “apparition” that “put[s] on...figure[s]” at whim.³⁹ Here, De Quincey gripes about a nebular phenomenon that nineteenth-century astronomers documented at length. As the younger Herschel puts it, “[t]he same nebula viewed on the same night with different telescopes, presents very different appearances...so different, indeed, as to be scarcely recognizable for the same object.”⁴⁰

In the astronomical treatises, handbooks and manuals I surveyed, this resistance to representation is attributed to the nebulae’s diffusive forms, which “sho[w] how difficult it is to assign correctly the figure of an object which has no outline, but shades away insensibly on all sides.”⁴¹ And if these forms stretch language to its limits, they also obstruct the techniques and technologies of visual representation. “[I]t will be no matter of surprise,” Herschel notes, “that the

³⁸ Webb, 221 and 3.

³⁹ De Quincey, 182.

⁴⁰ Herschel, *Account of Observations Made with a Twenty-Foot Reflecting Telescope* (London, 1826), 488.

⁴¹ *Ibid.*, 496.

published engravings of these objects present a mass of contradictions, and for the most part offer as little resemblance to the objects themselves as to each other.” Webb, like Herschel, documents “strange discrepancies” in representations of the Orion nebula, even “in the drawings by the best hands,” suggesting it exhibits not “a permanent form” but rather “is in a state of continual change.”⁴² Nebulae are capable of appropriating and jettisoning all manner of figures. They turn the contours of the world indistinct as their “multifarious” forms transgress the boundaries between the immaterial and the material.⁴³ That De Quincey calls the Orion nebula an “apparition” is not simply a poetic turn of phrase.⁴⁴ As shape-shifters that haunt Victorian skies and eyes, these “apparitions” embody a host of transfigurative potentials for the world. Here, the stakes of De Quincey’s query—“What’s a *nebula*, what’s a world, more or less?”—become clear. The latter—its forms, mechanics and possibilities—is entwined with the former in all of its evanescence and cloud.

Planetary nebulae are of especial interest for how they “put on” the figure of the planet, that most familiar of world-forms. These ghost planets disrupt the proprietary boundaries of planetary worlds such as our own. “[T]heir physical constitution” as Smyth puts it, “is very problematical.”⁴⁵ Though at first glance they appear spherical in structure, they under closer inspection exhibit characteristics that unsettle orbicular closure. Herschel writes: “They have, as their name imports, a near, in some instances, a perfect resemblance to planets, presenting discs round, or slightly oval, in some quite sharply terminated, in others a little hazy or softened at the borders. Their light is in some perfectly equable, in others mottled and of a very peculiar *texture*, as if curdled.”⁴⁶ The key to this passage, I argue, lies in its grain. “Hazy or softened” in some cases, “equable” or “mottled” in others, planetary nebulae possess a distinctly textural, haptic quality. This textural density confutes

⁴² Herschel, *Account*, 499 and Webb, 222.

⁴³ Smyth, 314.

⁴⁴ De Quincey, 182.

⁴⁵ Smyth, 315.

⁴⁶ Herschel, *Outlines*, 602-3.

the defined and impermeable contours of spherical form. So imagined, these nebulae reconfigure the “borders” of planetary form—its silhouette or profile—as permeable and fluctuating, overflowing and dynamic. At the same time, their “round” and “sharply terminated” forms bear an uncanny “resemblance to planets,” foregrounding the extent to which the category of “world” is up for grabs. That planetary form is so easily co-opted demonstrates the difficulty of pinning down the category of “planet”—what it is, what it looks like, how it acts. This difficulty extends to the planet’s supposed doppelgänger: “world.” Victorian astronomers thus traced a universe that actively puts into question the contours of received forms. This is significant on two counts. First, it corroborates this dissertation’s core argument: “world” is a formal problematic that in the nineteenth century is open in structure—that resists closure. Second, it demonstrates how this problematic transforms the organizing categories across which “world” cuts. These categories are then opened up to renegotiation.

The forms of the nebulae renegotiate not only planetary form in the abstract, but also planet Earth in particular. However distinct they might seem, both are understood by Victorian astronomers as atmospheric in form. Scholars frequently figure the atmosphere as a container—as a spherical and enveloping structure. But I am interested in how, for Victorian astronomers, atmosphere did not always bind or contain. Instead, they imagine it as interpenetrative—as open to and reconfiguring other forms. Nowhere is this more evident than in descriptions of nebular haze, which astronomers figure as akin to the atmosphere of Earth. George Frederick Chambers, for instance, likens nebulae to “specks of fog” and Herschel compares the “phosphorescent or self-luminous matter” of which some nebulae are composed to “a cloud or fog” that billows into “capricious shapes, like actual clouds drifted by the wind,” and which “contort[s]...like a cometic

atmosphere around particular stars.”⁴⁷ These “capricious” forms suggest an atmospheric world-model wherein nearly invisible, gaseous matter moves through and outside the boundaries of celestial bodies, transforming them into mist. As such, they parallel the contours of our own planet, whose rarefied, elastic and “capricious” atmosphere makes it difficult to pinpoint where planetary form truly ends and celestial space begins. Thus, Herschel imagines the terrestrial atmosphere as

an aërial ocean, of which the surface of the sea and land constitutes the bed, and whose inferior portions or strata, within a few miles of the earth, contain by far the greater part of the whole mass, the density diminishing with extreme rapidity as we recede upwards, till...all sensible trace of the existence of air disappears.”⁴⁸

Likening the atmosphere to an “ocean,” Herschel’s metaphors cloud—rather than solidify—the dividing lines between interior and exterior. Oceanic space does not mark the apparent stopping point of the planet. Here, the atmosphere amplifies planetary frontiers and, in so doing, destabilizes the boundaries between the terrestrial and celestial. “[D]iminishing” in density until “all sensible trace” melts away, the atmosphere—like the nebulae—“shows how difficult it is to assign correctly the figure of an object which has no outline, but shades away insensibly on all sides.”⁴⁹ Viewed at an incredible distance using the magnifying powers of the telescope, Earth might resolve neatly into an orbicular form. Viewed from the inside out, its “figure” is not so easily assigned. As imagined in the Victorian period, worlds are profoundly open in form. This rule holds true for the planetary world we call home.

I argue that the nebulae made available new possibilities not only for the category of “world,” but also for figuration. In their attempts to accurately represent these recalcitrant objects, astronomers marshal a profusion of figural analogs. “In the history of science,” as Omar Nasim notes, “a customary way of coming to terms with the unfamiliar is to connect it to the familiar by

⁴⁷ George Frederick Chambers, *Handbook of Descriptive and Practical Astronomy* (London, 1861), 296 and Herschel, *Treatise*, 406-7.

⁴⁸ Herschel, *Treatise*, 25.

⁴⁹ Herschel, *Account*, 496.

analogy or metaphor.”⁵⁰ When they work properly, analogies function something like an adhesive: they affix “unfamiliar” phenomena to “familiar” ones, thus assimilating the former into extant systems of knowledge. Nineteenth-century astronomy was highly reliant on these sticky lines of reasoning because its objects of study were so remote. According to Smyth, the astronomer “can only proceed by analogy, and argue onwards from what we know” in the face of otherwise “inaccessible objects.” Proctor understands analogy as “hav[ing] brought the distant orbs of heaven into close relationship with our own earth.”⁵¹ But nebulae were particularly slippery and unassimilable. Their “irregular” forms were so “entirely dissimilar from every permanent body in our system”—as Sir George Biddell Airy, the Astronomer Royal from 1831 to 1881, observes—that in their case “the analogy of system fails entirely.”⁵² Astronomers had only minimal success in identifying figures whose likeness would throw the nebulae out of shadow and into definition. So imagined, the nebulae threatened to topple “the analogy of system”—the entire analogical house of cards—astronomers used to make sense of the cosmos as a totality.

The response to analogical collapse was to pile analogy on top of analogy in hopes an errant one might hit its target. The result: a swarm of ever-multiplying figures that reconfigure the world. Conceding it is “impossible by verbal description to given any idea of the capricious forms and irregular gradations of light affected by the different branches and appendages of [the Orion] nebula,” Herschel confesses how these “capricious forms” trigger moments of uncontrollable “climax” or euphoria wherein the astronomer takes pleasure in “expressions which, though I find them written in my journal in the excitement of the moment, would be thought extravagant” were they to appear in print. As Herschel here describes, “the dazzling richness” of the nebulae inspire an

⁵⁰ Omar Nasim, *Observing by Hand: Sketching the Nebulae in the Nineteenth Century* (Chicago: University of Chicago Press, 2013), 36.

⁵¹ Smyth, 127 and Proctor, *Other Worlds Than Ours*, 5.

⁵² Sir George Biddell Airy, “An Address delivered at the Annual General Meeting of the Royal Astronomical Society on February 12, 1836,” *Memoirs of the Royal Astronomical Society* ix (1836), 304.

uncontrollable “astronomical enthusiasm” in their observers. It is no surprise that nineteenth-century descriptions of nebulae are packed to bursting with figures that convey “the beauty and sublimity of the spectacle” precisely by way of their failures as analogs. Individually, these figures collapse under the comparative weight they were marshaled to bear. But as a collectivity they are unmoored, coalescing together to suffuse the world in a shifting cloud of forms. They make visible an unassimilable, penumbral and perhaps enchanted world that was always there in the shadows, though it was veiled in analogical order.

This “extravagant” and “dazzling” figural atmosphere is on view in Herschel’s earliest descriptions of the Orion nebula. Words failing him, he levels figure after figure at the celestial enigma:

I know not how to describe it better, than by comparing it to a curdling liquid, or a surface strewed over with flocks of wool, or to the breaking up of a *mackerel sky* when the clouds of which it consists begin to assume a cirrous appearance. It is not very unlike the mottling of the sun’s disc, only (if I may so express myself) the grain is much coarser, the intervals darker; and the flocculi, instead of being generally round, are drawn out into little wisps. They present, however, no appearance of being composed of small stars, and their aspect is altogether different from that of *resolvable nebulae*. In the latter we fancy by glimpses that we see stars, or that, could we strain our sight a little more, we should see them. But the former suggests no idea of stars, but rather of something quite distinct from them.—I am thus diffuse in describing this, because no single simile exactly represents the object, and on account of the very remarkable nature of the phenomenon, which certainly forcibly suggests the notion of a breaking up and separation of the nebula into distinct parts, and not less so, that of matter feebly coherent floating in a transparent atmosphere of equal density and agitated by winds. I do not find it described or noticed in any former account; but this must be attributed to the want of light in the telescopes used.⁵³

By turns the stuff of clouds and wool, of liquid and vapor, Herschel admits that “descri[ption]” has perhaps finally met its match. His strategy, however curious, is to thicken the fog. He creates an analogical “diffus[ion].” While “no single simile” will suffice, he admits, a stormcloud of figures might. Thick with noncommittal and qualifying phrases—“I know not how,” “not very unlike,” “if I may so express myself,” “I am thus diffuse”—the language of the passage does not bring the nebulae into focus, here, but amplifies (and is perhaps hijacked by) their amorphousness. This is quite typical of other descriptions of nebulae in Victorian astronomical treatises. Slugg narrates how

⁵³ Herschel, *Account*, 491.

they “look like” objects ranging from “the ghost of Saturn” to “a mock Jupiter”; “the face of some monster with flaming eyes, fiery mouth, and radiating hair” to the “loops” of “a true lover’s knot, formed by a bunch of ribbons”; “triangl[es]” to “luminous cones”; “enormous cactus plant[s], glistening with diamonds” to “some vast creature of the elephant species, with a fish’s mouth.”⁵⁴

What a strange series of figures—an impossible collective of misfits that includes the planetary, the monstrous and mythological, the formal and the geometric, the botanical and the mineralogical, the terrestrial and the oceanic. In what world do these go together? Not in this one, some might answer.

But I argue these moments of analogical thinking imagine how these figures might, however impossibly, belong together—how these aesthetic and ecological collectives could and perhaps do exist. They convey the possibility of a life outside the lines wherein worlds are “ghost[ly]” and “monster[s]” interject the everyday with fantasy; wherein all things from rocks to plants are “diamond,” flashing beyond their contours; wherein “elephant[s]” and “fis[h]” exchange lips in a weird and wild interspecies kiss. As a material life form, humankind is also subject to reconfiguration. An 1836 essay, “State of the Discovery and Speculation Concerning the Nebulae,” considers how the nebular hypothesis amplified the natural historical timeline and, in so doing, revealed a new species. This “creature”—called “the ephemeron”—is perceptually “confined to the veriest speck of time.” Thus, while “in the presence of the phenomena of vegetable growth,” the author wonders: “could all its [the ephemeron’s] generations observe th[e] progress”—the slow time of evolution—at work in “trees, plants, and flowers”? The author then reveals that the “ephemeron” is a species with which readers are familiar: “man.” As an individual and as a species, “man” possesses such a brief tenure on Earth that it would seem impossible “as much as one hundred of those creatures who are born, breathe, and die, might learn the progress upwards of the

⁵⁴ Slugg, 22-3.

majestic pine” or “the changes of the nebulae.”⁵⁵ In comparison with the long-historied and evolutionary processes embodied in plants and nebulae, humankind is gossamer in form. It, like the analogical figures that swarm through the pages of Victorian astronomy manuals, is ephemeral and incandescent. As such, it is formally analogous to and a part of the atmospheric, interpenetrating halo of forms that is the world. Taylor argues that “atmospheric thinking reminds us that we don’t live *on* that swirling blue marble known as Earth; we live *in* it.”⁵⁶ If this is the mandate of *atmospheric* thinking, *nebular* thinking asks instead how humankind—alongside a host of other life forms—are this “swirling blue marble known as Earth.” To imagine “world” as nebular, in other words, is to understand humankind’s relationship with the planet neither as an occupation (“on”) or an immersion (“in”), but instead as an involuntary, rarefying and interpenetrating collusion with shadow.

Sphere, Shadow, Rhyme

Perhaps nowhere is the nebular quality of Elizabeth Barrett Browning’s *Aurora Leigh* more evident than in the name of its protagonist. Scholars have already noted how Aurora’s name is significant, particularly in the context of Victorian light theory. Alison Chapman argues the “mythologically charged name connotes the dawning of light” and, further, “the process of refraction,” in which “light...is deflected from one straight path to another, when passing from one medium...to another”—a “compelling metaphor” for the “artist as such a medium.”⁵⁷ The poem’s title and eponymous subject also invoke the aurora borealis, which De Quincey describes as “some

⁵⁵ “State of the Discovery and Speculation Concerning the Nebulae,” 406.

⁵⁶ Taylor, 8.

⁵⁷ Alison Chapman, “Poetry, Network, Nation: Elizabeth Barrett Browning and Expatriate Women’s Poetry,” *Victorian Studies* 55.2 (2013): 278.

brilliant skirmishing” of “snowy light that spans the skies” and leaps beyond the contours of Earth.⁵⁸ Barrett Browning’s allusion to the aurora borealis recalls the contourless forms that so fascinated her scientific contemporaries. These shadowy forms give shape to the notion of “world” in *Aurora Leigh*, as well as the poem’s philosophy of sense perception and of poetry. They interpenetrate and involute the otherwise sealed spheres of the terrestrial and the celestial, the natural and the spiritual, imbuing material life in incandescence. Taking material shape on the page by way of the structures of scant rhyme, these forms suggest novel patterns of material interrelation and ethical responsibility. Whereas in the first and second chapters of this dissertation I traced how repetitious forms possessed an imperial valence for Percy Bysshe Shelley, Barbauld and others, this chapter considers the off-rhymes for which Barrett Browning was known. In *Aurora Leigh*, inexact rhyme conveys previously foreclosed logics of material and sociopolitical organization.

