TECHNOLOGIES OF THE SUBLIME, 1750-1861

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Technologies of the Sublime, 1750-1861

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"Technologies of the Sublime, 1750-1861" investigates a specific strand of sublime discourse, the material sublime, to reveal how it emerges in conversation with Romantic-era mechanical innovations and empirical speculations. Moreover, this project uncovers the ways in which mechanized civil and cultural artifacts such as the modern suspension bridge and early seismological instruments mediate the natural power confronted in the sublime. For example, following the initial wave of responses to the infamous Lisbon quake of 1755, written by diverse figures such as Immanuel Kant, Jonathan Winthrop, and Thomas Paine, authors around the globe relayed to British readers measurements of quakes, conjectures as to their causes, and reports on bewildering technologies such as the geophone and the seismograph. Closer to home, Robert Southey immortalized Thomas Telford, the Scottish "Colossus of Roads" and "Father of Civil Engineering," for creating "Neptune's Staircase" (a canal-works) and for completing a bridge in 1826 that resembles "a spider's web in the air." Literary depictions of such *in*organic creations figure a unique mechanical other against which Romantic humanism and Romantic depictions of nature arise. Each chapter examines technology, theories of the sublime, and literary texts to show how literary works identified with the sublime engage major mechanical undertakings of the late-eighteenth and nineteenth centuries. The first section charts natural events mediated by technologies, moving from the depths of the earth rattled by earthquakes and volcanoes and measured by seismographs, to the earth's surface which humanity reconfigures and attempts to conquer through roads, bridges, and canals. The concluding chapters examine how this material *qua* technological sublime reconfigures the human. By reading eighteenth- and nineteenth-century accounts of proto-seismological instruments and innovative landscape technologies alongside paradigmatic accounts of the aesthetic of the sublime authored by Keats, Shelley, and Hazlitt, this study brings to light previously unacknowledged technological resonances and mechanical valences integral to various Romantic iterations of sublime discourse.

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Introduction: Technologies of the Sublime

And from the other opening in the wood
Rushes with loud and whirlwind harmony
A sphere, which is as many thousand spheres,
Solid as chrystal, yet through all its mass
Flow, as through empty space, music and light:
Ten thousand orbs involving and involved,
Purple and azure, white and green and golden,
Sphere within sphere, and every space between
Peopled with unimaginable shapes
Such as ghosts dream dwell in the lampless deep
Yet each intertranspicuous, and they whirl
Over each other with a thousand motions
Upon a thousand sightless axles spinning
And with the force of self-destroying swiftness,
Intensely, slowly, solemnly roll on—
Kindling with mingling sounds, and many tones,
Intelligible words and music wild.—
With mighty whirl the multitudinous Orb
Grinds the bright brook into an azure mist
Of elemental subtlety, like light,
And the wild odour of the forest flowers
The music of the living grass and air,
The emerald light of leaf-entangled beams
Round its intense, yet self-conflicting speed,
Seem kneaded into one aerial mass
Which drowns the sense. . . . Within the Orb itself,
Pillowed upon its alabaster arms
Like to a child o'erwearied with sweet toil,
On its own folded wings and wavy hair
The Spirit of the Earth is laid asleep,
And you can see its little lips are moving
Amid the changing light of their own smiles
Like one who talks of what he loves in dream.—

— P.B. Shelley, *Prometheus Unbound*, IV.236-78 (1820).

The sublime is not a disembodied aesthetic. As in Shelley's sketch of a salvaged Miltonic earth, "every space" is "Peopled." This orb harbors not only bodies but also the "scent of forest flowers," "the lampless deep," a "whirlwind harmony" of "axles spinning," and "a thousand motions." Yet ultimately the sublime has been either elevated "all breathing human passion far above" or understood as an evasive, escapist discourse packaged in the guise of transcendence (Keats, "Grecian Urn" 28). Such readings privilege the ostensibly enlightening and consolatory terminus of a subjective encounter first born of quite palpable terrors and rousing physical relations. They give primacy to the aesthetic denouement, to the insufficient yet aggrandizing close of a sublime narrative and trajectory, which continues to promote an enduring affiliation between this lofty aesthetic and an oversimplified formula of repression *qua* sublimation.[1] As Christopher Stokes observes "a false dichotomy emerges between a sublime that is reduced to its transcendent moment and a sense of the finite that is seen purely as the end of an illusion. What the false dichotomy overlooks is precisely the possibility of a more fragile sublimity, a sublimity that arises in the space where the desire for transcendence is revised or relinquished" (4). Fragility inhabits sublime discourse. Consistently the language of the sublime shapes Romantic accounts of a notoriously fluctuating material world: this popular discourse—known for its enthralling disquietude—structures the period's contested understandings of the external world. It also contours the reception of innovative technological devices made of this world and deliberately fashioned to contend with the more terrifying and least predictable provinces of the earth.

If the sublime has been misunderstood, so has Romantic science. Traditionally conceived, Romantic-era science recasts the mechanical universe of the Enlightenment in terms of organic life.[2] However, Romanticism did not cancel out the mechanical vitality of the earlier model but

rather rechanneled it as an unrecognized feature of the sublime.[3] Given William Wordsworth's attention to rural scenes, or Keats's and Shelley's lyric tributes to the nightingale and the west wind, a Romantic obsession with mechanical philosophy's "celestial machines" might surprise contemporary audiences. Yet by examining key technological artifacts of the period, I demonstrate how such machines inform various permutations of the natural sublime in the later-eighteenth and nineteenth centuries. Proceeding from Keats's notion of "the material sublime," "Technologies of the Sublime,1750-1861" argues that the mechanical underwrites the natural in literary representations of the Romantic sublime. And in order to foreground properly a more detailed account of this discursive phenomenon and the tenor of frailty it brings to bear on the category of the sublime, it is first necessary to situate *technology* and *sublime* as they operate in each chapter.

ON SUBLIME OBJECTS OF FRACTURE AND FRAGMENTATION

> The view of what has been done by man, produces a melancholy, yet aggrandizing, sense of what remains to be achieved by human intellect; but a mental convulsion, which, like the devastation of an earthquake, throws all the elements of thought and imagination into confusion, makes contemplation giddy, and we fearfully ask on what ground we stand.
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> —Mary Wollstonecraft, *The Wrongs of Woman; or Maria* (1798).

> Not only the unattainable for the conceptual power, the sublime of quantity, but also the incomprehensible for the understanding, *the confusion,* can serve as a representation of the supersensuous and give the soul a buoyancy, so soon as it passes into greatness and announces itself as a work of nature (for otherwise it is contemptible).
>
> —Friedrich Schiller, "On the Sublime," (1801), original emphasis.

How do literary critics account for the "decidedly discontinuous" history of the sublime as a critical category and recurrent trope deployed by authors of the eighteenth and early-nineteenth centuries (Balfour, Matter 503)? Such a question appears remarkably complex given the number of writers that recruited the language of this discourse to index the unknown or unknowable elements found within unnerving environmental transformations as well as at play

within distressing social and intellectual developments.[4] As Andrew Ashfield and Peter de Bolla meticulously show, following an early-eighteenth-century British infatuation with the classical or Longinian formulation of this aesthetic outlined in the ancient text *On the Sublime*, by mid-century sublime discourse "fractures and fragments" to such an extent that it renders any totalizing theoretical gesture or exhaustive historical account impossible (14). But this necessary failing has not prevented productive and compelling readings of the sublime as a category, as a literary convention, or as a source of significant attendant cultural legacies.[5] A majority of critics and historians agree that this discursive network amasses its greatest density in Anglophone literature and culture in the late-eighteenth and early-nineteenth centuries, encompassing but not limited to the era of the Romantic intellectual movement. In regard to the bulk of literary and theoretical scholarship forged on the subject, Frances Ferguson accurately discerns that much critical work remains blindly "enmired" in Burkean empirical questions and debates about Kantian formal idealism, or the relative failings of the two models (vii). In other words, critics frequently confuse what is at stake in a Burkean catalogue of what might empirically cause or inspire sublime experience and narrative with what is at stake in posing arguments about the mental processes that allow for any object in the external world or in literature to register as sublime in the first place.

Positioned beyond such thorny terrain, "Technologies of the Sublime, 1750-1861" grapples directly with the problem of the empirical embedded within this discourse by charting how technologies (including the suspension bridge, modern canals, and early seismological instruments) mediate the natural power confronted in sublime narratives of the Romantic era. In the chapters that follow the primary object of study is not the phenomenon of imagined transcendence or reasoned boundlessness but those befuddling physical alterations that prompt

authors to enlist the language and logic of this discourse. Thus I explore moments like the one authored by Mary Wollstonecraft, wherein her confidence in those "melancholy, yet aggrandizing" accomplishments, or "what has been done by man" begins to waver—when her self-assurance turns to trepidation upon contemplating above a ruptured foundation of both thought and topography.

Apart from what is understood to be a "more typically romantic sublime which both evokes and thwarts a desire for access to, and therefore the power to name, worlds beyond the limit of 'sense,'" "Technologies of the Sublime, 1750-1861" investigates not only the "measure [of] ourselves against the apparent almightiness of nature" but also against the power of technology (Favret 151, Kant §28). In this sense, the current project resonates with Alan Richardson's recent rereading of the Romantic sublime. Positing that "at least one Romantic version of the sublime can be best understood not in relation to Kantian notions of transcendence but to a materialist brain based conception of mind," Richardson's project aligns with my own in that it unseats the typically transcendental reading of this aesthetic. Examining the figurative interplay between artificial and natural sublimity, I uncover an unacknowledged iteration of the Romantic sublime that yet exists "as an expression of asymmetrical power relations" but does not guarantee the wholesale perpetuation of the "western" myth of "self-determination" (Hitt 603, Simpson 256). Such a line of argumentation contravenes a critical tendency to identify this aesthetic as "an enticing flight from history" primarily because this project recognizes how innovations in natural philosophy and engineering bring to light various notions of earthly formlessness, deformation, and transformation that reframe this discursive network (Hitt 603).

Such an approach then also affirms Richardson Clifford Siskin and William Warner's analysis that the Enlightenment is both an event and a powerful conceptual framework in the

history of mediation.[6] Renascent during the period of the Enlightenment and restyled from an ancient study of rhetoric into "an agon of the subject's mental faculties," this discursive network famously cites a distanced security as one of its hallmark features (Vine 238). In one of its most prevalent formulations it exists as a narrative tool that at once admits and mediates insecurity and fragility, often funneling them into something more palatable and at times, delightful. By putting technological and natural sublimities in dialogue with one another it is possible to identify a primary mediation shared between the two. Consistently such narratives mark, measure, and mitigate a Romantic fascination with astonishing kinesthetic displays and the unsettling dynamics of rapid as well as ongoing material transformations. Ultimately, a close study of the overlap between technological and natural sublimity recovers the pivotal role of movement and mutability at play in Romantic re-fashionings of this aesthetic, breathing new life into a neglected thread of this discourse that lingers upon the dangers of a dynamic globe and the enticing yet troubling aspects of bodies in motion.[7]

The Keatsian phrase "material sublime*"* gestures toward the dynamic I consider here, one rooted not within nature-culture binaries and discrepancies but rather large-scale, arresting alterations. Again and again, a mysterious physic overrides differences often attributed to the inner-workings of the natural world and the machinations of human forged technologies. For instance, Dr. Johnson's dictionary (1755) ascribes a preponderant kinesthetic wonder to sublime phenomena. While he first mentions the Longinian sublime (or the high literary style typified by Miltonic verse), he later contends with *sublime* in its verb form -- meaning not just a rise in stature but also a change in a very real physical and chemical sense. Citing both Donne and Newton, Johnson exhibits first the term's association with rapidly varying material states as rendered by fire in the poet's lines, and then turns to Newton's *Optics* to note the process of

sublimation where substances transform directly from a solid state into vapour (111-112). While the adjective *sublime* and the noun *the sublime* have long enjoyed an association with the unknowable or the mythical, the verb also signals the realm of the indescribable or mystifying, but this is a physical mystery, especially because it is grounded in a 'missing' melted state, or some swift mutation from dense matter to vapor. The verb *sublimate* deals more with surprising physical movement. It brims with the cognitively challenging or confusing morphologies of matter as opposed to descriptors of metaphysical transcendence. S*ublimate* captures something of the overwhelming and confounding, derived from an altogether marvelous materiality. As Keats knew, the sublime, often thought of as rising above the natural, was deeply tied to the material.

"Technologies of the Sublime, 1750-1861" considers profound material transformations and their various receptions in the Romantic era, accounting for a more diverse history of this aesthetic category than has been offered previously. Examining the period's proliferating invocations of the language of the sublime from the purview of the middle of one century to another, this project identifies for the first time an emergent trope that fuses the lofty category to technological innovation and mechanical process. Literary and historical accounts display the figurative roles enacted by small instruments and complex mechanisms, revealing Romanticism's rarely admitted investment in the mechanical artifact and grand infrastructural undertakings. Moreover, they unveil how Romantic conceptions of nature emerge in conversation with technologies of the sublime. For example, following the initial wave of responses to the infamous Lisbon quake of 1755, written by such diverse figures as Immanuel Kant, Jonathan Winthrop, and Thomas Paine, authors around the globe relayed to British readers measurements of subsequent tremors, conjectures as to their causes, and reports on bewildering

new devices such as the geophone and the seismograph. Closer to England, Robert Southey immortalized Thomas Telford, the Scottish "Colossus of Roads" and "Father of Civil Engineering," for creating "Neptune's Staircase" (a canal-works) and for completing a bridge in 1826 that resembles "a spider's web in the air" (Southey xxvii, xvi). Literary depictions of such seismological and civil artifacts figure a unique mechanical other against which Romantic humanism and Romantic depictions of nature arise. Awe-inspiring and fantastic figurations of the seismograph, canal works, suspension bridge and even mechanized renderings of the human body unsettle a generalized equivalence often assigned to the Romantic sublime and the natural sublime. Commonplace iterations of a Romantic veneration of a sublime nature co-evolve with a heretofore unsung Romantic reverence for stunning and perplexing cultural artifacts, particularly those technologies of the sublime that arbitrate how Romantic authors imagined the surface of the earth as well as landscapes well beyond human reach.

ON THE PROBLEM OF TECHNOLOGY

> Everywhere we remain unfree and chained to technology, whether we passionately affirm or deny it. But we are delivered over to it in the worst possible way when we regard it as something neutral; for this conception of it, to which today we particularly like to do homage, makes us utterly blind to the essence of technology.
>
> — Martin Heidegger, "The Question Concerning Technology" (1949).

A few words on the exigencies of the study of *technology* and Romanticism are now in order. Unsurprisingly, given the growth of print technologies and the popular press during the period, studies on technological artifacts and Romantic literature largely figure around the printing press and print culture.[8] Otherwise, readings of the technological artifact include works from the growing field of Romantic theatre studies and the more established terrain comprised of Romantic medicine.[9] In addition, a lasting preoccupation with the Romantic lyric's iconic instrument, the aeolian harp, marks what today is likely to be the most discussed device from the

period. Beyond these accounts, and although Romanticism and science is now a central field of inquiry, Romantic scholarship is just beginning to consider the larger cultural significance of technologies in the period. One notable exception and guiding inspiration for the study at hand is Ron Broglio's *Technologies of the Picturesque: British Art, Poetry and Instruments,1750-1830*, which connects landscape aesthetics and landscape ideology with cartographic and meteorological technologies as well as Romantic-era animal breeding norms. Broglio's reappraisal of the British art in light of such instruments and procedures brings into focus for the first time a range of agricultural, industrial, and scientific practices and protocols that made their way into familiar paintings and narratives of the picturesque.

In similar fashion, Romantic depictions of devices and inventions created to record, gauge, or augment the environment enrich and counterbalance traditional readings of the sublime or "natural supernatural" landscape in Romantic literature. The motion-sensitive seismograph, seismoscope, and seismometer allow humankind to read an undulating *livre naturalis*, charting a book of nature itself instilled with the sudden spark of animation. The common empirical formula of the sublime experience, with the observer both thrilled and jarred by an external stimulus, here invokes both human and mechanical agitation and reception. Sublimity is mediated and perhaps measured first by machines. Again, marvelous infrastructural works of the eighteenth century's "canal age" (1755-1794) grapple with tremendous headwaters and suspend both strong currents and the progress of mighty ships (Ellis 140). Could it be anything but a union of civilly-engineered locks and wild waters that provoke Robert Southey's sublime readings of Thomas Telford's grand canal? In like fashion, the modern suspension bridge appears to defy "natural law" or at very least the law of gravity, blurring lines of materiality and immateriality but not forgoing them within the Romantic imagination. At once likened to the

gossamer thread of a giant, a spider's web, and a castle in the air, the suspension bridge emblematizes the tenuousness read into the sublime civil artifact and the larger, ever-precarious landscapes of Romanticism. Thus, to the issues of landscape aesthetics and questions concerning the environment, my work also harmonizes with sentiments lately expressed in Ashton Nichols's monograph *Beyond Romantic Ecocriticism: Toward Urbanatural Roosting* (2011), specifically where his analysis falls in line with Bruno Latour's stalwart resistance to simple nature-culture binaries.

Diligent historical recovery work does not terminate in mere discovery. After addressing neglected figurations of these technologies, I go on to demonstrate how these accounts of a more fragile sublimity inherent to the physical world also attest to enduring and emerging puzzlements entertained by Romantic authors. Such questions pertain to both nature and technology, and are relevant most of all to evolving understandings of temporal processes, the appearance and disappearance of work, and intersections between motion, mutability, (re)production, and deformation. This approach marks an important departure from Ferguson's investigation of the interior mechanisms by which the viewer comes to know the sublime (vis-à-vis formal idealism), and her suggestion that this elevated aesthetic category raises the question of individuation and how one comes to recognize anything as one thing. "Aesthetics" she writes "concerns itself less with the telling differences between real and artificial things (or the place of appearance) but, rather, with the way one determines anything as a thing—as being a unit—without resorting to the self-confirming (and indeed, ultimately self-comforting) movement that accompanies even the most apparently skeptical moves of empiricism" (ix). Putting pressure on appearance and assumed differences between organic and artificial things, the current study both parallels and swerves from Ferguson's analysis. My understanding supports hers when she explains, for

example, that she "see[s] Kantian formalism as mounting a challenge to […] an empiricist account because empiricism, even in its most skeptical versions, is committed rather straitenedly to the testimony of the senses (even—or especially—as it is committed to a skeptical account of sensation)" (viii). But in order to trace the relationship between a Romantic investment in large-scale movements and confounding alterations, the empiricist's (skeptical) commitment to the testimony of the senses becomes a central point of inquiry. Overall, I would like to suggest that technologies of the sublime, and more generally, the frail iteration of this lofty aesthetic I outline in the dissertation entire, register and mark a shared, irreducible, non-individuating material majesty long associated with profundity in nature. Taken collectively, these natural and artificial wonders bear an element of infirmity attributed to the external world broadly conceived and understood as ever kinetically extant and not only ideologically engaged.

Both within and without Romantic scholarship, technology remains under-theorized. What Heidegger recognized long ago Bernard Stiegler still finds necessary to point out today: "Technics is the unthought" (Stiegler ix). For Stiegler, whenever western philosophy deals with technical devices and systems, it considers only the tool as a "means."[10] Thus his return to Heidegger, who invests tools and technologies with more than instrumentality and who scrutinizes the relationship between technology and epistemology. Latour picks up an ancient Greek debate that pitted the "philosophical *ēpistēmē*" against the "sophistic *tekhnē*, whereby all technical knowledge is devalued," coupling this argument with the later Lamarckian distinction that separates inert beings from organic beings. Here Stiegler raises the issue of what counts as knowledge, particularly where practices required for creation, thinking, and knowledge appear severed from production, acting, and manual or motor skill. In so doing he also isolates the pivotal roles of causality and mobility in traditional Western epistemological hierarchies.

Turning first to Aristotle he classifies what he calls the conception of the "essence of technical entities":

> Every natural being […] has within itself a beginning of movement and rest, whether the movement is a locomotion, growth or decline, or a qualitative change [… whereas] not one product of art has the source of its own production within itself. (1)

Reformulating Aristotle, he states "No form of 'self-causality' animates technical beings. Owing to this ontology, the analysis of technics is made in terms of ends and means, which implies necessarily that no dynamic proper belongs to technical beings" (1). Stiegler goes on to suggest that technology and humanity evolve in tandem and that technology is constitutive of humanity. In what follows, I want to leave such claims behind in order to contemplate a particular aspect that follows from Stiegler's broader consideration of means, ends, and motion. Romantic iterations of the material sublime harbor a curious rendition of animation. They too showcase intense moments of suspended animation. Contravening the pressures of teleological thought, such instances are not reducible to the type of value-laden schema outlined here by Stiegler, which pits an overriding organic action against subservient inorganic automation. As I discuss in my respective chapters, this thread of aesthetic discourse relies upon the language of the sublime to consider the fundamentally precarious relations between the human being and a constellation of fantastic-seeming, "super-natured" artifacts, entities, occurrences, and organisms that simultaneously allow for and endanger life and which continuously inspire and unnerve Romantic minds.

A MATERIAL SUBLIME RECALIBRATED: ENTER, THE SUPER-NATURED

> We are quickly tired with looking upon hills and valleys, where every thing continues fixed and settled in the same place and posture, but find our thoughts a little agitated and relieved at the sight of such objects as are ever in motion, and sliding away from beneath the eye of the beholder.

—Joseph Addison, from *The Spectator* No. 412 Monday June 23, 1712.

But it is in vain for us to search the bulky mass of *matter*: seeking to know its nature; how great the whole itself, or even how small its parts.

If knowing only some of the rules of *motion*, we seek to trace it further, it is in vain we follow it into the bodies it has reached. Our tardy apprehensions fail us, and can reach nothing beyond the body itself, through which it is diffused. … Even without change of place it has its force: and bodies big with motion labour to move, yet stir not, whilst they express an energy beyond our comprehension.

—Anthony Ashley Cooper, 3rd Earl of Shaftesbury, from *Characteristics* (1714), original emphasis.

Each chapter of this dissertation examines technology, relevant theories of the sublime, and specific literary works to show how Romantic texts identified with the sublime engage major mechanical undertakings of the late-eighteenth and nineteenth centuries. In the first half of the dissertation, I take up natural events mediated by technologies, shifting from the depths of the planet shaken by earthquakes and volcanoes and measured by seismographs to the globe's surface which humanity alters by building roads, bridges, and canals. I then examine the ways in which this permutation of aesthetic discourse reconfigures the human subject.

The opening chapter, "The Seismograph, or Sublime Technologies of Planetary Performance, 1750-1861," reveals how the familiar sublime accounts of a naturally dangerous *terra incongita*, popularized by a series 1750 English tremors and then the cataclysmic 1755 Lisbon tremors, emerge not only in the form of early geological narratives but also through early popular scientific explanations of seismological instruments. Pairing well-known works by Jonathan Winthrop, Immanuel Kant, and Johann Wolfgang von Goethe with lesser-known contributors to the royal journal *Philosophical Transactions*, I first locate the language of this aesthetic category in early attempts to chart, measure, and "cure" such "dreadful convulsions." I then examine the popular periodicals that introduce machines such as the geophone and seismograph in articles which bear provocative titles such as "Where Earthquakes Write Their

Autographs" and "The Earth Speaks." Generally, critics recognize the Romantic sublime as an experience that functions on the basis of self-other relations, where the subject reads from and interprets the book of nature. With the advent of early seismological instruments and similar technologies, mechanical devices join humankind both in reading the earth and in speaking for sublime nature.

Within contemporary discussions of the Romantic sublime or the so-called natural sublime, scholars continuously cite the Lisbon disaster as the natural event that marks an epistemic shift:[11] they posit that the famed natural catastrophe helped to trigger the Enlightenment skepticism captured in Voltaire's *Candide*, as well as the imaginative, yet pure reasoning human subject proffered in Kant's *First Critique*, in addition to ushering in what Walter Benjamin later identifies as the advent of a particularly "scientific geology" (536-40). In short, in order to conceive of Lisbon's destruction, in perhaps overdetermined or at least, in positivist terms (ideologically and epistemologically), scholars dematerialize the history of this upheaval and they dematerialize the sublime. Yet as this section unfolds I identify ways in which the sublime can be an effective ethical tool as much as it elsewhere signals egotistical transcendence or anthropomorphic aggrandizement.[12] Intertwined print and scientific histories reveal the crucial role that technologies play in shaping a number of the geological valences within this customarily proud aesthetic.

More than anything else, this understanding offers a way back into the kinesthetic and sensual side of history—a substantial and tactile remedy to the currently more popular, disembodied version of the sublime that all too often renders humanity above and apart from nature. Such a narrative rivals those accounts that frequently erase the role of technology and materiality as they loft formal idealism above natural ecologies. By charting the emergence of

technologies like the seismometer and the seismograph alongside Keats's turn to a "material sublime" in poetry, I uncover how technological and poetic artifacts both rewrite the natural or "Romantic" sublime. In their respective attempts to comprehend or embrace potentially threatening transformations of the land, poetry as techné and what we now call seismological instruments function to make a dynamic foundation more legible and increasingly open to sublime celebration in its necessarily unforgiving potency.

Moving from the ways in which poets, philosophers, and inventors registered subterranean waves and wonders, the next section examines the often treacherous, narrow gaps in the surface of the earth and man's ability to negotiate those gaps. More particularly, I turn to the reception history of early nineteenth-century bridges and canals. Chapter 3, "'A Castle in the Air': Robert Southey, Poet Laureate and Thomas Telford, the Father of Civil Engineering," considers Thomas Telford's most lauded technological marvels. Here I address popular accounts of his technological artifacts and a famous though untitled poem (and connected letters) that Southey writes on behalf of the Caledonian Canal and the Menai Strait's "bending bridge" (qtd in Rolt ii). In these pictorial and narrative representations, the fêted Bridge over the Menai Strait and the "astonishing" locks of Telford's grand canals appear as the miraculous handiwork of giants (Priestley 503). Whereas the previous chapter outlines technological developments that inform iterations of the "natural" sublime, in this section I uncover how Telford's feats of engineering take on a supernatural status of their own. His suspension bridge overshadows the perilous Strait of Menai, and Southey's beloved Caledonian Canal outshines Scotland's most sublime landmark, Ben Nevis. Romantic natural sublimity in effect called forth a titanic challenger: not just the reach of the imaginative mind, but also its physical complement, technological sublimity.

Contemplating the distinction attributed to such infrastructural projects—to those structures built to render perilous straits all the more readily navigable—and which authors recurrently figure as the technological answer to some of nature's sublime dangers and famously impassible landmarks, I would like to suggest that, of all architectural forms, Britain's modern suspension bridge and advanced interlocking canals exemplify most remarkably the intermixed material and imaginative urgencies of the romantic period. In addition to accommodating trade lines and enhancing human travel and communication, these structures become the physical and representational depositories of a marked fascination with matter's mutability and a preoccupation with notions of suspension in both life and print during the Romantic period. Newly manifest and tenable, they counterpoise the seeming futility connoted in the very idea of erecting a poetic castle in the air.

At stake in an examination of the modern suspension bridge and interlocking canal are two principal concerns: first, how liminal yet monumental infrastructural technologies mediate romantic understandings of natural and built environments and second, how these suspended and entrenched artifacts – how these major arteries of transportation and communication—inform the British national imaginary and operate in British romantic literature. Put another way, this segment examines the various cultural and literary meanings ascribed to such civil artifacts, especially as they inform Romantic notions about the external world and the human being. Whereas I do consider tangentially architectural and economic aspects of romantic bridges and canals, my primary concern in these pages is to demonstrate how representations of the Romantic sublime in nature unfold in dialogue with artificial foundations and infrastructural technologies of the sublime.

In Chapter 4, "Subliming the Human: Kleist, Hazlitt, Melville and The Mechanical Performer," I shift focus to reveal how the technologically-sensitive material sublime informs Romantic descriptions of the human body. This section reads Hazlitt's "The Indian Jugglers," Kleist's "On the Marionette Theatre," and Melville's *Moby Dick* to examine where kinesthetic movements of the human body signal a nonhuman, mechanical sublime. For example, Kleist's puppeteer and extraordinary dancer become "pure pendulums" able to resemble the unaffected hand of God. Ironically, depictions of the remarkable human performer turn upon the language of the mechanical. By investigating the temporal stakes alive in such figurations, I explore how the trope of kinesthetic mastery assigns Melville's jugglers and Hazlitt's sportsmen to a sublime register. Their labors are not simply amazing, but seemingly without effort, without work, god-like. Within my analysis of the ways in which the language of the sublime codes time and labor the historical work of John Tresch becomes particularly salient. Tresch identifies how representations of the "machine-human" or the "automaton" often became "potent and paradoxical symbols for the [late Romantic] period's clashing worldviews, whether materialism, traditional Cartesian mind-body dualism, mystical illuminism, or monistic pantheism; they could embody technological control and reduction, as well as channeling supernatural powers of the defied clockwork rationality" (89, 91). In this section, I contend that the attention Romantic authors devote to human bodies as mechanical and sublime-in-themselves challenges the Kantian notion of a transcendent sublime, which praises the human mind over the human frame as the apogee of all worldly creation. Here the sublime lies not only in the imagination but also in the machine-like physique.