Aurora Leigh is structured according to a marriage plot and the debates which unfold between two of its three primary players: Aurora and Romney Leigh. These debates circulate around profound variabilities in worldview. Early in the verse-novel, Romney accuses Aurora (and women in general) of being “sympathetic to the personal pang” (2.185)—to the plight of “such *a* child, or such *a* man” (2.190, emphasis mine)—at the expense of “general suffering” (2.199) or “the great sum / Of universal anguish” (2.208-9). For Aurora, the world is an assemblage of individual parts, each of which possesses “A whole life” (2.187) that is irreducible and untotalizable—that resists assimilation into a “great sum” or system. Romney, on the other hand, sees only “general suffering,” or a “world-full woe” (2.189). He understands the world as a totality, a world-whole or—to use the poem’s own phrasing—an overstuffed “world-full” with little (if any) room for intervention or transformation. This sense of depletion is evident when Romney employs the language of form: “The world,—look round,— / The world, we’re come to late, is swollen hard / With perished

⁵⁸ De Quincey, 52.

generations and their sins” (2.262-4). “Swollen” and massy, the world is “round,” consolidated and immutable—a “hard” and impermeable entity wherein “influence” is belated and futurity foreclosed. Here, the poem’s repetitious phrasing, as well as its emphasis on singularity (“*the* world”), conveys the density and the inertia of Romney’s worldview. Describing “the long sum of ill” written on the face of the Earth, Barrett Browning’s use of anaphora—“So bad, Aurora... / ...So much for vice, so much for discontent, / So much for the necessities of power, / So much for the connivances of fear” (2.308-12)—presents the homogeneity of a world that takes shape through the violent concretion “Of headless bodies, shapeless, indistinct!” (2.381).

Aurora describes how Romney’s world-vision reduces the complexities of life to a set of “statistical despairs”—to “figures on a page.” For the Victorians, statistics made it possible to see “Plain, silent, clear, as God sees through the earth.” For Romney, this unprecedentedly “clear” vision of “the earth” puts man in a “terrible” position, for he “is not God, and cannot right / The wrong he looks on” (3.313-9). Here, his vision of a “world-full” is compounded by scalar discontinuities between this mathematical capacity to aggregate life en masse and the irresolvable limitations of human perception, agency and action. Thus, Romney laments the loss of his own identity as an individual. Under the lens of statistics, he is nothing more than an indiscernible “heap” of matter—a “nameless trunk.” Seeing only in the aggregate, he effaces himself. No wonder he comes unhinged when he attempts “To make earth over again” (3.118-9). Narrating how he “Went mad upon them . . . madder and more mad” as though rolling “down hill, / The faster still, the farther” (3.560-2), Barrett Browning again employs anaphora to establish subtle formal continuities between Romney’s aggregative, centripetal worldview and his descent into psychosis. In *Aurora Leigh*, madness is the only reasonable response to what Matthew Arnold elsewhere describes as “the buried life.”⁵⁹ As Aurora puts it: “We are sepulchred alive in this close world, / And want more room” (5.1040-1).

⁵⁹ Matthew Arnold, “The Buried Life,” *Poems* (London, 1855).

The poem's attention to sight—"look round"; "Plain, silent, clear, as God sees through the earth"; "he looks on"—conveys how the notion of "world" is shaped by and through visual sense perception. As Aurora says to Romney just prior to the moment when he discloses his blindness: "One takes up the world with eyes" (8.135). Eyes are everywhere in this poem, their qualities divulging much about an individual's world-vision. Aurora's eyes are affective instruments, growing "wet" with tears as she reads her beloved Ælian (1.714). They are the same eyes as her deceased mother's and thus are constant reminders of and windows into a world shattered prematurely. But the pair of eyes to which the poem attends most carefully are those belonging to the paternal aunt, who disapproved of the marriage between Aurora's English father and Italian mother. The aunt's eyes—"Eyes of no color" that "never forgot themselves" (2.282-3), "two grey-steel naked bladed eyes" that constantly "searc[h]" and "sta[b]" Aurora's "face" in certainty of "find[ing] / A wicked murderer" (1.327-330), eyes "unscrupulous" and cold (2.686), always "watch[ing]," always "dog[g]ing," an unceasing "burden" (2.946-50)—are those of a woman who knows before the fact what she seeks to find. They bespeak an uncompromising and preordained model of gendered perception, wherein submission and vigilance are the only acceptable terms of engagement with the world and women must "never, never [forget] themselves" (2.284 and 283). Her eyes, like Romney's, see the world through and through, but without ever having truly *seen* or "forgotten" themselves in it. *Aurora Leigh* returns often to the idea that we "take up the world with eyes"—that sight shapes the world in formative and consequential ways.

The poem explores how visual sense perception is erratic and, as such, inadvertently wreaks havoc upon the world. The speed with which vision can move is dangerous: "sight goes faster" than "reason"—than "The scaling-ladders of school logic." It is a "ray / Which strikes out from you, how, you cannot tell, / And why, you know not," advancing "straight and fast as light, and high as God" (1.807-14). Sight deceives the subject into believing that the world is pure appearance—that it

is self-disclosing and superficial, and thus does not require “reason” or analysis to be understood.⁶⁰ Untaught eyes accept the world at face value—at its most superficial. To “take up” the world in this way is to mistake immediacy for truth. This is especially dangerous given the illusory quality of “world.” Aurora exclaims: “O world, O world, / O jurists, rhymers, dreamers, what you please, / We play a weary game of hide-and-see!” (6.282-4). “World” plays tricks on the observer, according to Aurora, exploiting her blindspots and catching her up in a game of “hide-and-see” or deception. Here, “world” creates a confusion similar to that at issue in the nebular debates. Multifarious and illusory, the world entices us to confuse fact with fiction—to “shape a figure of our fantasy, / Call nothing something, and run after it / And lose it, lose ourselves too in search” (6.285-7). It is tempting to turn to “statistical” figures to differentiate the world from the “figure of our fantasy”—from perceptual aberration and illusion. But this “maddening” endeavor buries the world under the weight of numbers and depletes its potentialities.

As an alternative to “statistical” totals and sums, *Aurora Leigh* describes a mode of vision—a second sight—that makes visible a new and subterranean world. Accessing this world requires

Truth, so far, in my book; — the truth which draws
 Through all things upwards, — that a twofold world
 Must go to a perfect cosmos. Natural things
 And spiritual, — who separates those two
 In art, in morals, or the social drift,
 Tears up the bond of nature and brings death,
 Paints futile pictures, writes unreal verse,
 Leads vulgar days, deals ignorantly with men,
 Is wrong, in short, at all points. We divide
 This apple of life, and cut it through the pips, —
 The perfect round which fitted Venus’ hand
 Has perished as utterly as if we ate
 Both halves. Without the spiritual, observe,
 The natural’s impossible, — no form,
 No motion: without sensuous, spiritual
 Is unappreciable, — no beauty or power:
 And in this twofold sphere the twofold man
 (For still the artist is intensely a man)
 Holds firmly by the natural, to reach
 The spiritual beyond it, — fixes still

⁶⁰ For a very different account of the ecopolitics of surface in the context of late nineteenth-century mining projects, see Elizabeth Miller, “William Morris, Extraction Capitalism, and the Aesthetics of Surface,” *Victorian Studies* 57.3 (2015): 395-404.

The type with mortal vision, to pierce through,
 With eyes immortal, to the antetype
 Some call the ideal, — better called the real. (7.761-83)

Here, *Aurora* envisions a world that materializes through the interplay of “type” and “antetype.” The “natural” and “spiritual” join together in this interplay to create a “twofold sphere.” Scholars have observed that Barrett Browning’s “twofold world” coincides with Emanuel Swedenborg’s claim that material life forms are correspondent and thus entangled with those of the spiritual realm. Natasha Moore has argued that *Aurora Leigh* is deeply invested in a “Swedenborgian take on Christian theology, a philosophy that recuperates even the most trivial of phenomena into a grand, unitary world-system” and “restores to small things . . . a relation to the totality, and thus the capacity to serve as a microcosm of the larger reality.”⁶¹ Indeed, Barrett Browning’s figures—the “perfect round” of an apple undivided, for instance, or the “twofold sphere” that holds together “mortal” and “immortal”—would seem to suggest a correspondent world-system that, while very different from Romney’s, is unitary and spherical in form.

But what *is* a “twofold sphere,” anyway? How does it modify or complicate the insistence elsewhere on rounded forms? I argue that the unitary logic of Swedenborgian correspondences—its preordained emphasis on totality, systematicity, correlative perfection—inadequately explains the idea and form of a “twofold sphere.” The very notion of a “twofold sphere” is oxymoronic. It does not conform to the flawless sphericity of Swedenborgian theology. Instead, it marks an intersection of orbs. These interpenetrating spheres obscure and simultaneously open onto one another. They overlap imperfectly, suggesting imbrication but not necessarily “perfect” conformity. As such the figure of a “twofold sphere” is paradoxical and shadowy—an impossible and certainly imperfect form that disfigures the smooth and impermeable contours of the singular orb. So imagined, the world—like the nebulae—emphatically resists resolution and consolidation. Yes, there are

⁶¹ Natasha Moore, “Epic and Novel: The Encyclopedic Impulse in Victorian Poetry,” *Nineteenth-Century Literature* 68.3 (2014): 419-20.

correspondent relationships, but they defamiliarize the phenomena they entangle together. Here, I claim that Aurora's view of the world parallels in form and texture astronomers' descriptions of nebulae. While it does not speak directly of nebulae, the poem's notion of a "twofold sphere" marks a consanguinity between poetic and scientific discourse, wherein both are concerned with a set of analogical forms that they then deploy to their own particular ends. For Aurora, the "twofold world" blurs the boundaries between the real and the unreal. It establishes an impossible openness between "perfect rounds"—between worlds otherwise sealed off from one another.

This "twofold world" is more nimbus than sphere. Tracking a spiritual "truth" that courses "Through all things upwards," Aurora imagines this world as pulsating in and through the arteries of material life forms.⁶² While this circulatory image might seem to suggest an orbicular and systematic world, the language and structure of the passage does not. That the spiritual throbs "upwards" conveys a centrifugal, rather than centripetal, world. Furthermore, the images of circulation and pulse—of physiology—reconfigure the spiritual, positing it as distinctly material. Likewise, the material forms of nature radiate with spiritual "truth." They make visible a thrumming, atmospheric halo whose vibrations permeate the world. The chiasmic structure of the passage reinforces this dual argument: "Without the spiritual, observe, / The natural's impossible," but "without sensuous" experience the "spiritual / Is unappreciable." These lines circle back to the idea with which they began—"the spiritual"—but do so imperfectly, transforming the immaterial into something "sensuous," substantial, embodied, material. The structure of the passage makes rounds, so to speak, and yet those rounds are swirling, wayward, imprecise. Thus, it demonstrates how the correspondences of "type" and "antitype" might connote a world that pulses beyond—rather than stays within—its borders. Barrett Browning's recursive phrasing—"Truth, so far in my book;—the

⁶² On the rhythms of pulse in *Aurora Leigh* and their spasmodic contexts, see Jason Rudy's *Electric Meters: Victorian Physiological Poetics* (Columbus: Ohio University Press, 2009).

truth which draws”; “who separates those two / *In art, in morals*”; “in this *twofold* sphere the *twofold* man”; the repeated use of “natural” and “spiritual”; the echoing of “type” and “antetype,” of “ideal” and “real”—spirals imprecisely, as well. It disrupts the flow of syntax, the logic of grammatical structure. Repetition here defamiliarizes and unmoors language, transfiguring words into translucent and shimmering figures of air.

In *Aurora Leigh*, the near misses of scant rhyme produce the “twofold” relationality the poem envisions. Like the “twofold world,” they effect couplings that are imperfect, dynamic and aleatory—that proliferate slippage and also preserve (rather than flatten) material particularity. As such, the poem’s rhymes—like its blank verse structures—are open in form, demonstrating how rhyme is not always a mechanism of perfect repetition. Here, I expand on recent work by Naomi Levine, who tracks how Barrett Browning’s interest in “rhymes that did not rhyme enough” suggests “a spectrum of rhyme gradations,” as opposed to the “two poles of rhyme and not-rhyme” according to which we conventionally organize verse.⁶³ As Fred Manning Smith notes, Victorian-era reviewers criticized Barrett Browning for this predilection, accusing her of having a “bad ear.”⁶⁴ But *Aurora Leigh* suggests that those who prefer perfect rhymes have the bad ears. When Romney accuses Aurora of “bring[ing] the uneven world back to its round” by “t[ying her] rhymes,” he draws a correlation between rhyme and spherical totality: it “bridge[s]” the “abysmal cracks / And feuds of earth” in order to climb to “smoother” ground (2.1217-22). When perfectly “tied,” rhyme contours the world, orbiting it back into perfect sphericity. But Aurora offers something of a correction when she describes her own poetry as “rhym[ing] ill” (5.504). That she elsewhere figures poetry as “find[ing] rhymes among the stars” (5.388)—as seeking out similitudes across a plurality of

⁶³ Naomi Levine, “Elizabeth Barrett Browning’s Historiographical Poetics,” *Modern Language Quarterly* 77.1 (2016): 83. See also Althea Hayter’s “Experiments in Poetic Technique,” *Critical Essays on Elizabeth Barrett Browning*, ed. Sandra Donaldson (New York: Hall, 1999), 15-31.

⁶⁴ Fred Manning Smith, “Mrs. Browning’s Rhymes,” *PMLA* 54.3 (1939): 830.

indistinct bodies whose forms and scales differ widely in composition—conveys how rhyme is not necessarily a mechanism of closure, or of perfect repetition. Instead, it often operates askance. Aurora’s philosophy of rhyme presents how the “twofold world” she envisions is not structured by exact correspondences or indivisible sphericity, but instead by imperfect “couplings”—from “potentialities / Of alternated colour” (5.1184-5)—that resist resolution.

It would be impossible to offer a comprehensive survey of scant rhyme in *Aurora Leigh*, even for just one of the poem’s nine very lengthy sections. To demonstrate precisely how rhyme gives shape to Barrett Browning’s “twofold world,” I offer a close reading of a single, albeit significant, passage: the opening section of Book 5. Here, Aurora articulates her philosophy of poetry, which she understands as interweaving the unreal and the real, the celestial and the terrestrial, the spiritual and the human:

Aurora Leigh, be humble. Shall I hope
 To speak my poems in mysterious tune
 With man and nature? With the lava-lymph
 That trickles from successive galaxies
 Still drop by drop adown the finger of God
 In still new worlds? — with summer-days in this
 That scarce dare breathe they are so beautiful?
 With spring’s delicious trouble in the ground,
 Tormented by the quickened blood of roots,
 And softly pricked by golden crocus-sheaves
 In token of the harvest-time of flowers?
 With winters and with autumns, — and beyond
 With the human heart’s large seasons, when it hopes
 And fears, joys, grieves, and loves? — with all that strain
 Of sexual passion, which devours the flesh
 In a sacrament of souls? with mother’s breasts
 Which, round the new-made creatures hanging there,
 Throb luminous and harmonious like pure spheres? —
 With multitudinous life, and finally
 With the great escaping of ecstatic souls,
 Who, in a rush of too long prisoned flame,
 Their radiant faces upward, burn away
 This dark of the body, issuing on a world,
 Beyond our mortal? — can I speak my verse
 So plainly in tune to these things and the rest
 That men shall feel lit catch them on the quick,
 As having the same warrant over them
 To hold and move them if they will or no,
 Alike imperious as the primal rhythm
 Of that theurgic nature? (5.1-30)

Barrett Browning's love for repetitious phrasing is on view, the word "with" appearing no less than eleven times to recursive effect. With each appearance it works to obscure the syntax of the lines—to turn the contours of speech atmospheric and arrest the poem's forward motion. The effect is compounded by the appearance of "which" and "when": words that alongside "with" form assonant off-rhymes. Another set of assonant rhymes—"trouble" and "ground"—convey the involuted form of a "twofold sphere" whose "ground" or surface is opaque, permeable, mutable. Following closely on one another's heels, the imperfect consonant rhymes of "luminous," "harmonious" and "multitudinous" create rhythmic confusion. Their escalating multisyllabics overwhelm whatever meaning each individual word might possess, producing an aural shadowplay. These effects are intensified with the appearance of the word "imperious" (a fourth consonant rhyme that completes the series). Together, these rhymes give material shape to the "theurgic nature" whose "primal rhythm" radiates through and blurs the bounds of all life forms. Here, we can see how rhyme "affords a constant attention" not only to "sameness" and "evenness" but also, as Caroline Levine argues, "difference" and "unevenness." In *Aurora Leigh*, rhyme never constitutes "a perfect reproduction of the same."⁶⁵ Instead, it produces slippages which replace the uniform contours of a bounded world and with the penumbral form of a "twofold" sphere.