The fifth and final full-length study in this project is titled "Not Upon 'Mont Blanc': A Shelleyan Poetics of Singularity and a Paean to Aqueous Force." Rather than presenting a

sublime monument as a durable object, I argue that Shelley follows upon James Hutton's early geological account *Theory of the Earth* to applaud the generative and caustic powers of water. Ironically "Mont Blanc" flouts conventional accounts of the sublime that fixate upon particularized works of nature. In these pages I demonstrate how Hutton's theory prefigures quintessential Shelleyan ideas. Indeed, critics have argued both how the natural philosopher's work informs Shelley's poem and how its influence has been overemphasized in this regard. However, they have neglected to consider how *Theory of the Earth* explores the cognitive abilities of the human mind, particularly taking up the "wonder and astonishment" produced in the mind upon witnessing, but never fully processing "great" natural functions. That is, his account explores the relationship between mind and matter under the sign of the sublime in a way that is suggestive for "Mont Blanc." Hutton's globe is a naturally, geologically sublime orb, and one organized on a deistic model bereft of direct divine agency—a fitting model for the theologically skeptical poet, Shelley. Then by putting poetry to work in honor of the planet's most profound and pervasive manifestations of water and not the celebration of any grand monolith, Shelley departs from traditional renditions of the Romantic sublime that privilege the exceptional or exclusive landmark. Furthermore, this focus—on flowing water as opposed to solid rock—invites the reader to reconceive the role of the human mind and the human being figured in Shelley's lyric. Various readings have found the poetic subject turning from an intimidating mountain to an empowering bastion of individual ratiocination or imagination. Yet by following the water in Shelley's verse it becomes possible to see how the poem destabilizes the Wordsworthian or egotistical sublime;[13] it promotes a sublime of substance not self, a sublime rooted in constant, and often unsettling, earthly change and worldly interdependence.

In contradistinction to the anthropocentric strands of the egotistical sublime, Hutton and Shelley reinforce the sublimity of the world's great anabolic and catabolic processes, all being equally threatening and beneficial to humanity, wilds, and technological artifacts. With its insistent trumpeting of water, and especially the element's more deleterious faculties, Shelley's work does not embrace Wordsworthian limitless imaginings, but rather, elevates a Huttonian, geologically-founded imagining with limitation. Providing a version of the natural sublime that matter, not myth, inspires, the poet invites readers to recognize an incremental and continual loss of ground, a loss that is wholly integral to any terrestrial constancy or uniformity enjoyed on the planet. Shelley strives to show readers that on such a frighteningly creative and destructive planet, the best prospect for poetry may not include a view from the mount, but might follow the water and reveal a view from below.

By reading previously unexplored eighteenth and nineteenth century accounts of technological and geological wonders, "Technologies of the Sublime, 1750-1861" examines a rival strand of the natural sublime, or what I have been calling the material sublime, that emerges in dialogue with mechanical and empirical innovations. Offering a new materialist account of the natural sublime that takes seriously the figurative role of the mechanical artifact, my research brings to light not only technological mediations integral to the natural sublime, but also uncovers the careful work of clockmakers turned proto-seismologists, the narratives of Telford's laborers, and the words of inventors spurred on by something other than *terra firma*. These literary interpretations of the "natural" sublime model how the most elusive and "unpresentable" aesthetic experience materializes out of a progression of efforts born by nature, humanity, and technology.

Chapter 2

The Seismograph, or Sublime Technologies of Planetary Performance, 1750-1861

INTRODUCTION: A MATERIAL SUBLIME AND PUZZLING MORPHOLOGIES OF MATTER

> Dear Reynolds, as last night I lay in bed,
> There came before my eyes that wonted thread
> Of shapes, and shadows, and remembrances,
> That every other minute vex and please:
> Things all disjointed come from north and south, —
> Two witch's eyes above a cherub's mouth,
> Voltaire with casque and shield and habergeon,
> And Alexander with his night-cap on;
> Old Socrates a tying his cravat,
> And Hazlitt play with Miss Edgeworth's cat:
> And Junius Brutus pretty well so so,
> Making the best of's way towards Soho.
> —John Keats, 25 March 1818, (1-12).

In his 1818 verse epistle to John Hamilton Reynolds, Keats famously writes of a "material sublime" (69). From its outset, the work is manifestly preoccupied with potentially sublime forms. First there are the intoxicating and almost surreal "shapes, and shadows, and remembrances, / That every other minute vex and please" the speaker as he readies for bed (3-4). Next comes a succession of "Things all disjointed come from north and south,— /" which actually are not quite disjointed "things" per se but instead comprise a series of human figures incongruently arrayed.[14] These include a dandy-esque, cravat-donning Socrates, Voltaire dressed

in chainmail, Alexander the Great in bedclothes, and an abnormally obsequious Hazlitt here found fooling with Maria Edgeworth's cat. Leading this parade of the recognizably askew, this procession of the un-customary, is a seemingly detached head made up of "Two witch's eyes above a cherub's mouth." In dwelling on such curious juxtapositions, I mean to call attention to just one of the ways that Keats toys with representations of physical discord and material dissonance in his well-known piece on poetics and aesthetics. In what follows I suggest that the Keatsian "material sublime" furnishes a dreamlike and yet kinesthetically sensitive exposition of the physical world. I will return to the poem after commencing with a detailed examination of a rather different discourse about a physical world askew, that is the sublime earthquake and seismological narratives of the eighteenth and nineteenth centuries.

By linking Keats's work to one of the most prominent vehicles for rethinking the orders of life in the eighteenth century, the earthquake, I demonstrate how poetics as techné and seismological instruments as technology function as two sides of the same epistemological coin.[15] In essence, they enact a version of human subjectivity put forth in the following quote by cognitive theorist Andy Clark: "We are thinking beings whose nature […] is not accidentally but profoundly and continuously informed by our existence as physically embodied, and as socially and technologically embedded organisms" (217). To uncover how Keats's Romantic characterization of the material sublime operates with regard to its particular historical moment, I will first look backward to the eighteenth-century discourses of the sublime that inform early nineteenth-century thought on the Romantic or so-called natural sublime. In addition, I will gesture forward to literature on proto-seismological instruments to chart, in brief, a continuum of ideas on the question of a compromised earthly foundation and its changing representations in literature and visual culture. As Keats's poem will reveal, forcefully, for all our techné, all our

developing technology, we are still part of a material world whose sublimity may not bend to the human

subject.[1]

After the late-seventeenth-century reintroduction of pseudo-Longinus's ancient text "On the Sublime" [*Peri Hypsous*], authors increasingly used the language of this aesthetic as Hugh Blair does in 1783, to describe "in words, the precise impression which great and sublime objects make upon us, when we behold them;" these "impressions" include "a degree of awfulness and solemnity" as well as "a kind of admiration and expansion of the degree of wonder and astonishment, which [one] cannot well express" (213). Initially translated into the French by Nicholas Bolieau at the close of the seventeenth century, "On the Sublime" was first rendered in English in 1743 by William Smith. As literary critics observe, sublime discourse would fragment wildly and multiply throughout the eighteenth century, and its pervasiveness only grew in Britain with the mid-century appearance of Smith's translation.[2] The texture of this aesthetic—what Keats bemusedly describes as vexation paired with pleasure—earlier and more predominantly followed David Hartley's 1749 definition, which associates the sublime with "subsequent states of mind" beginning with "exciting surprise and wonder" that too "border upon, or even enter the limits of pain" (102). Given the profusion of this discursive network, considerations of various states of human astonishment entered significant debates of the period. Natural philosophers such as Humphry Davy and James Hutton call upon the fearsome yet captivating qualities of the earth in their respective writings on the chemical and geological composition of the planet. Burke, Wollstonecraft, and Godwin passionately argue in print over the moral and political implications of the discourse of the sublime. More generally, in the eighteenth century the

discourse of the sublime was key to how people made sense of experience—to how they considered what it was that moved the human spirit.

Often what moved these sensitive subjects was physical motion itself. For instance, Adam Smith addresses sublime aesthetics in numerous places in his "Essays on Philosophical Subjects" (1758), underscoring a "surprised admiration" born of a "succession of objects" in an "uncommon train or order" (237). Amidst his discussion of the sublimity located in bizarre disharmony, Smith numbers the befuddling "motion of iron" as one such example taken from a broader catalogue of "fluctuation[s]" that move "the spirit" (239). Smith firmly aligns a wondrous sublimity not only with nature's more profound movements but also with stunning instances of physical mutability. Significantly, Dr. Johnson's famous dictionary, also drafted in mid-century, refers to both movements of the sublime: the rhetorical and the kinesthetic. Whereas he initially notes the Longinian strain of a *sublime* or *high literary style* typified by Miltonic verse, he later attends to *sublime* in its verb form—meaning not simply to raise in stature but also to change in a very real physical and chemical sense. Citing both Donne and Newton, Johnson first exhibits the term's association with rapidly varying material states as rendered by fire in the poet's lines and then turns to Newton's *Optics* to note the process of sublimation, where substances transmute directly from a solid state into a vapour (111-2).

It is important to note that while the adjective *sublime* and the noun *the sublime* have long enjoyed an association with the unknowable or the mythical, the verb also signals the realm of the indescribable or the mystifying. Yet this alternative register of sublimity marks a physical mystery, largely because it is grounded in a 'missing' material, melted state, or some swift metamorphosis from vapor to dense matter. Keeping this active and kinesthetic valence of the sublime in mind, a materially-informed etymological and figurative interplay is hard to miss in

Smith's example of uncharacteristically molten iron, or in Keats's parade of the incongruous. The verb *sublimate* evokes surprising physical movement and alteration. It brims with the cognitively challenging or confusing morphologies of matter as opposed to descriptors of the metaphysically transcendent. S*ublimate* captures something of the stupendous, the overwhelming, and the confounding, derived from an altogether marvelous materiality. As Keats knew, the sublime, often thought of as rising above the natural, was deeply tied to the material.

Across a range of figurations of the material sublime belonging to this era, nature is again and again said to "strike the imagination" or "dilate the soul," and not exclusively due to some Burkean sense of generalized terror (Kames 227); this sublime affect is triggered more simply by analogous scenes of nature in commotion, such as in Hugh Blair's (1783) easy association between the tumult of the earthquake and the din of raised armies (214). The Third Earl of Shaftesbury [Anthony Ashley Cooper], for one, deployed this lofty aesthetic to contemplate the "design which strikes," and the "signatures of the real" which, for him, figure the motion of great masses of matter reminiscent of the Longinian image of the "earth laid open to its centre […] tottering on its basis" (79). Likewise, in his "An Essay on the Sublime," John Baillie speaks of giants "rooting up mountains almighty…shatter[ing] to pieces the foundation of the universe" (93). Francis Priestly, too, fixates on prodigious and sudden movement and its association with the category of the sublime, but the moticity he considers is wholly interior. For Priestly, an almost indescribable phenomenon occurs when one confronts what he calls the "sublime of science," which he ironically likens to the work of "giants," both sensible and corporeal, capable of shaking and elevating the attentive soul (121, 122). On the other end of the spectrum, David Fordyce's theological account stresses a less fantastic notion of sublime experience. For him, the divine maker, "the great artist of life and nature," captivates "our sense

by the wonderful apparatus and decorations of his works; astonishes our imagination by the immense variety, infinite complication, and yet marvelous regularity of his machinery" (166). In opposition to Priestley's "scientific" take, with its work of giants, Fordyce identifies the "movement of the vast machine, [which] strike[s] and delight[s] us" (166). He emphasizes the sublimity of states of material process rather than conditions of inner frenzy. As Andrew Ashfield and Peter de Bolla argue, the sublime, by the close of the century and in popular as well as aesthetic discourse, continued to address questions of high rhetoric.[3] However, these critics also underscore how at this time sublime discourse increasingly framed baffling questions of figuration and equally befuddling human responses to them (130).

The hypothesis I add to theirs, is that the unfolding discourses of the proposed second scientific revolution of the latter half of the eighteenth century (especially those branches dedicated to the study of earth and life sciences) both inform and draw upon this aesthetic. This cross-fertilization between aesthetic discourse and natural philosophy helped to popularize a profound connection between evolving understandings of the material world and sublime descriptions of it. Throughout this dialectical process, the empirical nature of sublime discourse lends it ever greater appeal.[4] For a discursive mode that primarily deals with what cannot be described it also programmatically offers whatever passes for accurate representations of catastrophic floods or horrendous earthquakes, for example. Such accounts recurrently offer narratives that stand as objective histories, even for such anomalous natural products as Flamsteed's hypothesized "airquakes."[5] The narrative formula generally attributed to the natural or romantic sublime, with its realist yet extraordinary treatment of nature's most overwhelming products, proved an easy fit for authors willing to take up the charge of recounting what seemingly had little precedent in nature. And we can track this dialectic in the responses to the

great quakes of the latter seventeenth and entire eighteenth century as well as the slight British temblors of 1750. These mid-century shocks would set a sensational stage for the arrival of the incommensurable Lisbon earthquake of 1755. Throughout these documents, it is striking how often accounts, now reportorial, now scientific, use the language of sublimity.

Depictions of sunken cities and heaving earth figure prominently in the long arch of sublime discourse, especially following the late-seventeenth-century repopularization of this aesthetic category. With their coupling of a world in flux, an unnamable tremulousness, and vertiginously compromised foundations, these horrifying yet bewitching narratives captured the imaginations of the long eighteenth century's broader reading publics.[6] Being tangentially aligned with a growing fascination with competing geotheories, stories of notable quakes dovetailed nicely with questions related to the earth's seemingly calamitous history and its presumed formation, which at this time, were both frequent topics of conversation entertained in literary salons and parlor rooms.[7] By the mid-eighteenth century the language of the sublime became a stock discourse wherein hypothesized explanations of the planet's most unnerving tremors and dreadful disasters took place. Within this discursive network, sensationally sporadic environmental alterations and impulses traditionally figure as bodily concussion, engulfment, or rupture, and they commonly appear as explosive detonations akin to the blast of a firearm.[8] Regardless of a given author's choice of metaphoric accoutrement, the hard and fast notion of rapid obliteration matched the elevated stakes and narrative structures long associated with category of the sublime, which provided a convenient and compelling discursive framework for writers seeking to embellish accounts of less arresting upheavals and for authors set to the task of recording the earth's "great Commotions and Disorders" (42).

One such story that appears without fail is that of the shattered and drowned remains of Port Royal, the most densely populated outpost of the British empire during the last quarter of the seventeenth century. It was also the Crown's most lucrative colonial slave-trading port when it fell, and thus for a number of reasons it remained a perennial example of an event in natural history that loomed large in the greater British imaginary.[9] In *A New History of Jamaica*… (1740) Charles Leslie first alludes to the lost settlement in a euphemistic manner that would provoke the type of critique mounted in contemporary postcolonial writings by Jamaica Kincaid, but which also foregrounds the particular significance of this overseas territory: "*Port Royal* was once the fairest Sea-port in *America*; it flowed in Riches and Trade, but now it is only a small Place; […] *Kingston* was built after the great Earthquake 1692, which destroyed *Port Royal*" (Leslie, 25). First-hand accounts penned by Abbé Raynal and his collaborators likewise admit the economic saliency of this event and furthermore transmit a greater overall exigency by chronicling the felt cataclysm of an unsettled earth:

> The sky, which was clear and serene, grew obscured and red throughout the whole extent of Jamaica. A rumbling noise was heard under ground, spreading from the mountains to the plain; the rocks were split; hills came close together; infectious lakes appeared on the spots where whole mountains had been swallowed up; immense forests were removed several miles from the place where they stood; the edifices disappeared […]
>
> This terrible phenomenon should have taught the Europeans not to trust to the possessions of a world that trembles under their feet, and seems to slip out of their rapacious hands. (4-5 qtd in Colley)

The nightmarish quality of sublime scenes *qua* nature in commotion—of vanished structures, swallowed lands, splintered rock, and dissolving mountainsides—lent such tales of rapid transformation and eroding foundations their heightened affective charge. Yet, because "catastrophic events, it seems, are in part cosmically given and in part subject to human intervention," very often these histories took up not only the pragmatic issue of commercial endeavor but also addressed theological and philosophical explanations, causes, cures, and remedies for a dangerously monstrous and palsied planet (Khalip and Collings 5).[10]

Leslie's mid-century retelling of Port Royal's near disappearance is no exception. After lamenting the economic cost and the loss of over two thousand souls as well as two-thirds of Port Royal's physical geography, the author runs through a set of theories on the more agitated "Effort[s alive …] in some Earthquakes" (42). The following passage displays a number of interwoven discourses of the body, the machine, and the sublime that structure the hotly-debated theories and histories of the earth during this period. Here representations of vacant but potentially-volatile inner chambers metaphorize into images of blocked anatomical cavities, breached valves and apertures, all of which rehearse a sublime narrative of "sudden" and "instant" explosions, eruptions, and transformations.