In the first of the poem's nine books, Aurora narrates how she was "baptized into the grace / And privilege of seeing" (1.577-8) and so gained access to this "twofold world." She employs a sense of sight that attends to the opacity "world" and its forms—to its strange and irresolvable relations:

First, the lime,
 (I had enough there, of the lime, be sure, —
 My morning-dream was often hummed away
 By the bees in it;) past the lime, the lawn,
 Which, after sweeping broadly round the house,
 Went trickling through the shrubberies into a stream
 Of tender turf, and wore and lost itself

⁶⁵ Caroline Levine, "Revaluing Repetition: John Clare's Verse-Thinking," *Modern Language Quarterly* 77.1. (2016): 69.

Among the acacias, over which you saw
 The irregular line of elms by the deep lane
 Which stopped the grounds and dammed the overflow
 Of arbutus and laurel. Out of sight
 The lane was; sunk so deep, no foreign tramp
 Nor drover of wild ponies out of Wales
 Could guess if the lady's hall or tenant's lodge
 Dispensed of such odours, — though his stick well-crooked
 Might reach the lowest trail of blossoming briar
 Which dipped upon the wall. Behind the elms,
 And through their tops, you saw the folded hills
 Striped up and down with hedges, (burly oaks
 Projecting from the line to show themselves)
 Through which my cousin Romney's chimneys smoked
 As still as when a silent mouth in frost
 Breathes, showing where the woodlands hid Leigh Hall;
 While, far above, a jut of table-land,
 A promontory without water, stretched, —
 You could not catch it if the days were thick,
 Or took it for a cloud; but otherwise,
 The vigorous sun would catch it up at eve
 And use it for an anvil till he had filled
 The shelves of heaven with burning thunderbolts,
 Protesting against night and darkness: — then,
 When all his setting trouble was resolved
 To a trance of passive glory, you might see
 In apparition on the golden sky
 (Alas, my Giotto's background!) the sheep run
 Along the fine clear outline, small as mice
 That run along a witch's scarlet thread. (1.578-614)

This apparently standard description of an English country home offers an incredibly thick sense of material forms: the lines are overflowing with shapes that do strange things to one another as they collide. The “sweeping” arc of green, for instance, calls to mind the shape of a sphere as it reaches “broadly round the house.” This shape “trickl[es]” without warning into “a stream / Of tender turf” that winds itself sinuously “Among the acacias.” Here, Barrett Browning's diction resembles a flowing rivulet so closely as to give the impression that the poem speaks of water and not turf. This sense of formal spillage—of material excess—carries over into the strata of “acacias,” “elms,” “arbutus and laurel,” whose “overflow” of “irregular lin[es]” are “dammed” by a “deep lane” that sits so low in the landscape as to remain almost invisible. Set back “behind the elms” are the rolling forms of “the folded hills,” which spill forth through the “tops” of the trees and are textured with the “projecting” silhouettes of various flora that interrupt “the line” or contour of the hilltop “to

show themselves.” And, finally, a “jut” of land that appears and disappears on “thick” or hazy days exhibits, on the one hand, the look of a “cloud” and, on the other, an “anvil” of all things. The passage conjures an incredible density of figures that unpredictably collide and open onto each other. There is a strange sense, here, of form alienated from itself—of form totally unmoored. Thus, the wandering green consists of a liquid network of tributaries that percolate through apertures in the landscape, unraveling into ever multiplying offshoots, while the hedges and trees coalesce into an “irregular” sedimentary form that disarticulates the “folded hills” into pieces.

Aurora sees the world as a shifting constellation of forms that filter through one another in corpuscular fashion. Interpenetrating one another’s open spaces, these forms are nearly impossible to distinguish from one another. Where the borderlines of one form end and another’s begin is uncertain. These lines thus envision a formal and material collectivity that is neither reducible to a collection of isolable individuals nor aggregative into a demarcated, bounded unity. Barrett Browning’s apparitional language conveys the paradox that forms turn incandescent by and through their relational density. In the last of the “apparitions” the passage describes, the sheep put to pasture during the day contract into silhouette as they return home against a “golden” sunset. In a trick of light and shadow, their scurrying forms are emblazoned in relief “Along the fine clear outline” of land, shrinking suddenly to the “small” scale of “mice / That rung along a witch’s scarlet thread.” Even as the passage emphasizes “the fine clear outline” which marks the surface of the Earth, its scalar modulations convey a different and more elastic understanding of formal contour. Here, forms do not bind, enclose or delimit. Instead, they are mutable, diaphanous, elastic. The world in all of its forms—from the smallest of mice to the largest of planets—wobbles in and out of line, in and out of focus. The world, as Barrett Browning puts it, is an “apparition.”

This apparitional world swirls into view as Aurora gives herself over to alternative modes of sense perception. Her description of the lime tree conflates sight and taste, the integration of tree

and fruit appealing to the mouth as well as the eyes. “Lime” is repeated three times in the span of only a few lines, compounding this synesthetic appeal. That particular features in the landscape remain wholly “Out of sight” while free-floating “odours” elude apprehension conveys how the “twofold world” of the poem resists and exceeds the capacities of the eye. The language of trance, on the other hand, invites a suspended sensory state wherein this apparitional world and its illusive beauty come into view. In the lines just prior, Aurora imagines her “little chamber” as spilling into and penetrated by nature: “the walls / Were green, the carpet was pure green, the straight / Small bed was curtained greenly, and the folds / Hung green about the window which let in / The outdoor world with all its greenery” (5.571-4), including the nearby lime tree with its green leaves and its green fruit (5.78). Repeated to the point of excess, the word “green” and its variants slow time, carving out a moment of suspension that disrupts the primacy of sight and the boundaries between interior and exterior. Through repetition the enclosed forms of “chamber” and “window” become porous, their greenery mixing with the vegetable “green” of the natural world. This “twofold” intermixture of inside and outside parallels that of natural and spiritual, conveying how the latter is deeply material even as it is also apparitional. Thus, Aurora discovers a world that vibrates beneath the surfaces of things: that lurks in the periphery and lives in shadow; that is inapprehensible to the eye which looks at it directly; that is visible to those who look or feel askance, who seek out “apparition” in nature—in material life forms.

The “twofold world” imagined in *Aurora Leigh* invites a renewed ethical commitment to this planet and its life forms. Loosely quoting Robert Browning’s *Pippa Passes* (1841), Aurora proclaims: “There’s nothing great / Nor small.” She then repeats herself: “I reiterate, nothing’s small!” (7.809-13). Rather than organize the world according to “great” and “small,” Aurora attends to how the “lily-muffled hum of a summer-bee” “finds some coupling with the spinning stars”; to how the minuscule round of “pebble at your foot” is akin to “a sphere” of celestial magnitude; to how the

“little tremor of the blood” pumping through the “thin, veined wrist” vibrates with “The whole strong glamour of a vehement soul / Doth utter itself distinct” (7.14-21). Barrett Browning figures the “twofold world” as a vehicle that moves seamlessly between scales, mapping how all things—both material and spiritual—possess magnitude despite dimensional inequalities. Thus, a common “hum”—a theurgic rhythm, a mystic hymn—surges through and “couples” otherwise disproportionate material forms: insect and galaxy, stone and star, humankind and cosmic “soul.” Drawing a strange collective of figures—plant, insect, star, human, planet, vein—out of scale and into parallel with one another, the poem’s “twofold world” dismantles the taxonomies which organize beings and things according to surface appearance—to that which is immediately apprehensible. The poem offers instead a pattern of material relation that recognizes opaque, interpenetrating, vibrating forms.

This pulsating relationality reveals an “Eart[h] crammed with heaven” (7.821). Notably, this vision is not Edenic. It is beautiful, perhaps, but not on its surface. The greatest of humankind’s “wrong[s]” or failings, Aurora declares, is that “we are shocked at nature’s falling off, / We dare to shrink back from her warts and blains, / We will not, when she sneezes, look at her, / Not even say ‘God bless her’” (6.178-81). Thus, Nature “will not trust us often with / Her larger sense of beauty and desire, / But tethers us to a lily or a rose” (6.182-4). Aurora describes the human species as nearsighted and facile, preferring the superficial beauty of “flowers and firmaments” and willfully “push[ing]” anything else “out of sight” (6.191-6). This quest for nearness, for apprehension, for vision conflates the “fellow-world” with an aesthetics of surface that privileges the organic coherence of the “undisparaged, undespoiled” (6.189-90). There is no room, here, for “less poetical” beings and forms—“the hungry beggar-boy,” for instance, “Who stares unseen against our absent eyes” (6.186-7). Here, *Aurora Leigh* emphatically claims the unseen and unsettling for its world-making project, but does not attempt to recuperate it. Insofar as it resists an aesthetics of

surface, the poem makes no attempt to airbrush the mundane, the unsightly or the monstrous into beautiful conformity. Rather, it locates an ethical magnitude in beings and forms that demand recognition in their unseenness; that denaturalize flawless surface and seamless sphericity; that make visible those ugly and otherwise invisible disavowals upon which bounded world-systems are built. Positing “specimens” with “distorted joints” and “beggar-boys” passed over for “oranges” as sources of “raptur[e]” (6.175-6), *Aurora Leigh* understands even the most terrestrial of forms as sites of celestial—or rather the spiritual—abundance.

Thus, *Aurora Leigh* de-centers the aesthetics of surface, employing a more ethical optics that brings into focus the mystic “truth” radiating in and through material life. The poem maps a set of obligations to the “twofold world” that entangles all material beings and things, whether grub or person or mountain. Barrett Browning directs her readers’ eyes not up to the stars, but instead upon rocks, soil and dirt. The poem takes up a grounded world-vision that nineteenth-century thinkers often condemned. G. W. F. Hegel, for instance, writes in the *Phenomenology of Spirit* (1807) that men should “direct their gaze to the stars” in order to combat “their preoccupation with the sensuous”—a proclivity that causes them to “forg[et] all about the divine” and “other-worldly,” as though they “were ready like worms to content themselves with dirt and water.”⁶⁶ Echoing Hegel, De Quincey laments how the Victorians fail to “sufficiently watc[h] the skies”: “their eyes are too uniformly reading the earth” and “its gravities.”⁶⁷ But *Aurora Leigh* posits the downcast eye as *the* ethical viewpoint through which to “take up” the world because this vantage point brings “other-worldly” and otherwise neglected forms shimmering into view. Thus, Aurora meditates upon how the magic

⁶⁶ G. W. F. Hegel, *Phenomenology of Spirit*, trans. A. V. Miller (Oxford: Oxford University Press, 1977), 5.

⁶⁷ De Quincey, 52-3.

of the “golden moon overhead” might also lie just “beneath our feet.” Why dream of other worlds, the poem asks, when earth is “crammed” with a multiverse of its own?

Aurora Leigh envisions poetry as the vehicle through which to “take up” or see this “twofold” world in all of its depth, heterogeneity and relation. When poetry fails, as it does in some of Aurora’s earliest attempts at versification, it produces “surface-pictures” that are “pretty, cold, and false / With literal transcript” and, thus, minimal insight (5.131-2). But when poets “Exert a double vision,” as Aurora calls on them to do, they are able “To see near things as comprehensively / As if afar they took their point of sight, / And distant things as intimately deep / As if they touched them” (5.201-5). Elastic in form and capacious in scope, poetry constitutes a language for thinking through and with “twofold” world-forms. It possesses the capacity to compress and to expand—to flex with the scalar variety of life on the one hand and, on the other, to accommodate humankind’s perceptual limitations. Poetry’s multidimensionality—its occupation of background and foreground, its simultaneous expansiveness and constraint—as understood in *Aurora Leigh* echoes Walter Benjamin’s concept of the aura, which he imagines to be “[a] strange tissue of space and time” that maintains “a distance” between an observer and a material object, “however near it [the object] may be.”⁶⁸ So understood, the aura marks a “unique appearance or semblance of distance” that falls away as modernity aspires to “possess the object close-up in the form of a picture, or rather a copy.”⁶⁹ A similar world-vision is at play in Barrett Browning’s suggestion that poetry occupies a middle ground between distance and nearness, permitting readers to “touch” or recognize material nature while at the same time preserving and reverencing its mystic “distance” or

⁶⁸ Walter Benjamin, “The Work of Art in the Age of Mechanical Reproduction,” *Walter Benjamin: Selected Writings*, vol. 3, trans. Edmund Jephcott, Howard Eiland, et al., ed. Michael W. Jennings (Cambridge, MA: Belknap Press, 2002), 104-5.

⁶⁹ Benjamin, “Little History of Photography,” *Walter Benjamin: Selected Writings*, vol. 2, trans. Rodney Livingstone et al., ed. Michael W. Jennings, Howard Eiland and Gary Smith (Cambridge, MA: Belknap Press, 1999), 518-9.

resistance. Like Benjamin's aura, poetry as envisioned in *Aurora Leigh* is atmospheric in texture. It preserves an ecologically and ethically minded distance between reader and world.

In conclusion, I return briefly to my reading of the "twofold sphere" and its formal analog in scant rhyme. I do so to trace how the opening lines of poem's fifth book marshal scant rhyme to interweave "successive galaxies" (5.4), "new worlds" (5.6) and "multitudinous life" (5.19) with the female body—with the twinned "spheres" of "mother's breasts" (5.16). Drawing together the forms of "mother's," "creatures" and "spheres" in a material compact, scant rhyme draws out the feminist politics of "world" in *Aurora Leigh*. It posits the life-bearing body of the mother—with its doubled "spheres" or breasts—as the reproductive engine of the "twofold world." Women are world-making agents, according to Barrett Browning. The off-rhyme of "mother's and "spheres" situates the structures of "breasts" and "spheres" in parallel, emphasizing the likenesses between the female body and the "twofold" forms of the world. That this argument unfolds through scant rhyme—a literary device that Aurora attributes to "woman," who "rhyme[s] ill" (5.503-4)—conveys how women poets are just as formative as mothers who cultivate in their children a love for "theurgic nature." To compose "ill" rhymes is to linger with and cultivate—to mother, perhaps—those slippery "couplings" that the poem understands as transformative. Aurora implicitly associates such mothering with the soundings of scant rhyme when she remembers how her own mother used to "strin[g] pretty words that make no sense, / And kis[s] full sense into empty words, / Which things are corals to cut life upon, / Although such trifles: children learn by such" (1.51-4). The loose and nonsensical rhymes of the nursery are full of unanticipated meaning, their improvisatory forms interweaving new patterns of "kiss" or interrelation. They teach the child to take up the world with "twofold" eyes. Scant rhymes, as Barrett Browning understands them, "are corals to cut life"—and the world—"upon." Pouring from the mouths of women, they spin together a shimmering "string"

of material affinities that undulates around, beyond and through the borderlines of our world, something like a halo.

TANGLE

This chapter considers the “incorporate” or entangled figures and forms that recur in Lyell’s *Principles of Geology* (1830-33) and Tennyson’s *In Memoriam* (1850). In *In Memoriam*, Alfred Lord Tennyson mourns the loss of Arthur Henry Hallam and, by extension, the potential expiration of the human species. The poem is crowded with images of human corpses in various states of decay, their disintegrating forms “toss[ed] with tangle and with shells.”¹ Occupying the nexus between human and deep histories, Tennyson’s “incorporate” cadavers invoke nineteenth-century debates about geological temporality, extinction and the prophecy of a posthuman world (2.16). Curiously, these debates did not always posit human extinction as a final, determinable end, but rather as an opening onto strange and exciting new futures. Charles Lyell imagines with enthusiasm the return of dinosaurs formerly wiped from the face of the earth: “The huge iguanodon might reappear in the woods, and the ichthyosaur in the sea, while the pterodactyle might flit again through umbrageous groves of tree-ferns.”² Extinction, here, is open-ended in form. It functions as a mechanism of resurrection, resurgence, contingency. It disorders time, transporting seemingly distinct temporal worlds out of sequential order and into touch.

Popular scientific illustrators and cartoonists exploited this notion of extinction to various ends. Benjamin Waterhouse Hawkins’ drawing of St. George battling a pterodactyl (and not a dragon), however fantastic the image might be, suggests an involuted notion of geologic time in which the human world opens onto an inhuman history (see Figure 1). The material forms of a Jurassic planet here coincide with the very recent human past and, in so doing, they convey the possibility of an indeterminate future wherein ancient life forms might again surface unexpectedly.

¹ *In Memoriam*, 10.20. Quotations of *In Memoriam* are taken from *The Poems of Tennyson*, ed. Christopher Ricks, 3 vols. (Berkeley: University of California Press, 1987). All will be cited parenthetically by section and line number in the main text.

² Charles Lyell, *Principles of Geology* (1830-33), 3 vols. (Chicago: University of Chicago Press, 1990), 1.123. All quotations will be cited parenthetically by volume and page number.

Hawkins' image offers an early—if not improbable—vision of what we now know as the Anthropocene, wherein humankind battles the long-historied and recalcitrant forms of nature for planetary power. But unlike some contemporary scholars in both the humanities and the sciences, Victorian thinkers from Tennyson to Lyell to Hawkins do not necessarily imagine the planet as enclosed in the grip of human power.³ Rather, their visions of disorderly temporality—particularly in the context of extinction—suggest a much different and inhuman world-order whose tangled, involuted, “incorporate” forms unsettle taxonomy, exceed human control, and in so doing anticipate the emergence of world that exceeds the mastery of man; that slips the noose of human power; that resists closure. That these visions emerge in the midst of the Victorian age is perhaps surprising, given the period is usually understood as typifying unprecedented imperial and human power.

The Victorian vision of “world” that this chapter presents challenges models of subjectivity that posit the world as an unsuspecting and passive resource for actualizing humankind's various globalizing enterprises, whether capitalist, industrial or colonial. Having relinquished the fantasy of a planetary abundance or excess for the (human) taking—of a global nature whose passivity constitutes a naturalized call to (human) action—both geologist and poet turn to the material processes of extinction to imagine a world beyond the mastery of the human species. This world suggests a model of subjectivity that cuts across the human and the nonhuman, wherein the subject is profoundly porous to organic and inorganic materialities. As such, it undercuts the consolidated, insphering, anthropocentric model with which we are perhaps all too familiar at present. Lyell and Tennyson in this way figure the future annihilation of man as a world-making agent that opens onto radical potentialities for “world,” for futurity and for poetry. This chapter is experimental in that it

³ See, for instance, Christophe Bonneuil and Jean-Baptiste Fressoz, *The Shock of the Anthropocene*, trans. David Fernbach (New York: Verso, 2016); Timothy Morton, *Hyperobjects: Philosophy and Ecology After the End of the World* (Minneapolis: University of Minnesota Press, 2013); and a foundational volume of scientific scholarship on the Anthropocene, titled “The Anthropocene: a new epoch of geological time?,” ed. Mark Williams et al., *Philosophical Transactions of the Royal Society* 369.1938 (2011).

takes as its point of departure the shapes and vectors of the speaking “I,” rather than literary form in its more traditional sense. I argue that the “I” of geological science and, in particular, of lyric subjectivity evacuate the human subject of its supposedly anomalous and unmatched hold over the world. Both writers in this way ask us to take seriously those possibilities which materialize as the normative human subject is brought to the brink of extinction.

Mammoths, Moss, Man

Lyell’s *Principles of Geology* popularized a theory of geological development that William Whewell in 1832 coined “uniformitarianism,” and which Whewell situated in opposition to the “catastrophist” vision of deep history promulgated in the early nineteenth century by Georges Cuvier.⁴ As I showed in the third chapter of this project, uniformitarian theory first came into view in James Hutton’s scientific treatise of 1788, *Theory of the Earth*. I begin this chapter by tracking how Lyell picks up where Hutton left off, but with a twist. Lyell’s uniformitarianism takes us to strange and unexpected world, whereas the geohistorical story told by Hutton points toward a singular, uniform and continuous world that has always been and will always be—a fantasy that William Blake counteracts as he mobilizes prophecy to imagine a heterogeneity of future worlds in *America: A Prophecy* (1793). Though Lyell does trace geological processes that remain uniform over past, present and future, he nevertheless dislodges the planet from the self-fulfilling tyranny of Hutton’s temporalized system.⁵ In the *Principles*, the world and its futures are not enclosed in the dialectical order of “alternate periods of general disturbance and repose” that, as he observes in his summary

⁴ See William Whewell, “Lyell’s *Geology*, Vol. 2,” *Quarterly Review* 47 (1832).

⁵ Scholars of literature and the history of science have traced Lyell’s departures from Huttonian geology at length. Michael Tomko, for instance, affirms that the *Principles* insists upon a “wondrous” world that “can no longer be compared to a watch,” while Ralph O’Connor describes portions of the *Principles* as amounting to a “thought-experiment.” See Tomko, “Varieties of Geological Experience: Religion, Body, and Spirit in Tennyson’s *In Memoriam* and Lyell’s *Principles of Geology*,” *Victorian Poetry* 42.2 (2004): 115 and O’Connor, *The Earth on Show: Fossils and the Poetics of Popular Science, 1802-1856* (Chicago: University of Chicago Press, 2007), 177.

of Hutton, “had been, and would forever be, the course of nature” (1.92). Rather, the contours of nature go liquid in the *Principles* as they are mapped across the amorphous and fluid forms of earth history.

Lyell’s ruminations on extinction are perhaps his most unsettled and most radical. Uniformitarianism connotes a process of reading natural formations—the records of a deep, planetary past—by way of the geological processes observable in the present. And yet, I will argue, the forms of extinction—forms that Lyell figures as lively and labyrinthine—unsettle the present as they disorder time and, by extension, the temporal stability upon which the geologist’s capacity to read earth history depends. While the nineteenth-century geologist is often figured as possessing an all-encompassing and unshakeable command over the world, the forms and processes of extinction tell a very different story. Lyell’s visions of unruly dinosaurs and mummies who burst unpredictably back into time understand extinction not as a terminus in the *Principles*, but rather as a mechanism of becoming or of transformation—as open-ended in its forms and possibilities. These forms entangle past, present and future, exceeding the geologist’s “control” and up-ending the order of species. In so doing, they trouble the bounds of subjectivity and, for Lyell, the force of human agency in what we now call the Anthropocene.

In the first volume of the *Principles*, Lyell’s turn to Book 15 of Ovid’s *Metamorphoses* signals his commitment to a view of speciation that understands extinction as a transformation in (rather than the evisceration of) form or, as Tennyson would later put it in *In Memoriam*, a “second birth” (45.13). Extinction here constitutes a world-making process wherein forms shape-shift to take on new and regenerative configurations. Formal contours become fugitive, their susceptibility to metamorphosis putting on display the promiscuous physics of Lyell’s world-vision. To illustrate this point, Lyell quotes directly from a set of “celebrated passages” wherein Ovid “sketch[es]” a

Pythagorean “doctrin[e]” that, while “not directly applied to the explanation of *geological* phenomena,” is “so extraordinary an anticipation” of uniformitarian geology:

Nothing perishes in this world; but things merely vary and change their form. To be born, means simply that a thing begins to be something different from what it was before; and dying, is ceasing to be the same thing. Yet, although nothing retains long the same image, the sum of the whole remains constant. (1.12-3)

Lyell’s return to the *Metamorphoses* introduces his own expansive list of terrestrial metamorphoses, which includes the dissipation of land into sea and the changing of sea into land, as well as the drying up of wetlands and the liquefaction of soil into “stagnant pools” (1.13). Especially significant about Lyell’s turn to Pythagorean cosmology is the re-formulation of extinction it makes possible. The world traced in the *Principles* possesses no end, even in death: “Nothing perishes from this world.” Rather, the forms of nature mutate their way into new life and, in so doing, “birth” is re-visited as a metamorphosis in body and “dying” as a corporal re-constitution. While the passage then goes on to affirm the constancy of the whole, Lyell nevertheless selects as his model for geohistory a cosmology that is decidedly transformist. Fluid and metamorphic in structure, Pythagoras’s world-vision gives no guarantee of planetary immutability—something upon which uniformitarian theory is thought to insist. Indeed, Lyell’s decision to rehearse this world-vision by way of the *Metamorphoses* would seem to suggest as much, the title of the “celebrated” poem conveying a universal “sum” that is just as subject to change in the long run as are localized forms.

In his turn to climate change, Lyell follows through on visionary possibilities for the world that extinction brings into view. Suggesting that “alteration[s] of temperature” are the driving force behind those “geological changes” which give shape to the earth’s surface, he imagines how the world might transform as it transitions from the relatively cool conditions of contemporary times to a temperate “summer.” This warming period would occasion

a great predominance of tree-ferns and plants allied to palms and arborescent grasses in the isles of the wide ocean, while the dicotyledonous plants and other forms now almost common in temperate regions would almost disappear from the earth. Then might those genera of animals return, of which the memorials are preserved in the ancient rocks of our continents. The huge iguanodon might reappear in the woods, and the ichthyosaur in the sea, while the pterodactyle might flit again through umbrageous groves of tree-ferns. Coral reefs might be

prolonged beyond the arctic circle, where the whale and the narwal now abound. Turtles might deposit their eggs in the sand of the sea beach, where now the walrus sleeps, and where the seal is drifted on the ice-floe. (1.123)

Speculating upon what we now know all too well to be true, Lyell designates climate change as a catalyst—and even an accelerant—for extinction. As temperatures rise, the types and distribution of foliage transform, tending toward a “predominance” of tropical plants while those species “common in temperate regions” are brought to the brink of annihilation. This upheaval of the vegetable sphere snowballs, its effects making way for the unthinkable: iguanodon, ichthyosaur and pterodactyl are resurrected from the grave, their monstrous forms traversing land, sea and sky once again. Lyell’s evocative, sensorial language here conveys the lively capacities of extinction—its function as a revivifying, rather than oblitative, force. The passage invites readers to imagine the gargantuan “memorials” of a Jurassic world coming back to life and, perhaps, as having never truly died off in the first place—as having been buried alive. Lying in wait, the saurians of former times might very well claw their way into the future and, in so doing, involute the proper course of time. Mapping the imbrication of past, present and future, the passage marks how Lyell’s vision of extinction as a process of rebirth or “return” resists the orderly succession of previous uniformitarian models of earth. As he imagines the iguanodon’s bursting back into time, Lyell traces a world in which dinosaurs overlap and collide with the life forms of the present: whale, narwhal, walrus, seal and, however implicitly, man. The passage invites us, in other words to imagine the Victorian present as quite literally converging with a former geologic world. This is just one of many moments wherein the *Principles* fantasizes about the entangled temporality of extinction. The past, in the form of the iguanodon, crashes out of its proper place in time, catching up the forms of the present world—whale, narwhal, walrus, seal, man—on its way. Figured as a “return,” extinction functions as a kind of temporal moraine: it is sticky, accumulating an array of allochronic forms whose intermixture makes till of time.

Lyell turns not only to imaginary futures but also to material remains so as to trace a world newly enlivened by extinction. The most spectacular of these specimens—a mammoth mummified in the Siberian permafrost and bog bodies suspended in British marsh—illustrate in visceral terms how extinction connotes a process of revivification, both for the world and the human subject. Describing secondhand the “perfect preservation” of a mammoth recovered by Mikhail Adams in Siberia in 1806, Lyell figures animal remains as remarkably animate even in death. Adams’s mummified mammoth “carcase”—one of the first known to exist—was, as the *Principles* illustrates, a truly miraculous discovery. Sheltered in ice, the mammoth’s “skin” was still “covered with long hair and with thick wool, about an inch in length” (1.99). Yet, while Adams’s original account of the remains emphasized the mammoth’s “mutilated” condition—by the time of its recovery, its tusks had been pillaged for trade, its “flesh” and organs so ravaged as to render the specimen “unfleshed,” its trunk and one of its “fore feet” dismembered—Lyell describes a frozen mammoth in a state of “perfect preservation.” This is not to say the Adams Mammoth, as it is sometimes called, was not a marvel: its “head was covered with dry skin” and one of its ears still “furnished with a tuft of bristles,” its eyes so well preserved that “we can still distinguish the ball of the left eye,” and—perhaps most extraordinary—it still boasted a bristly “long mane” and “deep gray” skin covered with “reddish hair and black bristles.”⁶ But Lyell elides the mammoth’s material, visceral, inescapable deadness. Rather, he describes the mammoth as “perfectly preserved” in every way, its remains constituting an “entire” or unblemished “carcase” that envisions the animal as it would have been in life. This account commits some telling omissions that are Frankensteinian in their effect inasmuch

⁶ Michael Adams, “Some Account of a Journey to the Frozen Sea, and the Discovery of the Remains of a Mammoth,” *Scots Magazine and Edinburgh Literary Miscellany* (Edinburgh: January 1808), 26-7.

as they conjure up a monster that even in death would seem to be alive.⁷ Lyell, in other words, imagines the mammoth as achieving a kind of vitality in the present through its extinction and immortalization in ice. The tactile language of the passage invites readers to imagine stroking the mammoth's "thick wool" and, in so doing, to feel air shudder back into the animal's lungs—to realize that, even in extinction and indeed by way of it, a former world is transported into persistent animacy. Here, the mammoth functions as a wormhole between past and present, its uncanny vitality making visible a fantastic and otherwise invisible world.