> As to Earthquakes, Mr Boyle thinks they are often occasioned by the sudden Fall of ponderous Masses in the hollow Parts of the Earth, whereby those terrible Shakings and Shocks are produced.
>
> The learned Dr. Woodward, in his Essay towards a Natural History of the Earth, gives the following Account of Earthquakes.
>
> He supposes the subterranean Heat or Fire (which is continually elevating Water out of the Abyss, to furnish the Earth with Rain, Dew, Springs, Rivers)

> when stopped in any Part of the Earth, and diverted from its ordinary Course, by some accidental Glut, or Obstruction in the Pores or Passages, thro' which it used to ascend to the Surface, becomes, by this means, preternaturally assembled in a greater Quantity than usual into one Place, and therefore causes a great Reaction and Intumescence of the Water of the Abyss, putting it into great Commotions and Disorders; and, at the same time, making the like Effort on the Earth, which is expanded upon the Face of the Abyss; and that this occasions that Agitation and Concussion of it, which we call Earthquakes. […]
>
> The Fire itself, which being thus assembled and pent up, is the Cause of all these Perturbations, makes it way forth also by what Passages forever it can get Vent, thro' the Cracks of the Earth above-mentioned, and thro' the Aperture of Springs, especially those of Thermæ, or Baths, or any other way it can either find or make; and being thus discharged, the Earthquake ceaseth till the Cause return again, and a fresh Collection of Fire commits the same Outrages as before. (42-43, 45-46)

Popular renditions of geotheory as exhibited in *A New History of Jamaica* pair the language of the sublime with anatomical and mechanical metaphors to negotiate the more threatening inner-workings of the globe. Later redeploying this narratological formulation, Leslie concludes his consideration of the "fatal 7th of June 1692" with an additional gesture toward organic and technological instruments historically associated with sublime forces of nature and culture. He reminds his readers that "above all, those Countries which yield great Store of Sulfur and Nitre, are by far the most injured by Earthquakes, these Minerals constituting in the Earth a kind of Gun-powder, which [subsequently…] occasions the murmuring Noise, and subterranean Thunder, which is heard rumbling in the Bowels of the Earth during the time of Earthquakes"

(47). The available models for imagining a tremulous globe ranged from interior thunders and convulsive innards to explosive gunfire and volatile compounds. Notwithstanding the inaccessible location of these "outrages," writers sought to describe the dangerous yet elusive energies of the earth that appear only as a flash and pulse only for so long.

"FELT IN ALL PARTS OF THE GLOBE": SUBLIMITY AND OBJECTIVITY, EARTHQUAKE HISTORY AND PHYSIOGRAPHY

> I shall now begin from the history of the earthquake of 55 itself. I understand by it no history of the misfortunes, which men have suffered, no list of cities destroyed and inhabitants buried under their ruins. Everything horrible, which the imagination can represent to itself, must be collected, in order in some measure to figure one's self the consternation, in which it must be, when the earth under their feet moves and is torn with convulsions, when every thing around them falls to the ground, when the water put in violent motion completes the misfortune by overflowing, when the fear of death, the despair on account of the total loss of property, and finally the sight of others in misery discourage the most steadfast mind.
>
> —Immanuel Kant, "History and Physiography of the Most Remarkable Cases of the Earthquake Which Towards the End of 1755 Shook a Great Part of the Earth" (1799).

In this passage, originally drafted in the year following the 1755 Lisbon earthquake, Kant recognizes that to take up the problem of Europe's most devastating catastrophe on record he must write at the edges of both history and physiography. Long before the field of geography existed as we know it today, with its subsequent division into two main branches (physical and cultural), Kant begins, crucially, "from" an interpretive history, a sensual history brimming with "violent motion," a cascade of foundationless earth, dislodged articles, and overflowing misfortunes. In dwelling upon the empirical overtones in this early Kantian passage, I mean to raise a methodological issue that lays bare one of the primary stakes of the present chapter. Paragons of science studies and great historiographers of science like Bruno Latour and Martin J. S. Rudwick have called for a deeper critical engagement with visual culture to compliment examinations of literature produced by savants and scientists. While studying the birth of

seismology and the material sublime without considering maps, charts, graphs and images alongside the printed word, would indeed be reductive, examining these phenomena without taking account of the order of the sensual, the palpable excitement and tangible terrors born out of feeling actual tremors, proves likewise myopic. For whatever might be ethically restorative about the material sublime lies entrenched within the realm of the sensory. Literature provides these otherwise overlooked sensual histories, and a detailed examination of earthquake narratives provides a key example of why science studies needs literature.

Highlighting what he first disavows, calamitous hardship and "[e]verything horrible," Kant manifests the tensions alive in horrors which Romantic subjects fear and shun in fact, but repeatedly find entertaining from a distance and in the form of printed reports. As the literature and knowledge of the great quakes of the late-eighteenth and early-nineteenth centuries became a commonplace so that one could, like Kant, knowingly refer to "55," a growing population composed and consumed tales of disaster and discouragement from far away. Such narratives did as much to educate widening reading audiences as to routinely undermine guaranteed notions of *terra firma*. With them went any granted notion of safe hearth and home, even in more geographically protected areas like Britain and New England. This anxiety would also rise as the built environment became more dense, as cities grew.

And there certainly was anxiety, with many in far-off England concurring with Kant—that the distant Lisbon quake "shook a great part of the earth," but with London readers also having access to pamphlets amassed directly from the sites of devastation. Various dispatches conjecturing the causes of earthquakes ignited a constellation of thinkers residing across the globe. Those located closest to active volcanoes or what we now know to be the planet's fault lines and subduction zones led the charge. While scholars might tend to think of the British

empire as transmitting knowledge and technology from the metropole outward, the response to seismic activity often shows local, regional, and remote publications informing thought back in London; and we hear non-English voices prominently in the conversation. Reporters, scientists, and impromptu inventors worked heterogeneously to catalogue and to respond to natural crises.[11] Between the end of the seventeenth and through the mid-nineteenth century, Anglophone writers inundated the Royal Society's journal *Philosophical Transactions* with hundreds of eye-witness earthquake accounts. Empirical in overall tone, these documents regularly chronicle the time of the shock, the precipitating weather conditions, the supposed direction of the shock-waves, and the alarming noise and feel of their passage. They also routinely record details about the destruction of the landscape and note general structural damages to buildings and their interiors.

A clutch of 1750 letters document a rare succession of English earthquakes that would tousle Britain's foundations just years before the famed 1755 phenomenon. These epistles depict Britons tarrying with "great" shocks, which in all actuality amounted to little more than interior dishevelment within effected dwellings. The tremors were in fact relatively slight, but nevertheless these publications betray the overall alarm inspired by these underground rumblings, particularly for the previously uninitiated British populace who found themselves newly subject to profound telluric agency. One account details how those indoors experienced the shock: "Several People, who were sitting in Chairs, catched at the Walls, Tables, and such things as stood next them, expecting they should be thrown down: Buildings of all Kinds were shaken greatly;" and quite representatively, the author recounts only minor structural injury: "I have not heard of any Damage being done by it more than some Chimnies thrown down, but nobody hurt by them" (Mr. –, Steward to the Earl of Cardigan 722-723).[12] Similarly, a 1795 entry about a later British temblor first bespeaks the death of mine workers smothered by the

earth itself and then remarks upon the lesser fallout, noting how "several chimnies were thrown down, and several families left their habitations; indeed," the author continues "such a general alarm was never known in this neighborhood" (Gray 358-9). The image of a crumbling hearth so often recounted in contributions sent to the Royal Society symbolize larger and even psychological gashes. The figure of the fractured chimney recalls the threat of disunity borne by consistent ground attacks and made upon built environments, further disrupting the consolation one could take in the firm ground underfoot.

In a parallel development, the eighteenth century's early colonials in New England produced and continually reprinted pamphlets on their experiences with the ominous undulations of the earth, especially in reference to that fateful November day in 1755. Their presses ran hot with earthquake compendia on recent frays between man and planet even though these particular bouts produced little more than minor structural damage or dislodged furniture. Newly rattled, they printed at least ten retrospectively published editions of the decimation wrought upon Lima, Peru in 1746, as well as book length earthquake compilations reaching back to Jamaica's 1692 shock (Clark 342-346).[13]

It could be argued that Bostonians and Britons unsuitably catalogued their own harried nerves and relatively small seismic activity alongside Lisbon's annals of utter ruination and other great narratives of catastrophe; however, the fallen chimneys of such gentle vibrations did as much as the early American publications and the Royal Society periodicals to unite Britain's population and North American colonials to those under greater geographical threat. [14] These reports linked anxieties born from shelters and homes recently made unsafe by earthly shattering. For example, testimonies printed soon after the Lisbon quake placed a relatively banal review of rumblings felt in Derbyshire in 1750 adjacent with a horrific first-hand account of Lisbon's

terrors (Bullock and Wolfall 398-407). In the latter history the author estimates Lisbon's loss to be on the order of 30,000 lives, and he recounts the "shocking sight of the dead bodies, together with the shrieks and cries of those, who were half buried in the ruins" (403). As a testament to the newfound fear of a house-as-home the writer notes that "twenty-two different shocks" ensured that "no body yet ventured[d] to lie in houses" (405). Tellingly, legend would have it that Lisbon's very King refused ever after to sleep under any roof (Wolfall 405, Hamblyn "Notes" 112). Other writers rushed to proclaim that "all the world [was] running out of their houses"; across the Atlantic Bostonians saw chimneys "dislocated" and roofs "leveled;" people in Spanish Madrid watched their churches, towers, and houses fall; shops were demolished in Tangier; "a great number of houses" crushed and killed "many people" in Morocco; and the "famous city" of Taffo "was wholly swallowed up; no remains left" (Hyde 441, d'Ulloa 422, 423-6, 429,431, 432). Confirming the spectacular place Lisbon and "55" garnered throughout Anglophone reading publics, a colonist living in Sumatra remarks how the "severe earthquakes, felt" even there prove that the Lisbon decimation "was certainly the most awful tremendous calamity, that has ever happened in the world" (Perry 491). Averring its vast reach, he writes: "its effects are extremely wonderful and amazing; and it seems, … to have been felt in all parts of the globe" (491). The sheer scope of the Lisbon event made even the smallest homegrown shock a source of deep concern and a well of shared drama: how could one know that these small quakes might not presage equal ruin in England?[15]

MEASURING "UNSEEN POWER"

Captivated readers and contributors soon became privy to more than observations and conjectures about the nature of these tremors and their myriad costs. In little time, they also discovered numerous inventions fashioned to surmise the causes of, and possible "cures" for,

these ruptures.[16] For instance, while conventional wisdom held that earthquakes were preceded by eerily calm weather, John Winthrop meticulously charted weather conditions and barometric pressures associated with an earlier 1727 New England tremor and compared it with data on the 1755 activity, proving that at least for "smaller shocks" calm, serene 'earthquake weather' is not in fact directly tied to any shudders of the earth" (16-18). An alternative thesis explicitly connected such jolts to volcanic forces. One traveler came to a new conclusion upon observing that "a shower of dust fell upon the decks, tops and sails of [a] ship [that was] betwixt Shetland and Iceland … probably owing to the great eruption, which happened to the mountain Helca in Iceland" (Whytt 510-11). Following the 1755 tremors, readers could learn of John Michell's 1769 breakthrough contribution, which jettisoned resoundingly the standing hypothesis that such ruptures came from the air—either from "compressed air" or a lightning-esque airborne force (230).[17] Michell suggested instead that the source must be underground, and he noted that the majority of these "extraordinary motions" happen not at random, but repeatedly in the same areas such as Italy, Iceland, Peru, and Chile. Because, he offers, these sites exist near "burning mountains," they might be subject to more of earth's sudden "subterraneous fires" (232, 230). In addition to this finding, the savant also studied the intimidating cacophony of rumbling noises that witnesses would hear coming and going with each convulsion. To him, these intimated a wave-like tremulous nature overriding the movement of the ground. Michell correctly took the simultaneous passage of sound waves that many likened to raucous coaches and thunderous carriages to be similar to the "wave-like motion of the earth" (233). In various capacities science sought to match the rising level of anxiety with reassuring theories of causation. The sudden physic of dissolution and tumult that prompted witnesses to describe earthquakes with the vocabulary of the sublime—in terms of a materiality of disunity and volatile instability, and

overall that which resists representation—finds a doubly mediated home in the arms of instruments and proto-seismological survey equipment. Already sensitive to a *terra firma* taken to quivering (after the great destruction incurred at Jamaica in 1692 and Britain's alarming but slight temblors of 1750), that great polymath, Jonathan Winthrop, meticulously records his experience with the great quake of 1755. Registering the impact an ocean away, he emphasizes not simply a need to record what one observes, feels or imagines, but also to secure objective data while under the earth's siege.

> I was careful to note the time, when we had it, as exactly as I could, in hopes, that, by comparing it with the accounts from different places, we might be able to judge, with a good degree of exactness, of the course of this earthquake, the place of its origin, and the velocity of its progress. But all the accounts of the time, which I have yet seen, are so very lax, that no just conclusions can be drawn from them… (6)

To this he adds "the conjectures, which persons in these circumstances made, as to the duration of the shock, ought not to be put into the balance with the actual observations made by watches" (7). Winthrop's narrative reveals what was once the seismological golden fleece—objectively figuring the time of a quake and its duration. Perhaps if we could know when the quake struck or for how long, we could once and for all discover its cause. Further, New England's famed reverend evidences a growing trend: subordinating the human experience of time to "actual observations made by watches." Human sense perception supposedly obscures, mechanical observation seemingly preserves. To this point, Peter Galison's work on scientific atlases from the era sheds light on the flagging confidence placed in human observation. Galison reminds us that "objectivity exists within history and not outside it," and thus what counts as reliable observation is very much historically and materially contingent (327). Increasingly the palpable

experiences one felt during these calamities amounted to little empirical significance as instruments assumed the task of translating sublime moticity and natural force into a more readily decipherable record. Our experience of the earth is increasingly mediated by machines.

Fig. 1. Frank A. Perret, Campi Flegrei, Italy. “The Day’s Work of a Volcanologist.”*The World’s Work*, V. 25, November, 1907.

Fig. 2. Bronze reproduction of the Zhang Heng instrument, which is the earliest known seismograph prototype.

Figures 1 and 2 display two different technologies, each designed to make humanity more earthly literate. On the left is a photograph from the very beginning of the twentieth century. American volcanologist, Frank Perret, seems to be ringing up the earth, thanks to his invention, the "geophone." To his right is an image of what may be the earliest seismological device—Drahng Hung's seismoscope from the later Han Dynasty, circa 132 AD. This bronze reproduction models one of the earliest-known mechanisms able to display the direction of an earthquake. An interior pendulum sways according to the motion of the earth, and with a large enough shock, the pendulum jars loose a ball from the mouth of a dragon and into the belly of its corresponding frog. Hung's creation allows one to visually register the earth's great movements; Perret gets to hear rather than just feel the earth move. Although these technologies come from two different times and places, they also have two main things in common. They were crafted by humanity to work with the earth's confounding movements, and they attempt to make the earth more comprehensible by way of synesthesia; they convert what otherwise might only have been felt into something seen or heard. By mediating one sense through another, Hung makes the invisible visible and Perret makes the inaudible audible. These devices make the earth perform through a technology that mimics the sensory apparatus of a human, or at least according to modes of sense perception privileged by Romantic savants and natural philosophers when gathering information.

Given that my focus is primarily on the Romantic era, I chiefly address a period long after that of the Han dynasty, and roughly a century before Perret, to argue that such

anthropomorphic contraptions and their respective corporealized presentations of the earth may not necessarily be a bad thing, for they literally reground one's sense of the sublime. Further, it is my contention that such technologies (when considered for their synesthetic mediations) can actually help critics to resituate current understandings of the ethical value of the category of the natural sublime. Known to followers of Kant, as the dynamic or natural sublime, this aesthetic category poses an epistemological problem because of its association with egotistical transcendence beyond nature or an anthropocentric aggrandizement of the human mind. These technologies, and Keats's artistic techné, bring us back to earth.

Bearing in mind the physical and kinesthetic work of these instruments, it is once more important to emphasize that professionally and popularly consumed earthquake literature of the eighteenth and nineteenth centuries often amassed their appeal by representing the earth as a sublime landscape corporealized into a sublime sense-scape, by inspiring terror as well as titillation with tales of felt tremors, instantly liquefied valleys, and narratives of solid rock, suddenly rent apart. While this genre contains some of the clearest examples of how narratives of the sublime in nature provoke fear and fascination when showcasing sublimated matter, it also stresses the physicality of tremendous calamities and of the disturbing sensations one feels when foundations begin to fluctuate. Such accounts contextualize the ways in which figurations of the earth as a palsied humanoid body frame the work of early seismological inventions that would enable the earth itself to participate in print culture through tools like the seismograph.

As alluded to earlier, from their inception, publications dedicated to the earth sciences rushed to report eyewitness remarks on any given global shudder. This was not simply the case for Port-Royal, Lisbon, or Britain. The famed seventeenth century savant Athanasius Kircher once wrote of the anatomy of an earthquake, of being "amidst [a] general concussion" and

"violent paroxysm," with its requisite "rumbling," "dreadful noise" and "sulpherous stench" (5). Daniel Defoe's "Collection of the Most Remarkable Casualties and Disasters" (1713) also includes catastrophe histories typical of the era, characteristically humanizing the planet after first proclaiming such scenes to be beyond words. On the whole, such narratives describe a globe subjected to concussion and convulsion and given to cannibalistic infanticide. One contributor admits "I cannot help thinking that the Earth itself suffered some Convulsion;" it could not be "any thing less than a Concussion of the Earth itself" (252). Another historical account tells of witnesses who "thought the Ground was ready to open, and swalloe 'em up" (261). Similarly, the tremor famously presented by Goethe's Werther is the progeny of a "Nature, which has brought forth nothing that does not destroy both its neighbour and itself. And so," Werther continues, "I go my fearful way betwixt heaven and earth and all their active forces; and all I can see is a monster, forever devouring, regurgitating, chewing and gorging" (66). Whether imagined as ravenous monster or abject body, these metaphors bespeak the prevalence and range of bodily metaphor used by authors to describe the horribly wondrous transformations of the earth.

These documentations of earthly agitation continue to echo a prominent feature of sublime discourse identified in the mid-eighteenth-century by John Baillie and later expanded upon by James Usher at its close. First, Baillie insists "that the eyes and ears are the only inlets to the sublime. Taste, smell, nor touch convey nothing that is great and exalted" (100). With the sublime aesthetic comes a somatic and epistemological hierarchy. The modes of human sense perception of sight and hearing trump other modes such as tactility, which I will return to later. Sublime empiricism of this sort, not only helped to frame what qualified as a moving experience, but also assumed a separation between sight, taste, smell, hearing and touch in the perceiving

subject. This disunion of the senses and division of their worth in terms of assumed truth value likewise grounds James Usher's analysis of this aesthetic category:

> [in registering the sublime] beside [the] silent fear, we feel our curiosity roused from its deepest springs in the soul; and while we tremble, we are seized with an exquisite delight, that attends on sublime objects only. The same mixed sensation weighs upon us, when we see an ocean disturbed and agitated in storms; or a forest roaring, and bending under the force of the tempest. We are struck by it with more calmness, but equal grandeur, in the starry heavens: the silence, the unmeasured distance, and the unknown power united in that prospect, render it very awful in the deepest serenity. Thunder, whose billows fling themselves down with eternal rage; or the unceasing sound of the falling waters by night; the howling of animals in the dark: all these produce the sublime, by the association of the idea of invisible immense power.
>
> The soul of man naturally pays homage to unseen power. (148-149)

Usher builds upon Baillie's claim that whatever qualifies as sublime necessarily trades in the economy of the ear and eye. Further, he isolates how much of the currency of this discourse emerges from what is understood to be both beyond the human understanding and the grasp of human sense perception, though that unseen power is able to be viewed with serenity. The sublime, no matter how potentially threatening, arises from a position of security. Throughout the eighteenth century, nothing captured the sublime imaginary in printed broadsides, pamphlets, reports, or poetry quite like the unseen movements and powers of the very earth itself.

Earthquakes breed sensual histories, and not just by way of human narrative or fallen structure. These convulsive events, which threaten to reduce the built environment to rubble and to swallow up the supposed conquerors of the earth, increasingly call out a desire for control, for

measurement, as if technology could restore the serenity needed for the sublime. By the latter half of the eighteenth century most empiricists preferred to gather and report their data by way of those seemingly more accurate consultants of the globe, mechanical instruments, and what I am suggesting is that this assumed objectivity is in part a response to a subjective desire to manage the fear inspired by these natural catastrophes.

Within the sublime topos there are more than seemingly unending seas or infinite skies. The thread of this aesthetic that makes up the matter of the present chapter tells of jarring and befuddling material transformations and bizarre kinesthetic movements—or the results thereof; this trope characterizes the confounding substance of nature and matter, first in terms of the unpresentable and then anatomically or even technologically. These aesthetic formulations quickly found an alternate niche in documents on early seismological instruments and mechanical technologies. Still trading on the demand for earthquake literature inspired by the popularity of accounts chronicling Lisbon's destruction in 1755, the great antiquarian, Sir William Hamilton, living near Naples at the time, famously recorded his experience with the 1783 Calabrian quakes. Reporting to London's *Philosophical Transactions,* his account bespeaks an extreme alarm born out of an unruly earth that seemed to be "in continual tremor," and as if in strict adherence to the main tropes of earthquake literature, he describes local inhabitants who feared "every moment that the earth would open [right] under their feet" (3). That Hamilton would follow the basic script of the earthquake account, particularly its more sensationalizing registers, is significant considering that at this time Hamilton was a well-regarded savant and antiquarian noted for his empirical studies on Etna and Vesuvius (Rudwick 119-21). Even for the elite schools of natural philosophers, authors participated in perpetuating the more horrifying registers of sublime affect traditionally rehearsed in observational accounts of large tremors. But,

that year areas near Mount Vesuvius did absorb six worrying shocks in the months of February and March alone, and Hamilton's reports were not the only ones read throughout the continent or back in Britain and Boston.

Fig. 3. Print of 1783 Calabrian quakes with undulating earth depicted.

These same unsettling months also ushered in the seismograph, spectacularly poised to register the destabilized, tremulous earth as represented in narratives like Hamilton's. Just as Noah Heringman observes in his study of the genre of natural catastrophes narratives, aesthetic discourse creates a demand for scientific enquiry (or philosophic enquiry as it was called at this time) (117).[18] Moreover, the present chapter moves beyond his claim, offering that in this case, sublime earthquake literature and the hierarchy of sense experience dramatized in sublime discourse also catalyzes the fabrication of new technologies along with new ways of thinking and questioning. For instance, just prior to these vibrations at Vesuvius, a clock maker from Naples, Domenico Salsano, put a pendulum to new work, pairing it with slow drying ink and brush to trace the seismic waves of the earth's interior—onto nothing less than a slab of ivory. This mechanism produced a continuous but non-permanent record of ground motion, and onlookers stood by to witness what later would be known as 'tectonic' shifts. This device could display "earthquakes [as far as] 300 km away" and, quite pragmatically, was also "equipped with a bell, which would ring when the motions were large" (Trifunac 592). Such devices participate in the type of cultural economy praised by Barbara Stafford. In her study on the "birth of popular education and amusement," *Artful Science,* she lauds the "eighteenth century notion of an instructive, cross-disciplinary and entertaining spectacle, based on a conversational give and take" between "works of art" and "technological inventions and popular imagery of all sorts" (174).[19] In a similar vein, Italian inventors first devised a way to transform volcanic eruptions

into earthly performances for an audience of surveyors—hailed to come and see by the ring of bell—devising the means to make the planet write and self-record its otherwise mysterious and previously unmonitored activities. Once the seismograph was born, the ivory slabs were replaced with paper scrolls, which were taken to be the ledgers of the earth, making it an early ancestor to Talbot's camera obscura, the oft-hailed pencil of nature. If we could watch the earthquake perform or read the earth's movements, perhaps they would be less troubling.

Other memorable seismic events and narratives prompted additional technological advances. In the boot-heel of what is the state of Missouri today, along a sizable length of the Mississippi River Valley and beginning in December 1811 and continuing through to February 1812, the mid-west absorbed an unprecedented and rare middle-American quake, which was "followed by a relentless aftershock sequence" (Hough 64). As if bringing to fruition anxieties fostered by downed chimneys and shaken lands—of a planet bereft of any sure stability, even in places without a history of tremors—"loose soils in the Mississippi River Valley were shaken until they lost their internal cohesion and behaved like liquids rather than solids. Sand erupted from the ground via the phenomenon now known as liquefaction […] over a swath many tens of kilometers long" (62). But, for some earthly inhabitants, the so-called New Madrid quakes engendered nought but sheer delight. Complicating a model purporting a special relationship and proximity between quavering lands and volcanic activity, the fertile Mississippi lies far afield from any burning mountain. Drawing from published earthquake accounts, a man from Louisville, Kentucky, Peter Brooks, used pendulums of varied lengths to track the oscillations of the New Madrid quakes. This moment marked the first recorded use of multiple pendulums to estimate the period and amplitude of shockwaves (Trifunac 593).[20] While this technological development helped scientists to better see and understand the movement of earthquakes and

thus make them less frightening, the liquefaction process that ate away at the Mississippi River Valley's banks also reinforced a troubling revelation: it is not completely solid ground that we settle on; reports on this event told readers that much of the earth is more dynamic than static, that the land is moved by both fire and water.

Technological seismological narratives began to outshine personal earthquake narratives, and correspondingly, pictorial and textual space on the page became less and less comprised of personal accounts and was increasingly dedicated to inventions, charts and mechanical improvements. By the mid 1800s personal narrative comes selectively and often exclusively from experts. In the second quarter of the nineteenth century earthquake compendia began to give way to "enumerate[tions] and discus[sions of] all the seismometers known" at this time (Mallet 102). Storied histories of the flutterings and markings of machines replaced now formulaic narratives of rattled bones and frantic minds. As if heeding the aesthetic analysis of Usher and Baillie—where they in essence manifest a cartography of sublime sensation and legibility—these publications rerouted the sublime charge of the earthquake narrative into a spectacle of machinic maneuvers that could translate secreted subterraneous motion into communicative gestures. For instance, a large portion of Giovanni Cavalleri's 1858 memoir was translated and reprinted in an 1860 edition of *Philosophical Magazine* because his seismometer was known as the first to bear "pendulums of variable length" (103). This allowed the Italian physics professor to craft "A perfect seismometer," –in his terms—which according to Cavalleri, "should record the traces of the various motions which affect the surface of the earth" (104). His contraption was also one of the first to free the lab monitor from the "enormous inconvenience of […] attend[ing] to the instrument daily, perhaps for years, before the occurrence of the desired phænomenon"—an earthquake (108). Previously, assistants were forced to visit seismometers

each day in order to note whether an quake had been detected by the apparatus, but Cavalleri's creation was delicately fashioned to do "just the reverse […] The instant a shock moves the pendulum, however slightly, a lever which retains the balance in position favourable to its easy disengagement, is set at liberty, and the timepiece [then] begins to mark [the] time" of the quake (108). The inventor would attest that his mechanism was "sufficient to embrace every undulation occasioned by any earthquake" (108). The human observer is no longer needed as the machine feels the earth move and responds directly to the world. Given his invention's mechanical embrace of the earth, Cavalleri next deflects critics who find any flaws in the nature of his newborn technology. To those "despairing" of the seismometer's sparse predictive value or performance issues, who yet preferred a more "direct study of the phænomena of the earthquake," he advises the following: "we should remember that frequently the earthquake leaves no distinct trace of direction, origin, or intensity, and still more frequently no trace whatever" (104). With human sensitivity largely dismissed, devices picked up the slack by becoming more and more intricate and ubiquitous.

The first print cultural artifacts that narrate and picture the great quakes of the late seventeenth century through to the nineteenth, work in striking concert with proliferating mechanisms to make the swing and sway of a quaking foundation sensible to the eye or one's mind in place of one's nerves. The goal was to mediate and mitigate these events not only by way of reproduction but also with newly staged performances, with prearranged and fabricated boxes of sand or pieces of parchment to be caressed by brush and needle. Initiating what Simon Shaffer has called staged science, these geologists mold an aesthetic not unlike the fleeting experience of an operatic or theatrical show, contingent upon various "techniques [designed] to make their craftiness vanish" (444).[21] With a threatening earth that leaves no trace, reports on

seismological innovation celebrated an inventor's ability to make the earth legible and sensible to instruments, and then by way of synesthetic extension, also to human cognition. A popular journal on miscellany from 1879, Philadelphia's *Friends' Review*, yet again displays a strikingly anthropomorphic tenor folded into the histories of seismographic technologies. Titled, "The Earth Speaks," the article reads:

> Last summer, Palmieri first observed that the seismograph, with the aid of a transmitting microphone and a receiving telephone, enables the ear to hear the vibrations of the ground. Rossi afterwards experimented with a more delicate apparatus, and at every pulse of the volcano's eruption he heard the same sounds. (351)

Similar to Perret's geophone, and furthering the call for visualizing the invisible or transforming the inaudible to the audible, gears, wires, and dials helped to humanize a wonderfully mysterious and dangerous planet by bestowing it with the ability to make sounds, and scrawl marks or even dance in pools of mercury. Making technologies detect, sense, and absorb earthquakes both large and small so that humans could watch, read, and hear what they otherwise might only feel, early seismologists outsourced the sensual, the tactile.