The bog bodies embalmed in peat moss, too, possess an eerie liveliness which figures the surfaces of time and of subject as porous in form. Surveying remains and relics preserved in "European peat-bogs" dating back to "the age of Julius Caesar" (2.213-4), Lyell is especially interested in "the high state of preservation" which characterizes those "animal substances buried in them for periods of many years." The most fascinating of these "animal substances" consist of a specific kind of animal: man. "the body of a woman" submerged "six feet deep" in a Lincolnshire bog, for instance, was found with "antique sandals" still attached to her feet and, despite "having been buried there for many ages," her "nails, hair, and skin" were pristine, "having shown hardly any marks of decay" (2.215). Lyell then describes a host of other bog mummies, including a body from an "early period" which was nevertheless "completely clothed," "fresh and unimpaired" (2.215), as well as a fallen soldier and horse who, having been swallowed up during the Battle of Solway Moss in 1542, were found "in complete armour" by "peat-diggers" centuries later (2.217). The bog bodies of the *Principles* are living corpses, fantastic in their vitality. With flowing hair, "fresh" skin and

⁷ Interestingly, the Adams Mammoth is one of ten specimens that researchers are studying in the hopes of extracting and sequencing woolly mammoth DNA. While imperfectly preserved, the mammoth is of particular interest for the hair so viscerally described by Lyell and, before him, Adams. Lyell's open-ended conception of extinction and its Frankensteinian implications seems prescient, here, given the Adams Mammoth may take man one step closer in its quest to clone previously extinct fauna, a phenomenon described as "de-extinction." See M. Thomas P. Gilbert et al, "Whole-Genome Shotgun Sequencing of Mitochondria from Ancient Hair Shafts," *Science* 317.5846 (2007): 1927-30; Beth Shapiro, *How to Clone a Mammoth: The Science of De-Extinction* (Princeton: Princeton University Press, 2015); and the April 2013 cover story of *National Geographic*, "Reviving Extinct Species."

“antique” garments, they seem inexplicably alive in their extinction, splashing up from the depths of the past to breach the surface of the present. That these corpses are animate in the *Principles* is no surprise, but rather gestures to a persistent fascination with human remains embalmed in peat. From the Mere of Dead Faces in J. R. R. Tolkien’s *The Lord of the Rings* saga to Seamus Heaney’s bog-body poems, the British literary imaginary has long envisioned speaking and moving corpses whose perfectly preserved bodies whisper of prior moments and other worlds.

The peat-bog landscape, in this context, is figured as the meeting place of seemingly distinct moments in time—as a space in which the surfaces collapse and worlds collide. Lyell describes it as such, noting how a bog’s “surface” is deceptive in that it is “covered with grass and rushes, presenting a dry crust and a fair appearance” to the unsuspecting traveler. Careful observers, however, will notice “it shakes under the least pressure, the bottom being unsound and semifluid.” Peat-bogs are, thus, nothing short of “perilous.” Caution is of the utmost importance, Lyell warns, for should a “foot slip” it is likely one “may never more be heard of” again — at least, until some diggers happen upon one’s mummified body in some future era (2.217). While Lyell’s warning is in part practical, it also suggests how the “adventurous passenger” or inquisitive geologist might “slip” out of time and world involuntarily, without warning or notice. The peat-bog, in other words, posits the temporal boundaries and trajectories upon which an orderly world-system depends as arbitrary, unstable and changeable. Time is not linear and successive, but rather porous and labyrinthine. As such, it positions the human subject on shimmering and even treacherous temporal terrain. If time is formally akin to a morass rather than chronologically organized strata, as the *Principles* suggests, it becomes increasingly difficult for the subject to secure a steady temporal foothold—a foothold the subject requires in order to function as a subject at all. Already we can see how the normative relationship between subject and world is subject to renegotiation in the *Principles*, even as the

geologist stages an all-powerful and interpretative spectacle for his mass reading public which would seem to solidify the subject's mastery over his objects of study.

Thus, the strange and vibrant forms of human remains make legible the contours of a world whose physics—whose space-time continuum—is lacunal, involuted and aleatory in structure and dynamics. They do so not only as they destabilize the geologist's foothold in time, but also in their uncanny resemblance to living persons. Critics have long argued that the magic of Lyell's *Principles* in particular, and nineteenth-century geological science in general, lies in its production of a durable, distant, dexterous "I." Ralph O'Connor, for instance, describes the rise of Victorian geology as coinciding with a "rejuvenat[ion]" of "the image of geologist as wizard," his power deriving from his capacity to marshal the forms of deep history and of life into narrative order.⁸ Likewise, the geologist is cast by Virginia Zimmerman as the "excavator" of "a conquered past" whose narrativizing "authority" commands time and world, "privileg[ing] the present and thus diminish[ing] the alarming implications of the abyss that is the past."⁹ But the *Principles'* errant iguanodons and mummies undercut the uniformity of time and of subject which grounds the geological observer, revealing instead a permeable, mutable, fugitive model of subjectivity. Lyell's bog bodies in particular are simultaneously fascinating and disturbing for what Sigmund Freud would likely describe as their uncanny physiognomy. The strange doubles of what were once persons, their untenanted and yet still unnervingly human forms are manifestations of an involuntary and revivifying second life. In gazing upon these living dead, the geologist is figured as an anti-Narcissus: what he finds in the swamp simultaneously mirrors and distorts the contours of his person and, in so doing, evacuates him of his capacity for mastery.

⁸ O'Connor, 105.

⁹ Virginia Zimmerman, *Excavating Victorians* (Albany: State University of New York Press, 2007), 11 and 3.

Coterminous neither with the human lifespan nor with humankind the species, subjectivity in the *Principles* is thus no longer mutually exclusive to the non-human and the inanimate. Rather, it is just as alive in the “fresh and unimpaired” corpses embalmed in moss—it is impersonated just as capably by once-persons and the non-human forms of nature. Lyell’s bog people in this way beckon both geologist and reader to step out of the rigid contours of normative selfhood and into a world wherein one might “slip” or fall out of one’s person just as easily as time. Despite Lyell’s argument for the regime of the present—for a system in which past and future are rendered legible by way of the here and now—the past looms large in the *Principles*, seeping into and co-opting those categories by which the geologist makes sense of the world. The forms of extinction, here, reveal a landscape in which time tremors and personhood is promiscuous. Undoing time and self, they in this way subject the world-making vision of the geologist—and even, perhaps, the very premise of uniformitarianism—to an extinction event of its own.

This porous model of subjectivity affords a lens through which to parse those portions of the *Principles* which imagine man as a world-making agent of geological proportions. Those portions of the *Principles* which document humankind’s rise to geological power in the dawn of the Anthropocene might appear to take this geological agency—the supposedly unmatched singularity and supremacy of the human species—for granted. Tracing “the extent of the influence which the progress of society has exerted, during the last seven or eight centuries, in altering the distribution of our indigenous British animals,” Lyell accumulates a list of man-made extinctions—both local and global—that would seem a macabre homage to human mastery. In Great Britain, the stag, deer and roe fell prey to overhunting and deforestation; the otter, marten, polecat and beaver hunted to the brink of annihilation for their pelts; the wild cat and fox strategically eliminated for the security of poultry; and the badger, native varieties of horse, the wild boar and the wild ox, the wolf and the bear. In Australia, the kangaroo and emu were lost to “the progress of colonization.” And last, but

certainly not least, there is the dodo of Mauritius, which had already achieved the status of a flagship species in the mid-nineteenth century. As Lyell states, the extinction of the dodo is the “most striking example of the loss, even within the last two centuries, of a remarkable species” (2.149-51) and spotlights, perhaps more so than any other species listed, the destructive capacity of humankind.

But extinction renders legible only one way in which man has already begun to exert his authority over the world. Marking an unprecedented “increase of the human race” (2.146), the *Principles* traces how man’s “prodigious” population—adding up to some “eight hundred millions”—has “displaced” or even extinguished “a number of beasts of prey, birds, and animals of every class” (2.148). Moreover, humankind has endeavored to “artificially improv[e] the natural productiveness of soils, by irrigation, manure, and a judicious intermixture of mineral ingredients conveyed from different localities” (2.146). And as the human species engineers, “the drainage of lakes and marshes,” it proves it is not only “the *stations* of many animals and plants” which are subject to modification, but also “the general climate of a district” (2.205). In the aggregate, humankind achieves a god-like omnipotence, bestowing and revoking life at will, shaping landscapes and atmospheres to its own specifications. Thus, Lyell claims, the human species “continually striv[es] to diminish the natural diversity of the *stations* of animals and plants in every country,” boiling them down to the economizing and austere logic of “use” value. (2.147-8). What follows this observation is telling: “But it admits of reasonable doubt whether, upon the whole, we fertilize or impoverish the lands which we occupy.” For Lyell, it is by no means clear whether humankind’s geological agency enriches the world or bankrupts it, whether our capacity to “impoveris[h]” the world knows any limits and, most terrifying, whether we as a species possess the power to undo what is now in motion.

Elsewhere in the *Principles*, Lyell puts into question what we might otherwise be inclined to conclude: that to be human is to possess a singular capacity for mastery and destruction, and that it

is to possess the key to salvation for the world and its life forms. In this sense, the *Principles* constitutes an argument against the narcissism at issue in some contemporary discourse around the Anthropocene and the model of subjectivity upon which this discourse turns. Uniformitarian geology, as it is theorized in the *Principles*, registers recurring and anti-systematic interactions between the zones of terrestrial development: the geo-, hydro-, atmo- and biospheres. As a geological agent, humankind constitutes only one of a plethora of forces, and when these forces collide they can intensify, neutralize and push back against one another. Thus, while Lyell admits that humanity is “anomal[ous]” in its ability as “*a single species*” to exert “an influence equal to that of hundreds of other terrestrial animals,” he then immediately puts this “influence” into question as he maps the “insignifican[ce]” of “the aggregate force exerted by man” in comparison to “the great physical causes” of earth (2.207). Lyell, of course, did not possess the foresight to see where this “influence” would lead us. Nevertheless, his emphasis on the “aggregate” is critical in this context, for it calls attention to the many beings, forms and energies which regularly put humankind’s “influence” in check, however often this nonhuman “influence” might give our notice the slip. The human species is, as Lyell attests, only one part of an assemblage of geological forces, many of which are just as powerful and the “aggregate” of which is amplified through shifting interactions that elude or exceed any human capacity for control.

Thus, when Lyell makes claims about the novelty of man’s geological agency—“it is difficult, if not impossible, to find anything analogous in the agency of inferior beings” (2.205-6)—he talks out of both sides of his mouth. Indeed, these claims rarely go unchecked in the *Principles*. In the very next sentence, for instance, he warns against “decid[ing] that any part of the influence of man is novel and anomalous” (2.206). As a species, Lyell concedes, humankind is not “anomalous” but often only “supersed[es]” or “discharg[es]” those “functions *previously fulfilled by other species*” (2.206, emphasis mine). As such, the human species is anything but “novel and anomalous.” In

“superseding” and “discharging” the already extant “functions” of other species, humans are agents of replication and substitution. They are, in other words, derivative—they merely impersonate nonhuman agents and agencies. To demonstrate his point, Lyell turns to geohistorical events in which nonhumans were the primary players: “The multiplication, for example, of certain insects in parts of Germany, during the last century, destroyed more trees than man, perhaps, could have felled during an equal period” (2.206). Matching, if not exceeding, man’s supposedly unique capacity for destruction, these terraforming insects demonstrate how “it does not follow that this kind of innovation is unprecedented” (2.206). Nonhumans, here, are just as if not more capable than human persons of fashioning the planet anew, and will continue to do so once we are gone. Here, Lyell strikes acts of world-making from the list of “innovations” which would posit man’s agency as “novel and anomalous.”

Along several vectors, then, Lyell’s *Principles* undercuts a normative model of subjectivity which continues to reverberate in the present, and in which the state of the world and its future is at stake. Lyell’s turn to environmental accidents caused by man only furthers this claim. Tracing the displacement of “aboriginal forests” by “mosses and fens,” for instance, to “the strict orders given by Severus, and other emperors, to destroy all the wood in the conquered provinces,” Lyell does not say what we might expect: that this history exemplifies man’s ability to tailor the surface of the earth to his specifications. Instead, he writes how “curious” it is that these “considerable tracts have by these *accidents* been permanently sterilized, and that during a period when civilization has been making great progress, large areas of Europe have, by human agency, been rendered less capable of administering to the wants of man” (2.214, emphasis mine). Here, the records of deep history preserve a narrative not of humankind’s ability to engineer “strict” environmental order, but rather of the non-intentionality, non-instrumentality and outright idiocy that is always at play in human action. Thus, in the forms of extinction—the mass annihilation of flora and fauna, the porous

interfaces between agents of geological development—Lyell traces a narrative which contradicts much of what we think we know about the Anthropocene, even as he also chronicles the human species' ruinous tenure on earth.

Extinction, (De)Formation, Lyric

Like Lyell, Tennyson turns to the forms of extinction for models through which to re-vision subjectivity and, more broadly, the world. Tennyson's lyric "I" develops an evacuated and fugitive form of subjectivity which might suggest new directions for poetry in an age of human power. Most immediately, *In Memoriam* is a poem about the loss of a person and, by extension, an entire world. Written over nearly two decades following the death of Arthur Hallam, the poem elegizes the life of one man. Yet, over the course of *In Memoriam*, Tennyson figures Hallam's loss as a vehicle through which to navigate the world-shattering infinitudes of geological science. As representative of one man and man, the species, Hallam embodies a swarm of questions about the processes and forms of extinction and the fate of the world after humankind. Scholars from Diana Fuss to Jahan Ramazani position *In Memoriam* in a pre-modern elegiac canon which, unlike modern elegy, possesses little if any relationship to mass death. It was only "[a]s warfare was industrialized and mass death augmented" in the early twentieth century, Ramazani argues, that elegy turned away from its memorializing, spiritual, and consolatory tendencies to mount a critique of death en masse.¹⁰ But this account of pre-modern elegy overlooks a form of systematic extermination that was, as the *Principles* observes, already all too visible in Victorian England: species extinction. From the dodo's vanishing in the seventeenth century to the various extinctions—regional and planetary—documented by

¹⁰ See Diana Fuss, *Dying Modern: A Meditation on Elegy* (Durham: Duke University Press, 2013) and Jahan Ramazani, *Poetry of Mourning: The Modern Elegy from Hardy to Heaney* (Chicago: University of Chicago Press, 1994), 1.

Lyell, poets and scientists alike were mourning the human species' capacity to eradicate life in the aggregate well before the Great Wars.

Tennyson's engagement with extinction, especially as it is staged in *In Memoriam*, is fraught, to say the least, and it is deeply intertwined with the poem's broader relationship to geology. Isobel Armstrong, Michelle Geric, Peter Sacks and others have traditionally understood the poem as invested in the integrity of the type and of taxonomy.¹¹ In *In Memoriam*'s so-called extinction lyrics (sections 55 and 56), for instance, Tennyson vacillates between two conceptions of "Nature" (55.5): one who is "careful of the type" at the expense of "the single life" or individual (55.7-8) and a maniacal one who has extinguished "A thousand types" and "care[s] for nothing" at all (56.3-4). So understood, extinction is a problem for Tennyson: it represents the destabilization of the "type" or species—a taxonomic unit upon which the poet's supposed desire for order depends. But I argue that *In Memoriam* also pushes against the grain of this orderly, uniform and durable world-system. This resistance is asserted most forcefully in the many moments when the poem takes extinction as its object of desire. In sections 55 and 56, for instance, the speaker fantasizes about extinction even as he traces the taxonomic anxieties with which this fantasy is embroiled. That Tennyson frequently shuttles between the deaths of persons and the deaths of species illustrates how, even at his most unsettled, he experiments with the ways in which *both* are deeply unstable and wholly unnatural. The fragility of the type conveys not only a world, but also a subject that is mutable and aleatory—that is capable of and subject to radical transformation. The lyric form of *In Memoriam* in this way conveys new possibilities for the function of poetry in our geohistorical present—a present we share with the

¹¹ Isobel Armstrong, *Victorian Poetry: Poetry, Poets and Politics* (New York: Routledge, 1996); Michelle Geric, "Tennyson's Maud (1855) and the 'unmeaning of names': Geology, Language Theory, and Dialogics," *Victorian Poetry* 51.1 (2013): 37-62; and Peter Sacks, *The English Elegy: Studies in the Genre from Spenser to Yeats* (Baltimore: Johns Hopkins University Press 1985).