Yet humanity would not long stand for merely measuring unpredictable tremors; although no one could say where the earth might strike next, invention soon allowed for humanity to strike back, to force the earth into quaking. Throughout the mid-1800s, Robert Mallet played no waiting game with the planet, but rather "experimentally determined" the transit velocities of pulses "produced by the explosion of charges of gunpowder" (Account 655).[22] Mallet and his team paired seismoscopes, telescopes, and chronographs with blasting materials to probe and study the quivering ground.[23] When all was said and done (or better, detonated), Mallet could watch remediated earthquake waves scurry across a bed of mercury

(Fig. 4). To this, the researcher attested "more interesting conditions could thus scarcely be found for experimental determination of the transit-rate of earth-waves, or more desirable for future comparison with that of earthquake-waves themselves" (662). Revisiting his accomplishment, he celebrates himself: "I had thus presented visibly before me the 'tremors' that nearly invariably are described as proceeding and following the main shock and destructive surface movement in every great earthquake" (676). On a dynamic world made up of waves, earthly or oceanic, Mallet's mechanized, explosive, and visually manifested project—his orchestration of earthly performance—would seem to have restored the security needed for the experience of the sublime: we can now watch a planned sublime performance of the earth rather than experience the existential threat of the unseen, un-comprehended power of the earthquake.

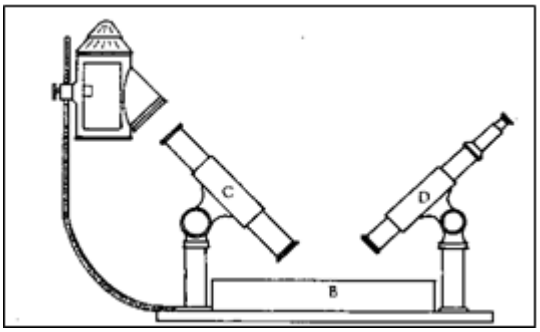


Fig. 4. Simplified model of Mallet's seismoscope (after Mallet, 1852). The image of the cross-hairs in C is reflected from the surface of mercury in the basin B and viewed through a magnifier (Dewey and Byerly, United States Geological Survey).

THE TECHNICS AND POETICS OF A SHAKEN "SUBLUNARY SHPERE"

With this overview of the development of accounts of seismic activity from earthquake narratives to seismological reports, I would like to suggest that this model of the trembling earth resonates in various magnitudes pertinent to literary and cultural studies. There is, of course, the

literary response itself, from Shelley's "Mont Blanc," where seismic activity is part of an amoral creative and destructive nature that cannot form the basis of human value (70-73); to Anna Latetita's Barbauld's comparison of war to "Ruin, as with an earthquake shock" which echoes the eighteenth century tracts I mentioned earlier (49); to Mary Alcock's desire that

> Should fire, or water, spread destruction drear,
>
> Or earthquake shake this sublunary sphere,
>
> In Air Balloon to distant realms I fly,
>
> And leave the creeping world to sink and die (69-72)

That is, the literature of the period reflects the uncertainty, the anxiety that reemerged as the earth challenged the dominance of man's built environment. The most obvious response to this anxiety may have been the scientific advances catalogued here, but there was an important cultural response as well, one that, perhaps, keeps us more fully grounded by reminding us of the threat the earth can pose.

To consider in full this wider fascination with unexpected and discordant sublimated movement, I now return to Keats's take on the question of the "material sublime." After opening the epistle to Reynolds, as we have seen, with his procession of famous yet disjointed figures, the poet shifts his attention from such fancied visitations to a verse treatment of dreamscape *qua* landscape. The heart of the work poetically interprets Claude Lorraine's painting commonly known as *The Enchanted Castle* (1664) (Fig. 6).[24] Although the image appears to offer a solid edifice designed to imprison Psyche, the castle remembered by Keats is flanked by "trees, which all do seem to shake / From some old magic like Urganda's Sword" (28-29). As Keats develops his description, the landscape seems increasingly animated, perhaps even earthquake prone:

Fig. 6. Claude Lorraine, The Enchanted Castle (1664).

You know the clear lake, and the little Isles,

The mountains blue, and cold near neighbour rills,

All which *elsewhere are but half animate*;

Here do they look *alive* to love and hate,

To smiles and frowns; *they seem a lifted mound*

Above some giant, pulsing underground. (35-40, my emphases)

For Keats, the image is anything but static, and the presence of the underground giant connects this landscape with both myths and descriptions of earthquakes. The next stanza imagines the material history of the structure, its composition, down to "juts of aged stone / Founded with many a mason-devil's groan" (47-48). Further still, the edifice seems to be home to magical, even sublime technology:

The doors all look as if they oped themselves,

The windows as if latched by fays and elves,

And from them comes a sliver flash of light

As from the westward of a Summer's night; (49-52)

While various critics discuss the playful and intertextual registers of Keats's pagan and mythological references, the letter has yet to be studied rigorously in regard to the author's use of stock sublime images such as the lightning bolt or even the automatically opening doors depicted here.[25] This omission is remarkable given the range of critical debate around the phrase "material sublime."[26] The material seems left behind in such searches for literary and visual clues.

To read the poem as sublimating the material world into nothing more than malleable fodder for the poet's imagination overlooks both the striking physical features of this landscape and the longstanding role of fantastic material figuration within overlapping natural philosophical and sublime discourses. Keats here directly rejects what he calls the "Wordsworthian or egotistical sublime" to offer his "material sublime":

> O that our dreamings all of sleep or wake
> Would all their colours from the sunset take:
> From something of material sublime,
> Rather than shadow our own soul's daytime (67-70)

Traditional readings also fail to consider the fact that Keats had read widely circulating accounts of natural history such as Comte de Buffon's *Histoire Naturelle.* In that three-volume work, which was translated into English in 1792, Buffon conceives of the natural world not as a rational or controlled system, but alternatively, as occupying various vital and animated "state[s] of sublime disorder" (qtd in Riskin 84). As historian Jessica Riskin suggests in her study of *Science in the Age of Sensibility,* questions about the very nature of matter itself occupied many of the greatest minds of the last half of the eighteenth century, with Benjamin Franklin among such savants who would "maintain that matter was itself capable of thought, and [who wrote] that 'if any part of Matter does not at present act and think, 'tis not from an Incapacity of its Nature but from positive Restraint'" (qtd in Riskin 84). In a world made up of fluctuating states of sublime disorder and irreducible, indeterminate states of natural animation, Keats readily admits in his letter that "Things cannot to the will / Be settled" (76-7).

I am not, of course, suggesting that Keats is writing about earthquakes or responding to the rise of seismological instruments. What I am arguing is that his poem presents just the kind

of world of sublime disorder, of threatening earthly movement that marks the earthquake literature. Keats insists that we are part of that movement, for "in the world / We jostle" (71-72). Shaking loose the urge to fixate on the self, beauty, philosophy, "the lore of good and ill" or even "High reason," the poet in essence surrenders to instability and what cannot be settled by way of any will(75).[27]

In other words, we cannot tame the moving world with either words or machines. Man desires fixity, either the security of the sublime that wills away the earth's dangers or the certainty of a materialism that would deny the will altogether. Keats's "material sublime" is a middle ground, offered in the hopes of keeping both the movement of the world and of consciousness in play. On the one hand, he notes that "It is a flaw / In happiness to see beyond our bourn," to demand a sublime transcendence, for then we "Cannot refer to any standard law / of either earth or heaven" and find ourselves "Lost in a sort of purgatory blind" (82-83, 81, 80). On the other, he realizes that the attempt to return to an earthly ground, to insist upon dwelling with the material orders of life, cannot occur unless we admit the violence in nature, the violence found at the heart of earthquake literature, the violence which Keats finds pervades the natural realm:

> But I saw too distinct into the core
> Of an eternal fierce destruction,
> And so from happiness I far was gone.
> Still I am sick of it: and tho' to-day
> I've gathered young spring-leaves, and flowers gay
> Of periwinkle and wild strawberry,
> Still do I that most fierce destruction see—

The Shark at savage prey,—the hawk at pounce,—

The gentle Robin, like a pard or ounce,

Ravening a worm,—Away ye horrid moods, (96-105)

While Keats then seeks to flee from these "detested moods in a new romance," he has admitted in the passage that no sublimation can erase the power of an earth always "ready to open, and swalloe 'em up" (111).[28] What could be understood simply as a whimsical *ars poetica*, Keats's verse epistle assumes the feel of a gritty elegy when read alongside its aesthetic and natural philosophical counterparts.

At the epistle's close, gone is the comical parade of grand but discordant historical figures, replaced as they are by diminishing natural predators all seemingly too adept at swallowing their prey. Keats grapples with the necessarily transformative state of the material world, figured here as a sublime and infinite sea of all-consuming alteration not unlike the horrifying yet fascinating loosened grounds that the pages of earthquake and seismological literatures likewise puzzle over. Where earthquake narratives and seismological studies sought to make the earth speak in human terms in order to render the destructive tremors into the delightful terror of the sublime, Keats's poem reminds us that if are going to be true to a "material sublime," if we are going to return our culture to its ground in the earth, then we must truly listen to the earth speak, even when it speaks of destruction and death, of the ultimate limit to human will and desire.[29]

Chapter 3

"To 'build castles in the air' and 'A bending line suspended': Robert Southey, Poet Laureate and Thomas Telford, the Father of Civil Engineering"

Of all the works of man, there is not any one which unites so well with natural scenery, and so heightens its beauty, as a bridge…
– Robert Southey, *The English Letters* (1807).

A boundary is not that at which something stops but, as the Greeks recognized, the boundary is that from which something begins its essential unfolding.
– Martin Heidegger, "Building Dwelling Thinking" (1951).

In the previous chapter, I charted the emergence of technologies like the seismometer and the seismograph alongside Keats's turn to a "material sublime" in poetry: technological and poetic artifacts both rewrite the natural or "romantic" sublime in their respective attempts to comprehend or embrace potentially threatening material transformations of the earth. In sum, poetry as techné and what we now call seismological instruments function to make a dynamic earthly foundation more legible and increasingly open to sublime celebration in its necessarily unforgiving potency. Moving from the ways in which poets, philosophers, and inventors registered subterranean waves and wonders, this chapter examines the often treacherous, narrow gaps in the surface of earth and humanity's ability to overcome those gaps. More particularly, I turn to the reception history of early nineteenth-century bridges and canals.

Contemplating the sublimity attributed to such infrastructural projects - to those structures built to render perilous straits all the more readily navigable - and which authors recurrently figure as the technological answer to some of nature's sublime dangers and famously impassible landmarks, I would like to suggest that, of all architectural forms, Britain's modern suspension bridge and advanced interlocking canals emblematize most remarkably the intermixed material and imaginative urgencies of the romantic period. The bridge and canal experienced an industrial and figurative renaissance in this era.[1] By way of experimenting with older forms and revising inherited public works, architects and engineers of both type of structures further greased the wheels of commerce. In addition to accommodating trade lines and enhancing human travel and communication, these projects signify a Romantic fascination with figures of matter's mobility and a preoccupation with notions of suspension and transformation in both life and print. Newly manifest and tenable, they counterpoise the seeming futility connoted in the very idea of erecting a poetic castle in the air. Marked by the language of the sublime Romantic characterizations of these civil artifacts betray a key iteration of sublime discourse—one that that does not furnish fantasies of immaterial transcendence but rather one that features material transformation, swift kinesthetic transmutation, and arresting states of suspension and transport above all else.

Although the relationship between poetics, landscape, and architecture remains a central field of inquiry within romantic literary criticism, little work attends to the widely-celebrated innovations of this period's civil engineers that would yield the great bridges and wide canals famously lauded by Southey and a growing number of periodicals.[2] Studies on romantic literature and architectural form also include a wide-ranging catalogue of work on ruins; these literary investigations theorize the decay of structures both actual and figurative, and when taken

collectively, trace the topoi of the ruin and its shifting position within iterations of narrative deformation, cultural memory, and fragmented subjectivity.[3] Left virtually unconsidered in these accounts is the technology of the bridge, not to mention massive undertakings like Thomas Telford's (1757-1834) acclaimed Caledonian Canal (1804-1822).[4] Yet to bring such infrastructural developments into conversation with this body of existing criticism and historical inquiry allows one to reconsider the various intersections between landscape aesthetics and architectural and poetic art during the British romantic intellectual movement. At stake in an examination of the modern suspension bridge and interlocking canal are two principal concerns: first, how liminal yet monumental infrastructural technologies mediate romantic understandings of natural and built environments and second, how these suspended and entrenched artifacts – how these major arteries of transportation and communication – inform the British national imaginary and operate in British romantic literature. This chapter examines the various cultural and literary meanings ascribed to such civil artifacts, especially as they contextualize romantic notions about the external world and the human being. Thus, my focus is not on the much theorized relationships between public works projects and the management of bodies and purses, but rather this chapter charts how the meeting points between natural and artificial landscapes reveal previously unnoticed aspects of romantic life and romantic imaginings.[5] Whereas I do consider tangentially architectural and economic aspects of romantic bridges and canals, my primary concern in these pages is to demonstrate how representations of the romantic sublime in nature unfold in dialogue with these infrastructural technologies of the sublime.

Romantic literature and romantic poetry in particular famously evoke two prominent temporal registers that come to frame sublime discourse: the instant and the eternal. The matter of the present chapter works along these lines, investigating instances wherein one can view the

overall structure in the minute example, but here one does not glimpse eternity in William Blake's transitory grain of sand. Interestingly enough, here the figure of the enduring nation incongruously emerges from fleeting characterizations of a particularly British style of bridge. In this sense it is perhaps the technological counterpart to Blake's prismatic flower or eternal yet ephemeral grain of sand alluded to in his iconic poem "Auguries of Innocence" (c. 1803). In this old warhorse of a poem, Blake pens the familiar romantic formula where permanence emerges through the transitory. The poem opens: "To see a world in a grain of sand / And a heaven in a wild flower, / Hold infinity in the palm of your hand / And eternity in an hour." With these words Blake captures the mixed elements of essence and substance attributed to time: the transformative entity of the bud and the mobile, component part that is a speck of earth evoke the temporary and momentary, while for Blake and as many critics note, they also conjure timelessness and permanence. Catherine Gallagher identifies such "Referenc[es to] the eternal and unchanging through the short-lived, the emphatically transient, or the temporally retrogressive, [to be] a common Romantic trope with, ironically, an enduring legacy" (235). However, Blake's lines signal more than romantic temporalities. To imagine this interplay between fleeting existence and enduring natures, Blake first *beholds* the structure of the earth in the component part that is a grain of sand. He likewise envisions the entire scaffolding of the heavens in the structure of the earthborn bloom. Then he figuratively gives flesh to this concept, exchanging *beholding* for *holding* "infinity in the palm of [one's] hand," as if to suggest that the flower and the grain of sand, those parts of the world one can touch and grasp, are both the material and tools that serve as the quite literal touchstones toward any such imaginative, mental leap.[6] They are not simply provocative metaphors but in all actuality operate like bridges as well as canals: they comprise the imbricated conceptual and physical scaffolding necessary for

conveying and transporting imaginative meaning. To negotiate the larger correspondences between romantic infrastructural pursuits and the literature of the period, a fuller consideration of the cultural and technological history of the greater civil artifact is in order.