Victorians, and which seems increasingly defined by the very notions of subjectivity and of agency against which some argued over the course of the nineteenth century.

In Memoriam is suffused with images of spherical worlds suspended at a distance. These floating globes give an initial shape to the poem's sense of loss. Like Tennyson's beloved Arthur Henry Hallam, their perfect forms elude possession, drifting further and further away from the poet. As he looks upon them from afar, Tennyson is figured as a dispossessed stargazer. Loss having launched him out of orbit, he possesses no world to call his own. Rather, he resides in the worldless limbo of zero gravity:

And is it that the haze of grief
 Makes former gladness loom so great?
 The lowness of the present state,
 That sets the past in this relief?

Or that the past will always win
 A glory from its being far;
 And orb into the perfect star
 We saw not, when we moved therein? (24.9-16)

Gazing upon “the past” as it is embodied by a “perfect star,” Tennyson is suspended in an out-of-world space following Hallam's death. The language of the orb is especially significant in this context. Defined in nineteenth-century dictionaries as an “orbicular” or “rolling body” and a “[c]ircle” or “orbit,” “orb” denotes not only a particular form but also a particular force—something Tennyson emphasizes when he uses the word as a verb.¹² Anna Henschman contends that the language of “orbing” in *In Memoriam* connotes “a triangulated” mode of observation: parallax. The poem's speaker, she argues, “orbs” or synthesizes the “radical discontinuities” which emerge as the relative position of subject and object change and, with it, the subject's perception of the object's “appearance.”¹³ But her account overlooks how orbicular forms and their centripetal energies are a

¹² Stephen Jones, “orb,” *A General Pronouncing and Explanatory Dictionary of the English Language* (London, 1804); Richard Soule, “orb,” *A Dictionary of English Synonyms* (Boston, 1871), 282.

¹³ Anna Henschman, *The Starry Sky Within: Astronomy and the Reach of the Mind in Victorian Literature* (Oxford: Oxford University Press, 2014), 103.

persistent source of melancholy for Tennyson. In Section 24, for instance, the language of the orb is a source of suspicion and grief for Tennyson, in part because it connotes a universe that is a coherent, static, impermeable whole.

Thus, the “orbicular” form of the “past” world recedes further and further from the poet, producing closure not only by way of its structure, but also through the rolling action—the centripetal force—that it generates. Tennyson finds himself ejected from a world that actively keeps him at bay, its whirling forms exerting a gravitational pull that gathers in—and thus gathers away—the sphere in which he once “moved.” With “prospect and horizon gone” (38.4), a centerless poet wanders lonely skies. What is significant, here, is Tennyson’s figuration of Hallam’s death in planetary terms: the scale of personal loss in *In Memoriam* is, quite literally, world-ending. Just as important, too, is the poem’s critique of the closed form of the orb, which labors just as much to keep things out as it does to keep them in. Even as Tennyson mourns the loss of a former world and its consolatory perfection, then, he nevertheless mounts an argument against its insphering formal energies. Whereas for the Romantics elegy often coincides with a poetics of literary canonization—think, for instance, of Shelley’s *Adonais* (1821)—here we can begin to see how in the Victorian period it leads into new forms of biopolitical confrontation insofar as it gives Tennyson a lens through which to envision the deaths of persons alongside the expiration not only of species, but also of entire planets.

Tennyson’s meditations upon selfhood posit the form and insphering energies of the orb as analogous to subjectivity. Like “the perfect star” of the “past,” the normative subject is figured in the poem as orbicular and seamless in structure—as alienated and alienating:

The baby new to earth and sky,
 What time his tender palm is rest
 Against the circle of the breast,
 Has never thought that ‘this is I:’

But as he grows he gathers much,
 And learns the use of ‘I,’ and ‘me’,

And finds 'I am not what I see,
And other than the things I touch.'

So rounds he to a separate mind
From whence clear memory may begin,
As through the frame that binds him in
His isolation grows defined. (45.1-12)

The “I,” like the orbiting “star,” produces a “circular” and enclosed world as it “rounds” the speaker into “a separate mind.” And in so doing, the “I” “gathers” the speaker in and away from that which he “see[s]” and “touch[es],” englobing all things—subject and object, self and other—into place. The laws of exchange are thus fixed in terms of that which is or is not “I, and ‘me’.” Not even tactile sensory experience can undo the perfect order of this world, which is all surface. The narrativizing structure of “memory,” like the form of the human “frame,” “binds [the subject] in”: “His isolation grows defined.” As Irene Hsiao argues, *In Memoriam* in this way exposes the dark side of that which would seem “essential to the lyric ‘I’—the idea that there is something individual and isolable...about experience” or, rather, about the “will that generates a position of speech, encompassed by the border we designate as the body.” I argue that the poem identifies this “will”—with its rounded and rounding “border”—as a source of despair, but not because it illustrates the poet’s incapacity to “recogniz[e] the borders of the self,” as Hsiao concludes.¹⁴ Rather, section 45 understands the speaker’s “melancholy” as stemming from how these “borders” restrict or “frame” his horizon, imprisoning him in the logic of “I” and “not I,” self and other, subject and object. *In Memoriam* thus tells a story much different from the “poet / speaker’s drift back to power,” to borrow Matthew Campbell’s phrasing, for that “power” emanates from a “will” to which the poet objects. It is a “will” that is consolidated by and through the insphering “frame” of the human body and, by extension, subjectivity as it is traditionally understood.¹⁵

¹⁴ Irene Hsiao, “Calculating Loss in Tennyson’s *In Memoriam*,” *Victorian Poetry* 47.1 (2009): 175.

¹⁵ Matthew Campbell, *Rhythm and Will in Victorian Poetry* (Cambridge: Cambridge University Press, 2004), 162.

The interrelationship between the consolidating “I” of the subject and its taxonomic “isolation” is significant given Tennyson’s insistence that the lyric “I” of *In Memoriam* shuttles between persons and species. In *Alfred Lord Tennyson: A Memoir by His Son*, Hallam Tennyson recalls how his father described *In Memoriam* as “a poem, *not* an actual biography.” As such, the lyric “I” of the elegy, according to Tennyson, “is not always the author speaking of himself, but the voice of the human race speaking thro’ him.”¹⁶ Tennyson repeated this idea on more than one occasion. James Knowles reports that, “[w]hen reading ‘In Memoriam,’” Tennyson said: “It is rather the cry of the whole human race than mine. In the poem altogether private grief swells out into thought of, and hope for, the whole world...It is a very impersonal poem, as well as personal.”¹⁷ Not insignificantly, it is on both “personal” and “impersonal” registers—the scale of the individual and the scale of the species—that Tennyson chooses to explore his “thought of, and hope for, the whole world.” In this context, Tennyson’s move to publish the poem anonymously can be understood as a gesture through which to amplify the poem’s “impersonal” orientation or scope. That the poem was identified almost immediately as Tennyson’s reinforces, rather than complicates, this argument. Given the intensely personal substance of the poem, it is highly unlikely that its authorship could have long escaped detection. In this sense, *In Memoriam* invites us to imagine the ways in which Tennyson, in publishing it anonymously, invited his readers to remove it from the insphering forms of biography and to read it instead as coming from no one and everyone, from no person in particular and, at the same time, an entire “race” or species. I contend that this resistance to biographical closure and the “rounding” forms of subjectivity longs for the de-subjectivated place to which Hallam has traveled in death—for an open world that “has centre everywhere / Nor cares to fix itself to form” (33.3-4).

¹⁶ Hallam Tennyson, *Alfred Lord Tennyson: A Memoir by His Son*, vol. 1 (London, 1897), 304-5.

¹⁷ James Knowles, “Aspects of Tennyson, II,” *The Nineteenth Century* (London: January 1893), 182.

In Memoriam is a sustained reflection upon what such a world might look like and what it might make possible for self and for other. This world takes shape most immediately through the forms of extinction and their microcosmic embodiment in Hallam's death. As that which annihilates the "I" of the subject and the "we" of species, extinction is neither terminal nor globular in structure. It is, rather, an "impersonal" (or perhaps de-personalizing) process whose open forms undo the closure of subjectivity. Critics have noted the strange temporality of death in the poem. Allan C. Christensen, for instance, notes that the poem is possessed by the idea "that Hallam is not irreparably dead."¹⁸ In a moment which calls to mind Lyell's vision of the iguanodon's return—a vision we should take seriously, however fantastical it might be—Tennyson remarks he "should not feel it to be strange" were he to find the "sudden hand in mine" of "The man I held as half-divine" (14.20 and 10-1). I argue that, in these moments, Tennyson imagines extinction as something other than an end in itself. Truly, the dead might, at any moment, burst back into time.

Thus, in section 45 wherein he laments the englobing function of the "I," Tennyson describes "Death" as a "second birth" through which our otherwise "fruitless" life in "blood and breath" gains value in that it serves as a prelude extinction: that space in which "man," rather than meeting his end, will "learn himself anew" (13-6). Here, we see how the poem "plac[es] discordant perspectives on a common plane where their respective merits and implications can be explored," as Devin Griffiths suggests. These discursive collusions function as the engines of the poem, demonstrating how "faith accommodates nature, rather than triumphing over it."¹⁹ The "second birth" envisioned in section 45 brings together precisely the "discordant perspectives" to which Griffiths refers in order to gesture to the resonances between the language of the spiritual and the

¹⁸ Allan C. Christensen, "Navigating the Perilous Seas of Language: *In Memoriam* and "The Wreck of the Deutschland," *Victorian Poetry* 47.2 (2009): 385.

¹⁹ Devin Griffiths, *The Age of Analogy: Science and Literature Between the Darwins* (Baltimore: Johns Hopkins University Press, 2016), 131.

language of science. The geologist, like the evangelical Christian, believes in an afterlife of sorts, whether for the individual or the species—for Hallam or the dodo. Together, these seemingly “discordant” modes of discourse suggest how we might understand death, whether individual or collective, as that which resists narrative closure. Tennyson’s use of the word “man” is especially telling in this context, for it conveys how extinction formally reconfigures not only the individual human subject, but also the entire human species: “man,” the individual *and* the type, will “learn himself anew” in death. By way of extinction, in other words, humankind enters into a new world whose ecology runs counter to the orbiting economy of “I” and “me.” Thus, Tennyson describes the “shock” of Hallam’s death as “stunn[ing] me from” or defamiliarizing “all my knowledge of myself” (16.15-6). Invoking the language of the fecund in order to figure death as a “second birth,” *In Memoriam* casts the forms of extinction as generative, rather than enclosed: as giving “birth” to unanticipated narrative possibilities; as constituting a world-making process or, perhaps, a poesis.

The poem’s persistent construction of Hallam as a capacious and shifting vacancy further illustrates how extinction opens onto (rather than extinguishes) a world. This preoccupation has not gone unnoticed by scholars, who note how “Tennyson conveys the immensity of Hallam’s absence” by situating it in terms of “hollowness, emptiness, vacancy, blankness, dumbness and “waste places.”²⁰ Indeed, *In Memoriam* imagines “A void” where closure once stood: “where heart on heart reposed; / And, where warm hands have rest and closed” (13.6-7). In section 10, too, Tennyson describes the gaping vacuity left in the wake of Hallam’s “vanished life” (8). Here, he imagines the ship which returns Hallam’s body to its native land as laden, strangely, with absence—with “death’s dimensionlessness,” as Anne-Lise François puts it, or something less than a nothing.²¹ But this absence is neither indicative of pure formlessness, nor do the hollow “voids” that crop up in the

²⁰ Christensen, “Navigating the Perilous Seas of Language,” 382.

²¹ Anne-Lise François, *Open Secrets: The Literature of Uncounted Experience* (Palo Alto: Stanford University Press, 2007), 171.

wake of extinction lead to nowhere. Rather, they are formative in function. Imagining Hallam's body as "rest[ing] beneath the clover sod"—as enmeshed with "rains" and roots and rocks—and the "hands" he "so often clasped" as "toss[ed] with tangle and with shells" (10.13-4 and 19-20), the "void" forms of extinction proliferate formal porosities where seemingly impermeable surfaces once stood. Extinction, in other words, performs de-formative work, but only to reconfigure the strictly policed surfaces of an orbicular world-order into something new. Following on the heels of a quatrain whose anaphoric structure—"I hear," "I hear," "I see," "I see" (10.1-4)—figures the closure of the subjectivating "I" on the page, the intermingled forms of Hallam, "clover sod," "tangle" and "shells" together illustrate how extinction functions as a source of formal liberation. Thus, the "distinction between Hallam as object and the poet as subject" is one that, as Griffiths argues, "the poem refuses to accept."²² Open-ended and promiscuous, extinction does not put an end to form. Instead, it registers a new formal physics in which unanticipated porosities renegotiate the relationship between subject and object, or human and non-human.

Tennyson's ruminations on the yew tree in section 2, in particular, suggest how these porosities might reconfigure the subject and, in so doing, offer new models for sociopolitical organization. Here, the poem draws person and non-person together in an affective compact as it triangulates poet, plant and corpse:

Old Yew, which grassiest at the stones
 That name the under-lying dead,
 Thy fibres net the dreamless head,
 Thy roots are wrapt about the bones.

The seasons bring the flower again,
 And bring the firstling to the flock;
 And in the dusk of thee, the clock
 Beats out the little lives of men.

O not for thee the glow, the bloom,
 Who changes not in any gale,
 Nor branding summer suns avail
 To touch thy thousand years of gloom:

²² Griffiths, 133.

And gazing on thee, sullen tree,
 Sick for thy stubborn hardihood,
 I seem to fail from out my blood
 And grow incorporate into thee. (2.1-16)

At first glance, the yew tree appears impervious to the corroding processes of climate and deep time. It is unimaginably “Old,” its twisted form “chang[ing] not in any gale” as it weathers an interminable cycle of “seasons” and “branding summer suns.” In this sense, the yew is exceptional in its unfeeling orientation to the world: no geological operation or thing can touch its “thousand years” of life, its narcotic or “stubborn hardihood” a paragon of affective transcendence. In this way, the yew tree and the poet would seem impossibly distant from one another. The poet, after all, is subject to “the clock” of time, which relentlessly “Beats out the little lives of men.” His body will inevitably fail, its material constitution incapable of sustaining anything more than a “little life” whose scale could never measure up to the yew’s millennium-long tenure on earth.

But both plant and poet are riddled with what Sianne Ngai would call ugly feelings and are in this way perhaps not so different.²³ The tree, like the poet, is possessed by an unshakeable “gloom,” its “hardihood”—its very capacity for inaffection—described as paradoxically affective: as “sullen” and “stubborn.” While its “hardihood” would seem to function as a shield against decay, that vigor is qualified by the tree’s deep capacity for feeling. Poet and tree are here drawn together in an affective compact which would seem to suggest that, despite their material differences, they are “incorporate.” The poet’s turn to extinction—to the corpse “under-lying” the tree—only thickens this sense of incorporation. Here, the “materiality” of the dead, as Fuss puts it, “speaks volumes.” Revealing a world thick with entanglements, Tennyson’s corpses are neither still nor silent. They are always in motion, eerily animate in their strange and petrifacious life. And though they do not possess voice in the conventional sense of the word, they nevertheless “inven[t] paradoxical new

²³ Sianne Ngai, *Ugly Feelings* (Cambridge, MA: Harvard University Press, 2007).

grammars”—new logics of relation—as they render legible those processes through which the surfaces of seemingly distinct or unlike forms are undone.²⁴ Death, in other words, constitutes a new frontier for form and for animacy in *In Memoriam*. Thus, the corpse’s “dreamless head” is “net[ted]” with the “fibres” of the yew, whose “roots” are also “wrapt about the bones,” their frameworks slowly enmeshing over time. Still possessing identifiable appendages—heads and roots, bones and tissue—corpse and yew nevertheless exist in an “incorporate” or hybrid state, their kinetic structures establishing queer continuities that disrupt the boundaries between life and death, animacy and inanimacy. Rendered fugitive in death (in both the transitory and transgressive senses of the word), their forms wander from the confines of taxonomic schemata to enunciate a world full of new, promiscuous life.

Tennyson’s chosen species—the yew tree—is especially significant in this context, for it is an organism whose modes of reproduction tend toward hybridization. In the *Principles*, Lyell remarks on the frequency with which,

during the heat of a summer’s day, do we see the males of diœcious plants, such as the yew-tree, standing separate from the females, and sending off into the air, upon the slightest breath of wind, clouds of buoyant pollen! That the zephyr should so rarely intervene to fecundate the plants of one species with the anther-dust of others” is nothing short of a “miracle.” (2.55)

But whereas the *Principles* turns away from the implications of the yew’s disorganizing reproductive capacities as it attests to “a natural aversion in plants, as well as in animals, to irregular sexual unions” (2.55), *In Memoriam* plays out these peculiar copulations. The “irregular” or “incorporate” figures of corpse and tree embody the queer mechanics of extinction: its capacity to suggest new possibilities for exchange and new forms for the world. The poem’s engagement with these promiscuities are not isolated to section 2, but are developed over the course of *In Memoriam*. Thus, in his incisive reading of section 86, Griffiths describes how the poem’s speaking subject, gripped by a “rapture” that extends across “brake and bloom, wood and flood,” is “imperiled.” As in section 2,

²⁴ Fuss, *Dying Modern*, 67.

“the poem not only draws the dead closer to the living but raises lived experience into contact with the afterlife”—a move that “gives the dead [Hallam] substantial power to constitute the poetic subject” according to some other and more aleatory formal logic.²⁵ As illustrated by the once coherently human body that is now netted with fibers and intertwined with roots, extinction disrupts the formal integrity of subjectivity and of species, opening onto a world in which such taxonomic distinctions are not only revealed as arbitrary but also actively undone. Extinction is in this way a figure of transformation as opposed to termination. It is a poesis, unmaking the structures of an orbicular world so as to create a new, “incorporate” one in its stead.

Tennyson’s vision of a person “grown incorporate into” (16) non-persons lends a political valence to the forms of extinction. In “growing incorporate into” the yew, the poet does, as Armstrong notes, initially become “bodiless.” But as he sheds his human physiognomy, the poet does not remain bodiless and so commit the enclosing act of suicide, as Armstrong ultimately concludes.²⁶ Rather, he undergoes a corporal transformation through which he is ultimately re-embodied, taking on new life in both private and public. He is “unit[ed], combin[ed], mix[ed], blend[ed]” with the yew.²⁷ In so doing, he is also “form[ed],” or reformed, entering into a new “*corporation or body politic*.”²⁸ The poet, in other words, engages in an act of interspecies copulation. It is by way of this act that he is “furnish[ed] with a body”—a new body which is nonhuman and plural in structure—and, as such, he is adopted into a new ecological “corporation” or collectivity.²⁹ Significantly, the syntax of the passage invests the yew, and not the poet, with agency: it is the feeling, reaching plant who draws the passive poet out from the insphering structures of taxonomy and the orb of subjectivity. As the tree’s fibers and roots entangle him into a nonhuman body, they

²⁵ Griffiths, 156.

²⁶ Armstrong, 257.

²⁷ Soule, “incorporate,” 216.

²⁸ Jones, “incorporate,” n.p. Emphasis mine.

²⁹ “incorporate, *v.*,” *Oxford English Dictionary*.

thus unearth a “body politick” that destabilizes the primacy of human power. *In Memoriam*’s anonymous publication is especially telling, here. Just as the yew is “grassiest at the stones / That name the under-lying dead,” its greenery obscuring the very thing—the name—by which persons are designated as persons, so too does the omission of “Alfred, Lord Tennyson” from the title page efface the individuality of *In Memoriam*’s author, positioning the poem instead as the work of someone or something other than a person, at least in the conventional sense of the word. *In Memoriam* in this way incites readers to imagine themselves, like the poet, as existing outside the conventional bounds of subjectivity and to imagine themselves as members of some other, more ecological collectivity.

The figure of apostrophe in *In Memoriam* illustrates the “incorporate” function of the lyric “I” and so fleshes out the “body politick” at issue in the poem. Scholars have often understood lyric poetry in normative terms: as constituting the utterance of an animating and presumably human subject who possesses what Barbara Johnson describes as a “capacity to *call*” the nonhuman and the inanimate into anthropomorphic life. This “authority,” according to Johnson, is especially powerful. The poet turns necromancer, “transform[ing] an ‘I-it’ relationship into an ‘I-thou’ relationship.” Supposedly, then, lyric and its figures—apostrophe, especially—“mak[e] a relation between persons out of what was in fact a relation between person and non-person.”³⁰ To put it another way, lyric is the production of an “authorit[ative]” human subject—an individual, consolidated, all-powerful human speaker—who exercises his voice in order to make an anthropomorphic similitude of the world, to forge an inhuman universe in his own image. But more recently, scholars have begun to track another and very different lyric mode that resists the “intelligibility linked to the voice of the

³⁰ Barbara Johnson, *Persons and Things* (Cambridge, MA: Harvard University Press, 2008), 9. For strong instances of the critical alignment of subjectivity with lyric see Susan Stewart’s *Poetry and the Fate of the Senses* (Chicago: University of Chicago Press, 2001) and Helen Vendler’s *Invisible Listeners: Lyric Intimacy in Herbert, Whitman, and Ashbery* (Princeton: Princeton University Press, 2007). Stewart claims it would be “unbearable to imagine lyric” in anything other than the “terms of subjectivity” in her “Preface to a Lyric History,” *The Uses of Literary History*, ed. Marshall Brown (Durham: Duke University Press, 1995), 212.

subject,” as Jonathan Culler has argued. Rei Terada affirms the new “emphasis on lyric’s permeability” in the face of the supposed “autonomy of the lyric object,” while Virginia Jackson and Yopie Prins trace lyric’s “tendency to get off the subject.”³¹

In this context, apostrophe might seem to work in opposition to the “incorporate” notion of subject and world at issue in *In Memoriam*. It is, after all, conventionally understood as a mode of lyric address wherein the poet calls out to and thus animates the dead—a gesture that, according to Johnson, bespeaks the special “authority” with which the human voice is imbued. Others, too, understand apostrophe as produced only by and through speech—or a seemingly isolable, legible and possessive human voice—which anthropomorphizes the non-human world and so magics it into life. Paul de Man thinks lyric along these lines when he argues that “[t]he principle of intelligibility, in lyric poetry, depends on the phenomenalization of the poetic voice.”³² And while scholars have in recent years begun to trace how lyric readily “frustrate[s] attempts to locate a coherent voice,” they have yet to account for how lyric often gives the human voice the slip.³³ Thus, even as Culler advocates against the temptation to “imagine that lyrics embody voices,” he nevertheless insists that a universal characteristic of the lyric is its insistent production of “voicing.” Connoting aural “effects” such as “the echoing of rhyme, assonance, or alliteration, and rhythmic patterning,” voicing consists of a set of poetic devices that, even as they resist consolidation into “the distinctive voice of a speaker”—the voice of an individual, consolidated subject—nevertheless suggest a particular *type* or *species* of voice: one that, I argue, is unmistakably human insofar as it culls

³¹ Jonathan Culler, *Theory of the Lyric* (Cambridge, MA: Harvard University Press, 2015), 82; Rei Terada, “After the Critique of Lyric,” *PMLA* 123.1 (2008): 196; and Virginia Jackson and Yopie Prins, “Lyrical Studies,” *Victorian Literature and Culture* 27.2 (1999): 523. See also Sharon Cameron’s foundational *Lyric Time: Dickinson and the Limits of Genre* (Baltimore: Johns Hopkins University Press, 1981); Jackson, *Dickinson’s Misery: A Theory of Lyric Reading* (Princeton: Princeton University Press, 2005); and Tilottama Rajan, “Romanticism and the Death of Lyric Consciousness,” *Lyric Poetry: Beyond New Criticism*, ed. Chaviva Hosek and Patricia Parker (Ithaca: Cornell University Press, 1985), 194-207.

³² Paul de Man, “Lyrical Voice in Contemporary Theory: Riffaterre and Jauss,” *Lyric Poetry*, 55.

³³ Culler, *Theory of the Lyric*, 77.

its power from the “patterning” of grammar or, rather, of speech.³⁴ It seems no coincidence, here, that Culler’s preferred example of “voicing”—“the gratuitous ‘O’ that accompanies many apostrophes”—is distinctly human: it connotes a “poetic subject” that is taxonomically distinct from the “natural object.” The “O,” in other words, “works to create the poetic ‘I’ as a bardic, visionary voice” which “make[s] things happen by acts of naming”—by subduing and assimilating the illegibility of the non-human world to grammatical law—and which in this way “connects” an implicitly human “mouth” to an anthropomorphizing “event” that reconstitutes human subjectivity and ensures its survival.³⁵ It is for this reason that Giorgio Agamben locates in human speech a violent mandate to anthropomorphize—to eviscerate, extinguish, and altogether erase—those “confused animal voice[s]” which are amplified by non-human bodies.³⁶ Death—the death of the non-human, in particular—is always a part of the human voice, whose production, as Sara Guyer suggests, proliferates a “parallel violence” upon those animal, vegetable, elemental and inanimate forms toward which it is thrown.³⁷ Haunted by the violence which human language imparts upon the world, Agamben’s essay on Giovanni Pascoli’s onomatopoeias concludes with the very same question that festered at its beginning: “Can there be speech, poetry, and thought beyond the letter, beyond the death of the voice”—specifically, the death of the non-human voice—“and the death of language?”³⁸

In Memoriam offers one answer to this question by using a form of apostrophe that gestures beyond anthropomorphism and, more broadly, human speech. Scholars have long projected a human form onto the lyric “I,” and *In Memoriam* is no exception to this rule. Denise Gigante, for instance, locates an “anonymity” in Tennyson’s ballad meter, which works to convey a “communal

³⁴ Culler, 35.

³⁵ Ibid., 213 and 223.

³⁶ Giorgio Agamben, “Pascoli and the Thought of the Voice,” *The End of the Poem: Studies in Poetics*, trans. Daniel Heller-Roazen (Palo Alto: Stanford University Press, 1999), 69.

³⁷ Sara Guyer, *Romanticism After Auschwitz* (Palo Alto: Stanford University Press, 2007), 49.

³⁸ Agamben, “Pascoli and the Thought of the Voice,” 75.

human voice.”³⁹ While Gigante emphasizes the mobility and plurality of subjectivity in *In Memoriam*, she nevertheless understands the “I” of the poem as a distinctly human form of life and agency. But I contend that the taxonomic state of the lyric “I” in *In Memoriam* is decidedly less cut and dry. First, the speaker of the poem cannot even be said to constitute a human person or to possess a human voice. Indeed, we cannot even assume the speaker to be alive, at least in the usual sense: the poet is, after all, subjected to a kind of death that is staged most immediately on the title page of *In Memoriam* and which unfolds over the course of the poem. Situated in an “incorporate” compact with non-human organisms and inanimate remains, the poet is released from the orbicular bonds of subjectivity. The poet is imagined instead as the living, breathing, walking dead—as that which was once a person, but is no longer in the normative sense of the word. Funneled through the open-ended forms of extinction, he is very much alive, and perhaps only because he is dead. Here, death frees the poet from the strictly policed circuitry of human speech: “I” and “you,” subject and object, self and other. In this way, apostrophe in *In Memoriam* is neither an address that travels from person to non-person, or from the animate to the in-animate, nor is it that which connotes the voice of the human. It is, rather, a conversation between and among the dead. And as it entwines person and non-person into an “incorporate” compact, it produces what Johnson describes as a breakdown in “the distinction between addressor and addressee.”⁴⁰ This breakdown unsettles the contours of lyric speech, revealing how the seemingly inanimate addressee might possess the capacity to call or to animate, though that call might not take the form of a conventional or legible poetic voice. It is for this reason that I describe the “incorporate” forms of *In Memoriam* as rendering audible an otherwise inaudible or illegible conversation. Plant and corpse, like the poet, possess the capacity to call.

³⁹ Denise Gigante, “Forming Desire: On the Eponymous *In Memoriam* Stanza,” *Nineteenth-Century Literature* 53.4 (1999): 493.

⁴⁰ Johnson, “Apostrophe, Animation, and Abortion,” *A World of Difference* (Baltimore: Johns Hopkins University Press, 1987), 199.

Unlike the poet, however, their apostrophes exist beyond the reach and parameters of human speech, and apart from anthropomorphism. They apostrophize without voice. Thus, in section 2 the poet is literally moved, or animated, out of himself by the kinetic assemblage of corpse and plant. Corpse and plant—not poet!—are the necromancers, here: it is they who “call” upon or hail the poet in order to re-animate him as part of an interspecies collective.

Apostrophe is thus not always that which “turns toward anything the poet throws his voice to, and in so doing magnetizes a world around his call.”⁴¹ Lyric figuration instead transpires beyond and in spite of human “voice” or speech. It is an “incorporate” mode of expression that emanates unsystematically from a host of non-human and de-subjectivating centers. What is significant, here, is how the lyric “I” of *In Memoriam* destabilizes the authority of the poet and, by extension, the contours of subjectivity. The mischievous and insubordinate yew tree, especially as it is described in section 2, illustrates this point. Despite the poet’s best efforts to wrestle the yew into doing what it is told—to pacify it into an unfeeling and immovable ideal for his desire—the plant just won’t have it. The yew is an addressee gone rogue. It is “unshakeable” and recalcitrant in its “gloom,” and this recalcitrance renders legible the non-human addressee’s capacity to destabilize the mastery of the apostrophic addressor and, further, to co-opt that addressor’s authority to call. As it refuses the poet’s summons to inaffection and then wrangles that same poet unwillingly into an “incorporate” compact, the yew supplants the speaking subject of the poem and turns apostrophizer. The “I” registers instead a world of distributed agencies, wherein corpses and plants resist the violence of personification. As such, it participates in an alternative economy of exchange wherein humans and even poetic voice itself are de-personified.

In Memoriam in this way refuses to perpetuate the uneven relationship between subject and object or human and nonhuman, to essentialize or “thing-ify” non-humans as inanimate, powerless

⁴¹ Johnson, *Persons and Things*, 10.

beings—as beings whose only hopes for action rest in their willing submission to a poet’s “voicing,” to a human call to humanoid life. Tennyson’s lyric “I” demonstrates how apostrophe is indeed deeply hyperbolic in its character, but not simply because it “risk[s] animating the world, investing mundane objects or occurrence with meaning.”⁴² The hyperbole of apostrophe in *In Memoriam*, I argue, is its insinuation that an animate, agentic world already exists and that it persists—flourishes, even—without the assistance, and indeed in the total absence, of the human. Such a world does not require saving. It does not depend upon, or desire, or welcome human intervention. And perhaps most radically, it tells us that lyric and especially its most vaunted figure of voice, apostrophe, can be a vehicle for non-human expression. As such, Tennyson’s “incorporate” poetics prophesizes an unanticipated posthuman future for poetry. Poetry, *In Memoriam* would seem to tell us, is destined to take on a strange, voiceless, otherworldly, radical life in the wake of human extinction.