ROBERT SOUTHEY, THE WEARMOUTH BRIDGE, AND THE STYLE OF BRITISH CIVIL ENGINEERING

In one of his bestselling epistolary achievements, *Letters from England* (1807), Southey recounts a characteristically British type of bridgework.[7] Early in this piece he turns his attention to an architectural specimen built in last decade of the eighteenth century, the Wearmouth Bridge at Sunderland. Today, science and technology studies scholars still hail it as a pioneering work from the start of an increasingly robust period in the history of British and Irish civil engineering (1790-1830) (Skempton xxix-xxx). Planned and designed by the local Parliamentary Member Rowland Burdon and supervised by the directing engineer Thomas Wilson, in 1796 the bridge became the longest cast iron arch of its day and the first of its type to be erected.[8] While the French had attempted unsuccessfully to create iron arch bridges since 1719, the first functional example of this kind was the Ironbridge over the Severn at Coalbrookbale in Shropshire (1779) (Peters 188). After Burdon secured an Act of Parliament in 1792 the irons for Wearmouth Bridge at Sunderland were cast and sent from Rotherham and Wilson began to devise its construction.[9] Borrowing from a system Thomas Paine demonstrated at the French Académie in 1786, Wilson implemented an innovative method that contemporary engineering biographers continue to describe as vaguely ingenious and ethereal. For instance, in reference to Wilson's plan to raise the basic framework A. W. Skempton's recent account includes quite little about the whole process beyond noting that: "[t]he ribs of the arch had been positioned by supporting them on

scaffolding, floated into position" (Skempton 788). For its storied method of construction, its unprecidented size, and signature "British" style, the Sunderland Bridge quickly - albeit inaccurately - assumed an iconic status as a national triumph.

A decade prior to Southey's letters on the subject and well before he would compare one of Telford's bridges to a thread of gossamer, a speech given on the opening day of the arch (August 9, 1796) likewise plays upon the cultural significance of Burdon and Wilson's massive undertaking. William Nesfield, the Provincial Grand Chaplain of Durham, had first honored the project with an oration delivered after he ceremoniously laid the "foundation" stone in 1792, which was not in truth pivotal but rather merely ceremonial. He begins his remarks with mention of that day now four years passed, recalling "when I thought the undertaking but the fabric of a vision;—… I now think, what must I now feel, when all that I thought impossible stands realized before me, and when compliment and exhortation have given way to substance and effect?" (4). Shortly after this extolation of a vision made manifest, he underscores the sublime "wonder," "delight," and "astonishment" borne out by this "stupendous edifice" by at once praising "the lightness of its texture" and a raw physicality that separates it from the fancies of the painter's canvas and the stuff of the poet's imagination (12, 6). After thanking "the artist" (Burdon), "the mechanic [Wilson], who ha[d] executed, so bold a plan; and lastly, the laborer, by whose unwearied toil and persevering diligence the fabric has been so speedily completed," Nesfield enumerates the bridge's greater curiosities:

> [W]here am I to find words to convey its adequate eulogium? or how am I to distinguish, in appropriate terms, its different and peculiar excellencies? Am I to describe the awful boldness of its height, the immensity of its span, the lightness of its texture, the simplicity of its design … no ordinary ideas can well do justice to it; …

> Examine it! View it from your shores with microscopic attention! You see *that* firm, substantial, and realized, which you thought had only existed on the fanciful canvas of the painter, or had been faintly conceived in the playful imagination of the poet. (6-7 original emphasis)

Nesfield confers an overall sublime status to the structure by associating it with that which resists representation or what both Kant and Lyotard would call the "unpresentable" and by marking its "awful boldness" and an "immensity" that is somehow, puzzlingly coupled with "lightness" and "simplicity."

It is also worthwhile to examine the sublime valence that allows Nesfield to cast the civil artifact as a stalwart monument to the Crown; pointedly it is able to withstand the sublimities of nature's great tempests and impediments. In his closing remarks, the chaplain entreats his audience to "call back to your minds the object of our assemblage here this day," the crossing, in order to pay proper tribute to this "ornament of our country at large; the pride and boast of this great country in particular" (12). To this statement he abuts a panoramic review of the larger landscape that houses the Sunderland Bridge, attaching a nationalized trajectory to the structure wherein he desires the iron arch to endure despite a profoundly hazardous positioning.

> Exposed, by its aerial situation, to the rude rock of the tempest, and the fury of contending winds, may it still rest firm on its foundations! unshaken by the conflict of the jarring elements, unimpaired by the ravage of devouring time! May it in our days stand a glorious monument of British taste, and of national grandeur! and may it in after ages maintain its proud eminence, permanent and durable as the work of the immortal Roman! (12-13)

Significantly, Nesfield's quixotic proclamation of the symbolic value laden in Burdon and Wilson's civil artifact reaches back to the Roman Empire. Rome's was an empire that famously flourished by way of many well-wrought roads. As to the relationships presented here between sublime discourse and figurations of the liminal space where infrastructure meets natural terrain—where natural and artificial landscape brush up against one another, intermingle and unfold—Nesfield's account marks an early example of how an artificial sublimity emerges in conversation with descriptions of natural sublimity. Romantic natural sublimity in effect called forth a titanic challenger: not just the reach of the imaginative mind as in Kantian dynamic sublimity, but also its material complement, technological sublimity.

Just as in more widely acknowledged iterations of the sublime, the language of technological sublimity routinely codes time and labor in diminished form. Such misrepresentation occurs precisely because of a tendency within sublime discourse to privilege the unending and thus unknowable or the ecstatic instant and stunning final product over the arduous complexities of process and the long durée. While Nesfield does nominally recognize the labor of the scores of individuals involved in Sunderland's construction, his oration repatterns conventional sublime discourse in that he lavishes the bulk of his rhetorical attentions upon the starting and stopping point of the work and not upon the stuff of process. This discursive network actuates temporal extremes, the awe-striking moment or the infinite and unending, lending whatever structures, people or objects branded by this aesthetic either immediate import or the dress of immortality. The latter case affords Nesfield an easy link between the eternal iconography of the bridge and the possibility of a horizonless British futurity.

In *Letters from England* Southey takes full advantage of the sublimity attributed to the Sunderland structure as a finished product that assumes precisely what Nesfield anticipated, the sense of enduring national prowess garnered by a "glorious monument of British taste." Southey follows Nesfield most closely when he dwells upon the impossible seeming contrast between the

Fig. 1. 1841 Engraving of Sunderland Bridge (1793-1796), cast iron, C 138 Robinson Library, copyright SINE project. Thomas Wilson, lead engineer.

bridge's ephemeral appearance and its ability to as bear its own weight and that of its many travelers. Yet even with this shared emphasis *Letters from England* does more to resist the twined sublime narratives that first read the artifact as instant or eternal shrine instead of a thing of joint labors and various processes and that secondly reduce it to the symbol and product of one just one nation. Adopting the voice of a touring Spanish gentleman, the soon-to-be poet laureate published this collection under the pseudonym of Don Manuel Alvarez Espriella. While the entire travel narrative operates in the way of an anthropological study of British taste and manners as viewed through the lens of alterity, one passage in particular exhibits not simply the texture of nationalized meanings ascribed to infrastructural ventures but also a number of realities they tend to obscure. Southey's fifth letter records Espriella's contempt for the cast iron bridges of Britannia, and in so doing identifies some of the hallmark features associated with these romantic-era conduits, specifically the British bridge's ironwork that ironically produces a light, airy, and insubstantial feel.

> […] an adventurous iron bridge had been built at Sunderland (Fig. 1), one arch of monstrous span over a river with high rocky banks, so that large ships could sail under. The architect of this work, which was much talked of [Thomas Wilson], offered his services to throw a similar but smaller bridge over the Thames. But, alas! … I know not how these iron bridges may appear to an English eye, but to a Spaniard's they are utterly detestable. The colour, where it is not black, is rusty, and the hollow, open, spider work, which they so much praise for its lightness, has no appearance of solidity.

> Of all the works of man, there is not any one which unites so well with natural scenery, and so heightens its beauty, as a bridge, if any taste, or rather if no bad taste, be displayed in its structure. This is exemplified in the rude as well as in the magnificent; by the stepping stones or crossing plank of a village brook, as well as by the immortal works of Trajan; but to look at these bridges which are bespoken at the foundries, you would actually suppose that the architect had studied at the confectioner's, and borrowed his ornaments from the sugar temples of a dessert. It is curious that this execrable improvement, as every novelty is called in England, should have been introduced by the notorious politician, Paine, who came over from America, upon this speculation, and exhibited one as a show upon dry ground in the metropolis. (43-44)

Southey's would-be outsider turned narrator mockingly describes the "adventurous" quality of the "monstrous" British arch. Although the letter mentions that the Sunderland crossing was modeled after that of an American colonial, Thomas Paine, to Southey's imagined Spanish eye it nonetheless amounts to no more than a glaring shrine to repugnant British taste and overall bad form. Such pronouncements draw upon the conceptual currency and cultural exclusivity frequently granted to the technological artifact, which also grounds Nesfield's speech; regardless of its genuine multinational origins, sublime representations of the arch activate a political and professional mythology here assigned to bridges as depositories of national character and evolutionary histories. Suggesting a "distinctively British position in then-contemporary world culture" and moving toward the "revolution of manners" that James Chandler argues culminates in England in 1819, Southey's letter betrays the allegorical role of the material object of the bridge that marks national efficacy as much as a developing national aesthetic and taste (xiv). Writ large, to be sublime means to be exceptional, uncommon, and not communal. Thus this

discourse swerves toward the particularizing example, a national achievement, one engineer's creation. Within the milieu of late eighteenth- and early-nineteenth-century infrastructural vicissitudes in custom and manner, blue blood in this case courses throughout the delicate ribs of Sunderland's iron bridge.

Resoundingly, the style claimed for British structural engineering during the romantic era ran along the threads of sublime discourse, with authors as well as orators depicting an architecture of sweetness and light yet imbued with an unassailable resilience. Problematizing this fantastic trend, Southey makes a confectioner of the architect and takes the entire structure for a fragile, saccharine pastry. "[I]ts lightness" yields "no appearance of solidity," and Espriella sees scant cause for celebrating the "hollow, open, spider work, which [Britons] praise" for its weightless appearance (44). These lines again attest to the ways in which "[t]echnological objects serve as ideal containers for nationalistic views. They allow feelings about nativeness and foreignness to assume a tangible form" (Dreicer 157). Moreover, historian of technology Gregory K. Dreicer observes how "infrastructure does seem to reflect the state of a nation by demonstrating a government's ability to maintain the networks that enable the nation to function," and Southey's words at once reinforce and undermine the national significance of the supposedly hearty if willowy Sunderland Bridge (157). The passage suggests that the engineer, Wilson, must have "borrowed his ornaments from the sugar temples of a dessert" and with this image the writer begins to undercut the presumed durability of the pronounced arch. Rather than celebrating the lightness of the structure, he invites an association between the dissolving sugars of a dessert and the corroding ruins of the desert (44). In addition, by way of another sublime narrative inflection, the Spanish narrator figuratively makes light work of the prospect of erecting any such cast iron bridge as he offhandedly refers to a long dead rumor suggesting that

Wilson might simply "throw a similar but smaller bridge over the Thames" (43). To this veiled critique mounted against the going "English" mode of design, Southey affixes a footnote; it reads: "The great Sunderland bridge has lately become liable to tremendous vibrations, and thereby established the unfitness of building any more such" (n. 7, 44). Beyond any politics of style, the labyrinthine "spider work" of this structure, the ancient form of the sweeping arch recast here in metal, proved unfit for the colossal task of safely and consistently uniting Britons from both sides of the River Wear. [10]

Given that Southey devotes most of his energies to aesthetic critique and only footnotes the near failure of the work in terms of use-value, it is important to consider the immense significance assigned to the bridge as it functions as a human-made part of the British landscape. Sandwiched between pronouncements of the structure's iron monstrosity or its confectionary frailty is a Kantian, universalizing judgment on the nature of bridges and the place of bridges in nature. Southey addresses the role of this technological artifact, this tribute to material and cultural boundaries tastefully negotiated, within its greater environment of the natural world. Landscape "improvement" or what Southey chalks up to mere "novelty" in ongoing attempts at infrastructural innovation takes a back seat to the aesthetic means and not to the commercial, functional, or political end. "[R]ude" or "magnificent," and assumedly whether one is from Spain or England, "there is not any [technology] which unites so well with natural scenery, and so heightens its beauty, as a bridge, if any taste, or rather if no bad taste, be displayed in its structure" (44). I would like to suggest that this remark cannot be reduced to the simple formula of fashion over function. It instead marks the type of logic Bruno Latour associates with the modern subject that he postulates has always been only mythologically extant, but which theorists often argue emerges in the eighteenth century, post Enlightenment.[11] For Latour,

"cultural differences" like those exhibited in Southey's letter in regard to the technology of the bridge "shined so vividly" due to the unquestioned presumption of an overall "unity of nature, [that] provided the common denominator" upon which distinctions between cultures and civilizations rely (6).[12] If a presumed unity of nature undergirds cultural relativism, the prevailing discourses of natural sublimity underpinned the nationalized significances of great infrastructural undertakings.

Yet, while according to this schema the nationalist may praise John Bull's ability to float a bridge proudly above a chasm or hazardous narrows, he cannot escape the fact that it likewise occupies a uniquely fragile position in relation to a uniformly valued natural landscape. This bridge is at once an over-determined display of human ingenuity and a reminder of the both particularized and precarious place of humankind among "nature's works." Such a rhetorical formulation bespeaks the condition of the infrastructural object and its relationship to the romantic imagination and thought. In other words, Southey's text illuminates the relationship not only of monument and peoplehood but also between building and thinking.[13] Bringing together two banks, wobbling and ever-decaying as it stretches from shore to shore, the bridge requires almost constant care and attention; like an "hollow, open, spider work,"—the delicate web-work edifice of the arachnid—for Southey, British bridgework cannot but represent both foundation and ephemerality. Crucially, it straddles multiple realms: the particular, the universal, the natural, and the technologic.