Throughout the poem, Tennyson imagines poetry as taking shape through the very same porosities that structure extinction and, indeed, *In Memoriam* invites us to consider how extinction provides a model for understanding poetry’s formal volatilities. In section 21, for instance, the speaker considers how the forms of poetry are in “incorporate” commerce with organic and inorganic materialities:

I sing to him that rests below,
 And since the grasses round me wave,
 I take the grasses of the grave,
 And make them pipes whereon to blow.

The traveller hears me now and then,
 And sometimes harshly will he speak:
 ‘This fellow would make weakness weak,
 And melt the waxen hearts of men.’

Another answers, ‘Let him be,
 He loves to make parade of pain,
 That with his piping he may gain
 The praise that comes to constancy.’

A third is wroth: ‘Is this an hour
 For private sorrow’s barren song,

⁴² Culler, *Theory of the Lyric*, 38.

When more and more the people throng
The chairs and thrones of civil power?

‘A time to sicken and to swoon,
When Science reaches forth her arms
To feel from world to world, and charms
Her secret from the latest moon?’

Behold, ye speak an idle thing:
Ye never knew the sacred dust:
I do but sing because I must,
And pipe but as the linnets sing:

And one is glad; her note is gay,
For now her little ones have ranged;
And one is sad: her note is changed,
Because her brood is stolen away. (21.1-28)

Here, poetry is figured as the progeny of an interspecies or perhaps queer materialism that is rendered visible by the “incorporate” forms of poet, corpse and plant. Sitting atop Hallam’s “grave” amidst a sea of “grass,” the poet fashions a set of “pipes” from the surrounding reeds with which to compose a song in honor of “him,” the dead. This song is not the work of a single human author but, rather, an interspecies compact made legible only in the space after death. Lyric is figured, in other words, as that which is articulated in the moment at which the poet’s lips conjoin with the tubular orifices of grass. And as that which grows from a soil enriched by the petrification of human remains, the “grasses of the grave” transport the poet into “incorporate” intercourse with “him that rests below.” Recalling the involuted forms of poet, corpse and yew in section 2, this moment of formal incorporation—which stretches into the final quatrain, wherein the poet’s song mingles with the “note[s]” of the warbling linnets—positions poetry, and lyric in particular, as a de-subjectivating phenomenon. The poem here “insist[s] on the possibility...of Hallam’s continued action in verse,” as Griffiths puts it, and in this way, I argue, it insists on a more capacious theory of the lyric.⁴³ Just as persons seize new and “incorporate” life in death, so too does Tennyson figure lyric as an evacuated, multivocal and fugitive mode of expression, rather than the utterance of a single, englobing subject.

⁴³ Griffiths, 133.

As such, it sounds an alternative to the anthem of a world structured by the “I” of the subject and the “we” of species.

This argument is, perhaps surprisingly, reinforced by the voice of poetry’s detractors in *In Memoriam*. Though the Victorian era is often understood as the zenith of British imperial power, it also marked widespread concern about the growing instability of predetermined categories, such as nation and species. Tennyson takes up the question of whether poetry does (or should) possess a voice in this moment of incertitude. Thus, in Section 21, one of the travelers goes so far as to suggest there is little if any place for poetry in a time when the voice of the body politic has drowned out that of the “private” individual, and when “Science,” under the banner of empire, has developed an appetite for other planets. In this historical moment, poetry is, according to the travelers, sentimental at best and self-indulgent at worst. But section 21 also shows how these dismissals of poetry express anxiety about its deeply formative power. The first traveler, for instance, worries over what poetry does to “men” and, by extension, humankind. In “melt[ing] the waxen hearts of men,” verse provokes an excess of feeling that would make men “weak.” These lines gesture to the ways in which this “weakness” might operate not only at the scale of the individual reader but also the collective, infecting the entire human species. Poetry, in other words, functions as a destabilizing force: it unravels the “hearts” of its readers and, by extension, the “waxen”—translucent, malleable, plastic and consequently precarious—forms of “men.” *In Memoriam* thus invites one to imagine human life as quite literally melting away under the influence of poetry. “Waxen” seems an especially telling word, here, given its significance in Victorian funerary culture. Wax is the stuff of death masks and effigies, and in its adjectival form the word figures the collective “men” as pale and even corpse-like in pallor. Here, the melting forms of poetry trigger a different extinction event wherein man is transformed in and by verse, and is then man no more. Reconfigured by way of poetry, the

human subject in this way becomes receptive to new forms of agency and radical collectivity, to the world and its futurity.



Figure 1. Benjamin Waterhouse Hawkins, "St. George and the Pterodactyl,"
4 December 1873, *London Natural History Museum*.

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In our contemporary moment, climate researchers have designated “human activity” as “largely responsible for” the Earth’s “exit” from the Holocene. “[H]uman kind” as they put it, “has become a global geological force in its own right.”¹ These declarations posit the human as singular, uniform and possessive, both on the scale of the individual and the collective. In this dissertation’s final turn, I suggest that nineteenth-century poetry and science offer new models for rethinking the categories of individual and collective identity. The poetic and scientific writing I consider in this dissertation reimagines these categories by presenting worlds whose forms are capacious, plural and distributed. These worlds overlap, intersect and collide such that the apparent opposition between the singular and the collective slips away. I contend that nineteenth-century lyric form affords a viable point of departure for rethinking the human as neither the possessive individual nor a unified collective charged with breaking (and fixing) the world and its futures. Lyric poems such as Anna Letitia Barbauld’s “A Summer Evening’s Meditation” (1773) and Alfred Lord Tennyson’s *In Memoriam* (1850) reconfigure the human as one of many interpenetrating beings and agents that together articulate a new plenum which exists on different scales and across many layers.

Like Noah Heringman, Tobias Menely, Jesse Oak Taylor and others, I understand the nineteenth century as the environmental “ground zero” of the Anthropocene.² Evidence for this claim begins with Charles Lyell’s *Principles of Geology*, which presents the uniformitarian theory preserved in contemporary geological science. What is uniform, according to Lyell, is the long and ugly history of environmental degradation, which prompts him to meditate on the unsettling possibility that humankind is an agent of planetary closure and depletion. The *Principles* anticipates

¹ Will Steffen, Jacques Grinevald, Paul Crutzen and John McNeill, “The Anthropocene: conceptual and historical perspectives,” *Philosophical Transactions: Mathematical, Physical and Engineering Sciences* 369 (2011): 843.

² See Noah Heringman, “Deep Time at the Dawn of the Anthropocene,” *Representations* 129.1 (2015): 56-85; Tobias Menely’s “‘The Present Obfuscation’: Cowper’s *Task* and the Time of Climate Change,” *PMLA* 127.3 (2012): 477-92; and Jesse Oak Taylor, *The Sky of Our Manufacture: The London Fog from Dickens to Woolf* (Charlottesville: University of Virginia Press, 2016), 2.

contemporary assumptions that planetary closure is already underway. This position is perhaps most prominently declared in Timothy Morton's writing on ecological disaster. He describes the human species' capacity to "ac[t] as a geophysical force" as formally akin to the "numerous hyperobjects"—climate and global warming, electromagnetism and capital—which structure life and world in our contemporary moment.³ For Morton, hyperobjects are gargantuan and all-encompassing in form, their systems possessing a totalizing grip on the globe. They are insidious because they elude direct sensory observation and yet we "can compute and map them." As one of Morton's hyperobjects, humankind seems to command "powers reserved for God, that are thinkable yet unthinkable, speakable yet unspeakable."⁴

Perhaps more than any other recent commentator on ecological thinking, Morton exemplifies the view of the world my dissertation challenges. He argues for a normative, isolable, all-powerful model of subjectivity that Lyell puts into question when he reminds us: "we ought always, before we decide that any part of the influence of man is novel and anomalous, carefully to consider all the powers of other animate agents which may be limited or superseded by him."⁵ Recent work in anthropology ties this model of subjectivity to a set of anthropocentric "assumptions"—the superiority of human agency and the passivity of nonhuman life; humankind's "autonomous moral existence" and the practice of figuring nonhuman existence only in terms of its economic or instrumental value—that "inspired and justified the technological prowess, and the heedlessness" of "a dark new geological era, the Anthropocene."⁶ These assumptions understand humankind as singularly capable of wielding and consolidating power. Such claims presume that the Anthropocene can only be fixed by those who broke it. As Jacques Derrida has argued, there is no room in this

³ Timothy Morton, "Victorian Hyperobjects," *Nineteenth-Century Contexts* 36.5 (2014): 489.

⁴ *Ibid.*, 492 and 494.

⁵ Charles Lyell, *Principles of Geology* (1830-33), 3 vols. (Chicago: University of Chicago Press, 1990), 2.207

⁶ Michael Carrithers, Louise J. Bracken and Steven Emery, "Can a Species Be a Person? A Trope and Its Entanglements in the Anthropocene Era," *Current Anthropology* 52.5 (2011): 663.

perspective for thinking about how the non- and inhuman might and do affect who we are and what we can do.⁷ In a moment of geological turmoil, the stakes of the names and powers we assign to humans and others could not be higher. Language is deeply complicit, as Ashley Dawson argues, in a particular kind of capitalist and colonial “intentionality” that characterizes Enlightenment models of subjectivity, and which extends at least as far back as the Sumerian implementation of “practices of defaunation and habitat destruction.”⁸ Whether it is displaced to the Sumerians or urged as the key to understanding climate change today, claims for (and against) humanity perpetuate the fantasy that humans are the sole guardians (or not) of life and death, value and resources, agency and legibility under the law.

Critics of big history show how this view has dangerously shaped the stories we tell about ourselves in the world. Ian Hesketh understands big history as “constructing a simple and elegant historical narrative of everything” that aims to contribute to “human self-understanding,” rather than turning humankind’s gaze outward. Key to big history’s narrative success is its “aesthetic appeal”: its “elegant,” “beautiful,” “simple,” and “seamless” forms.⁹ It imagines a world that is seamless in form—that embodies the perfect sphericity and bounded perfection of Newtonian mechanics. It does so by inventing forms of historical narrative to match its argument. This “act of narrative closure,” as Hesketh puts it, posits the human species as “special” in its possession of selfhood and agency. Humankind, here, is “an evolutionary miracle” produced by an “almost impossible set of Goldilocks conditions that,” as Hesketh argues, “we now find ourselves in a position to destroy or perhaps reshape to ensure our survival.”¹⁰ But as Claire Colebrook suggests: “[O]ur humanity is not an actuality from which we can draw grounds for action. The fact that we

⁷ See Jacques Derrida, *The Animal That Therefore I Am* (New York: Fordham University Press, 2008).

⁸ Ashley Dawson, *Extinction: A Radical History* (New York: OR Books, 2016), 32.

⁹ Ian Hesketh, “The Story of Big History,” *History of the Present* 4.2 (2014): 172.

¹⁰ *Ibid.*, 195-6.

forget our *impotentiality*—that we treat humans as factual beings with a normality that dictates action—has reached a crisis point in modernity.”¹¹ This “crisis point,” I suggest, arises from a self-enclosed understanding of subjectivity that is now mapped onto the world. The result of this doubling is a world that is singular and bounded, closed to possibility and futurity.

It may be critical to think about the category of “world” in ways that seem new to us, but not to the nineteenth-century writers I consider in this dissertation. To understand the world before us as capacious and plural might allow us to imagine and think with multiple forms of being and agency—to draw on them as potentialities for the future. The distribution of poetic voice in Barbauld’s and Tennyson’s lyric poems invite a weaving of being and speech that suggests new forms for the relationships between apparently opposed categories, such as the human and the nonhuman, the singular and the collective. Late eighteenth- and nineteenth-century scientists from Buffon, to Alexander von Humboldt, to Lyell wrote extensively about how other, non-human organisms engineer the world and interfere with humankind’s terraforming projects. Sir William Herschel, Georges Cuvier and the astronomers who participated in the Victorian nebular debates extend this argument to processes of cosmological development, figuring earth and heavens as inhuman agents of world-destruction and -creation. The forms of lyric poetry I have discussed in this dissertation do not insist on a concentric, enclosed self. To the contrary, they support a more open lyric identity that recognizes many worlds beyond a singular being. For this reason, the lyric poem might be the site of a reimagining of form that becomes possible as writers expand single worlds into many that are similarly open—that are porous to what lies without or beyond known borders. Nineteenth-century lyric poems in this way afford a critical point of imaginative departure in the Anthropocene.

¹¹ Claire Colebrook, *Death of the PostHuman: Essays on Extinction*, vol. 1 (Ann Arbor: Open Humanities Press, 2014), 13.

In his essay on Victorian hyperobjects, Morton argues “we are still inside the Victorian period.” Like the Victorians, our worldview is saturated with “doom and morbidity and sentimentality,” and we continue to struggle with “a gigantic material condition” that deepens our sense of “boundedness to Earth.”¹² As Elizabeth Kolbert suggests in a recent essay titled “Project Exodus,” this sense of “boundedness” has spawned the fantasy of an “off-Earth future.” Such fantasies fail to recognize how “[e]very sensate being we’ve encountered in the universe so far...has evolved to suit the cosmic accident that is Earth. The notion that we could take these forms, most beautiful and most wonderful, and hurl them into space, and that this would...constitute our best hope, is either fantastically farfetched or deeply depressing.”¹³ According to Kolbert, the world has grown distant from and invisible to humankind, whose gaze turns upward to “see nearer”—to apprehend, possess, colonize—planets whose surfaces and depths remain unspoiled, intact, ripe for the taking (and mining). But Elizabeth Barrett Browning’s *Aurora Leigh* (1856) disrupts this sense of boundedness as it imagines how distinctly terrestrial life forms might cloud the proprietary boundaries of planet and thus open up a gossamer world. Written during a period in which the appetite for stories about travel to other worlds—whether subterranean or celestial—underwent a radical expansion, the poem offers something of an answer to Anthropocene fantasies about uncoupling the human species from Earth. The archive of nineteenth-century poetry and science in this way suggests material and formal alternatives to the deep sense of enclosure and inertia which seem to characterize our present and our future.

Like the lyrics of Barbauld and Tennyson, whose forms I recall briefly in this coda, the nineteenth-century poetic and scientific writing I read in this dissertation imagines a plural, distributed and deeply ecological sense of the world that is full of possibility. In such a world, the

¹² Morton, 490.

¹³ Elizabeth Kolbert, “Project Exodus: What’s Behind the Dream of Colonizing Mars?,” *The New Yorker* (1 June 2015).

human subject is “ecologically excessive”: it is always permeated by and in communication with energies that are distinctly nonhuman.¹⁴ This subject is, in other words, profoundly open to and renegotiated by way of other, alien forms and forces that demonstrate the limits of human agency. Thus, the nineteenth century makes available new and crucial models of the geophysical forms and systems which were emergent in the Romantic and Victorian periods, and which continue to shape our world.

¹⁴ Kathryn Yusoff, “Geologic Subjects: Nonhuman Origins, Geomorphic Aesthetics and the Art of Becoming Inhuman,” *Cultural Geographies* 22.3 (2015): 384.

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