"THE TECHNOLOGICAL THOUGHT," SUBLIME STATES OF SUSPENSION, AND AESTHETICS ON THE BRINK

For architects and engineers working today, a given bridge bespeaks multifarious forms and not any single or monolithic structure. These upraised roads also suggest a continually

functioning network of processes more than an end product. As built configurations, they signal interwoven histories of chance and circumstance, especially for someone thinking in accordance with what engineering historian Tom Peters calls "technological thought" (9). Technological thought, as defined by Peters, champions efficacy over epistemology and challenges totalizing, holistic thought in so far as "the system as a whole is frequently less interesting than [any] one of its constituent parts which make an object work" (9). Contrary to the dominant strands of sublime discourse, according to such a purview a mixture of fortuitous ingredients mold a bridge: a designer's personal style; the skill of laborers involved; both material and theoretical preferences; matters of capital; and questions of national taste. Dreicer exhibits the type of thinking described by Peters and Latour when he states the following: "[h]istorians who invoke the 'intractable nature of materials' and 'the immutable laws of nature' seem to codify the professional mythology. If instead they were to regard materials as mutable in the hands of technologists, they might shift their investigations to *how* and *why* designers choose materials in specific, changing contexts" (156).[14]

Following the thread of the type of such revisionary historical analysis made possible by technological thought, various missing and messier material histories come to light—histories traditionally left out of sublime narratives like those explored above. For example, by abandoning the "evolutionary tale of technological progress and the superiority of the West" wherein inventors "adopted metal for bridges, as they did in ship, clock, doorknob, and airplane construction," one can recover non-nationalized networks of people and material practices tied to wooden bridgework throughout the nineteenth century (155).[15] Wood did not go away just because metals became more readily available. In fact, wood and iron were molded together: "Wooden-beam bridges contained tons of iron, […] wood played a fundamental role in the

development of structural design and industrial methods of construction, and wood continued to be used after metal became the standard" material used by designers (155). Wood latticework, like the kind that resembles the spider's web in the passage from Southey, unremittingly shapes the backbones of Britain's "iron" bridges.[16] Of course, and as Southey's letter shows, these complicating details are not lost but are neglected quite regularly in conventional, or easily nationalized accounts of sublime landmarks like the Sunderland bridge, for example. Espriella takes pains to remind his English readers, that this particular "British" "improvement" was in part an American import.

Although with the Sunderland example I have emphasized the particular ways in which bridges come to harbor national exceptionalism, I now would like to contemplate the ways in which technological thought does more than historical recovery work in relation to uneven and collaborative technological histories and national mythologies. It is also fruitful to consider how technological thought allows one to rethink productively the structure and function of the bridge itself and, more particularly for the romantic period, the modern suspension bridge and advanced canal-works. How might literary histories of these extensive civil artifacts operate within the predominant aesthetic discourses of the period? Whereas the proto-seismological apparatuses of the preceding chapter transfigure earthly deformation - what eighteenth-century philosopher Hildebrand Jacob associates with "death itself [and] the final dissolution of all things" - the discourse of the sublime enjoys a similar predominance in creation and construction narratives.[17] Seismographs engage the sublime through allowing one to measure the threat of destruction and death; bridges engage the sublime through allowing one to transform a perilous boundary into a magnificent gateway.

Part of the discursive complexity of the aesthetic of the sublime in this period is that it recurrently figures a poetics of deformation, *and* it also grounds a topos of structural design and recomposition. Because the language of the sublime frequently figures both natural and artificial landscape, one of the most pivotal contexts for reexamining literary representations of infrastructural arrangements is the fluctuating backdrop of sublime discourse operating through the latter half of the eighteenth century to the romantic age. Shifting aesthetic debates offer a flurry of competing understandings of sublime objects and sublime experience. On the one hand, a withering branch of aesthetic theory attributes sublimity exclusively to natural objects and forces or an overriding divine or natural power behind suddenly animate scenery. On the other, an alternative philosophical contingent claims both great technological artifacts and natural landscapes for this lofty aesthetic. For instance, John Baillie's 1747 notion of sublime figuration recalls divine narratives of rapid creation and destruction: "But it is in the almighty that [the] sublime is completed, who with a nod can shatter to pieces the foundation of a universe, as with a word he called it into being" (93). Aside from the sublime grammars of instant (de)formation, Joseph Priestley's 1777 exposition on this aesthetic compiles a generally representative list consisting of both natural and cultural artifacts that qualify as sublime: "Objects of the first rank in point of magnitude and which chiefly constitute the sublime of description are large rivers, high mountains, and extensive plains; the ocean, the clouds, the heavens, and infinite space; also storms, thunder, lightning, volcanoes, and earthquakes 'in nature;' and palaces, temples, pyramids, cities &tc. in the works of men" (119-120). Priestley among others classifies architectural creations alongside nature's sublime works. The point being, from pseudo-Longinus to Southey, the language of the sublime frames nature in commotion or destruction as well as the initial composition of the earth itself, and those human reconfigurations of the landscape that

translate into sublime technological landmarks and astounding artificial passages. Borrowing from biblical registers alive in the long history of sublime discourse, especially those linked to omnipotent powers of divination and cataclysm, authors took recourse to this aesthetic to describe not only the stunning creations and dissolutions of the our first foundations (clay, earth, mud) but also the more spectacular achievements of human-fashioned architecture and infrastructure.

Two routinely cited textual examples that display the overlap between sublime figuration and structural form come from *Paradise Lost* and Samuel Johnson's *Dictionary.* Eighteenth-century authors continuously draw upon books one and two of Milton's epic, exhibiting both high or sublime literary style and a representative illustration of a sublime object, that being the statuesque ex-archangel. In one frequently referenced scene, Milton depicts the fallen Satan as a towering champion, figuratively aloft and immense;

> He, above the rest,
> In shape and gesture proudly eminent,
> Stood like a tow'r: his form had not yet lost
> All her original brightness, or appear'd
> Less than archangel ruin'd; and th' excess
> Of glory obscur'd: as when the sun, new ris'n,
> Looks through the horizontal misty air
> Shorn of his beams; or from behind the moon,
> In dim eclipse, disastrous twilight sheds
> On half the nations, and with fear of change
> Perplexes monarchs. Dark'n'd so, yet shone

Above them all th' Archangel. (I.589-600)

In addition to Miltonic characterizations of a proud though fallen archangel, Johnson's *A Dictionary of the English Language* (1755) offers a complementary example from Dryden where architectonics assume a role vital to the sublime setting. For his primary definition of the adjective *sublime* he cites the familiar top-down, perspectival hierarchy affiliated with the sublime aesthetic in Miltonic verse. He then draws upon Dryden's lines, revealing the place of the engineered foundation in figurations of sublime status and stature: "SUBLIME. Adj. [sublimis, Latin.] 1. High in place; exalted aloft. 'They fum'd their pens, and soaring th' air sublime / With clang despis'd the ground.' Milton. 'Sublime on these a tow'r of steel is rear'd, / and dire Tisiphone there keeps the ward.' Dryden." (112). Taken structurally, sublimity corresponds with literal and substantial towers and even steel, and therefore confers not only a figurative "elevation" or "loftiness." As James Beattie emphasizes in 1793 when he argues for a fuller understanding of the foundational terms of the sublime such as "*supra* and *limus*," sublimity "denotes literally the circumstance of being raised above the slime, the mud, or the mould, of this world" (180). And as I will discuss shortly, just as Telford's canals, roads, and bridges arbitrate notions of national pride and commercial confidence they also mediate romantic understandings of what it means to experience "the circumstance" of being raised above the "mould of this world." As we will see, romantic representations of suspension bridges and vast canalworks rely upon this quasi-architectural sublime rubric. Depictions of these upraised structures or newly navigable waterways fit nicely into the already existing lexicon of the sublime that had long been home to descriptions of figurative transport and suspension.

Any examination of the various correspondences between material structures, somatic affect, and aesthetic theory would be remiss if it did not also consider recurring tropes linked to

states of transport, suspension, and arrested movement found in the discourse of the sublime.[18] In addition to disagreements over what exactly qualifies as being sublime in the external world, textual deliberations erupted on matters of sublime experience, sensation, and cognition.[19] Ultimately, characterizations of sublime experience move from almost exclusively being a way to transcendence to also becoming associated with modes of transformation and transport. A thorough consideration of the tropes of suspension and transport within this discourse helps to chart the ways in which the notion of a sublime transport of the soul begins to inform representations of spectacular roadways, waterways, and newly raised physical sites of communication and travel. This pattern emerges first out of stock figurations of those affectively moved by arresting sublime experience. For one, an early segment of Alexander Gerard's influential *An Essay on Taste* (1759), "Section II: Of the sense or taste of grandeur and sublimity," presents a sublime symptomology that rivals Burke's *Philosophical Enquiry,* also published that year. Gerard understands the giddy terrors of sublime sensation in terms of arrested internal movement within the beholding subject. He writes, "terror always implies astonishment, occupies the soul, and suspends all its motions" (170). Helen Maria Williams carries this trope to its logical conclusion in her travel literature from the early romantic period wherein a sublime suspension momentarily occupies the otherwise motive soul. Williams, writing in 1798 of an Alpine river crossing, demonstrates how sublime experience becomes synonymous with the sublime arresting moment. Of the stunning torrent that is the alpine Rhine, she exclaims "never, never can I forget the sensations of that moment! when with a sort of annihilation of the self, with every part impression erased from my memory, I felt as if my heart were bursting with emotions too strong to be sustained" (304). Later Williams catalogues a sublimity she attributes to "rugged and stony interstices between the mountain and the road" an

"abrupt precipice and shagged rock" as well as the "long resounding cataract, struggling through the huge masses of granite" (305). Throughout the eighteenth century resurgence of this discourse, the imagination appears as an instrument and the sublime sensation reads as both a means of subjective transport or true sites of physical transport that are experientially ever more transformative than they are transcendent. Thus also at stake is a way of thinking about intersections between material and imaginative conveyance characterized in sublime depictions of infrastructural transport like bridges and canals.

THOMAS TELFORD, COLOSSUS OF ROADS

The chief fault line of the Scottish Highlands, (the Great Glen geological rift), traverses beneath sixty miles of artificial and natural waterways that encompass Telford's legendary Caledonian Canal (1804-1822). Now mainly a tourist attraction, it carries leisure vessels across a northeastern string of Scottish lochs, including Loch Lochy, Loch Oich, and the famed Loch Ness, to a series of engineered locks in the west. Of course, from the earliest days of its projection the canal's purpose was to advance trade, or *communication* as it was then commonly known. With this sentiment in mind, two illustrious engineers, James Watt and John Rennie, surveyed the twenty-three mile landed stretch of the terrain on separate occasions (1773 and 1793 respectively) at the request of government commissions (Rolt 92). Advocates for its development desired to cut the lengthy transport time involved in shipping commodities around the northern coast of Scotland.[20] This northerly course was not only sluggish in its pace but also quite menacing. To underscore the difficulty of this often stormbound passage, local lore maintained that when two ships left Newcastle, with one bound for Bombay and the other for Liverpool, the vessel that traveled through the English Channel and navigated the Cape of Good Hope reached India before the other found its port (95). By the turn of the eighteenth century the

project sparkled with the promise of much needed employment for the idle masons and laborers of the north who threatened to migrate south in search of work. And thanks to Britain's war with France it lately glistened with the potential to protect British merchant vessels from French privateers and could feasibly prove a strategic route for ships of war (95).

In1801the much anticipated Caledonian Canal Commission was born and in1804 construction began. In addition to Telford the supervising team included John Simpson as the head of masonry with John Wilson and John Cargill as his partners and a group of resident engineers (Matthew Davidson, John Telford [no relation], and Alexander Easton) Telford brought with him after a successful turn in building the sixty-eight mile Ellesmere Canal, which connected the rivers Mersey, Dee, and Severn. William Jessop and Telford jointly planned the Caledonian endeavor until 1812, when Telford assumed the role as lead engineer (Skempton 684). At its start, with a one hundred foot width planned for ships to pass, and with the great depths necessary for its twenty-eight massive locks, the undertaking "was then the most advanced of its kind in the world" (684). And true to devised form at one high point of employment in 1811 approximately one-thousand-four-hundred men labored toward its completion (684). Yet due to the inhospitable nature of the Highland wilds, the loss of various supervisors, unforeseen setbacks and high inflation, the venture took not seven years but eighteen (Rolt 104). Upon its much belated opening on 23-24 October 1822, the "inland navigation" commonly known as the Caledonian Canal had cost the Crown nearly one million pounds (Priestley 127);[21] it also seemed a relic from birth, with "naval and commercial craft" now having outgrown the paths created for Telford's locks (Rolt 105). Of course, it also lost its potential to further the military ambitions that spurred it to production with the Napoleonic wars well behind Britain by this time.

Yet in Inverness, Scotland a marble slab stands before the eastern end of the Caledonian Canal and bears the following inscription authored by Robert Southey and restyled in part from his juvenilia[22]:

Where these capacious basins, by the laws
Of the subjacent element, receive
The Ship, descending or upraised, eight times,
From stage to stage with unfelt agency
Translated, fitliest may the marble here
Record the Architect's immortal name.
TELFORD it was by whose presiding mind
The whole great work was planned and perfected;
TELFORD who o'er the vale of Cambrian Dee
Aloft in air at giddy height upborne
Carried his Navigable road: and hung
High o'er Menai's Strait the bending bridge:
Structures of more ambitious enterprise
Than Minstrels in the age of old Romance
To their own Merlin's magic lore ascribed.
Nor hath he for his native land performed
Less in his proud design; and where his piers
Around her coast from many a Fisher's creek
Unsheltered else, and many an ample Port
Repel the assailing storm: and where his Roads

In beautiful and sinuous line far seen
Wind with the vale and win the long ascent
Now o'er the deep morass sustained and now
Across ravine or glen or estuary
Gaining a passage through the wilds subdued. (qtd in Rolt ii)

Regardless of the structure's derailed plans, and as Southey's verse suggests, the combination of this grand Highland canal with the "bending" suspension bridge over the Menai Strait (1819-1826), along with the larger London to Holyhead road project to which the bridge belonged, cemented the fabled status of Telford the engineer. Rivaled in the British popular imagination only by John Rennie (1761-1821), Telford today is known the world over as the father of civil engineering.[23] Fascinatingly, the reception history of Telford's works—mediated both by the poet laureate and the period's growing popular press—again reveal how the common yet reductive reading of the vast infrastructural project as national emblem unfolds in tandem with aestheticized notions of the architect as *the* technological author.[24] Repeatedly in the literature of the latter half of the romantic era, grand undertakings like canals and bridges mark the work of "astonishing" nationalized genius and "stupendous" human prowess precisely because texts figure them as the technological counterparts or rivals to sublime works of nature (Priestley vii, 503). The literary lives of these two trademark structures, along with that of the famed Holyhead road, provide compelling instances of how the language of the sublime dialectically informs the popular reception of remarkable works of both nature and humanity. Such gestures demonstrate that though the romantic sublime quite familiarly allows for reductive characterizations of stunning works of nature, it also routinely masks the complex nature of technological work.

In Southey's dedicatory lines, physically manifest beside the Caledonian Canal ostensibly for perpetuity (Fig. 2), sublime tropes of transport and of suspended or arrested movement converge in various infrastructural representations. These instances of an almost caricatured mutability categorically diminish the long duration of the construction process and multifaceted collaborations celebrated by technological thought. For instance, his depiction of the bridge over the Menai imagines Telford—not the banks of the earth—shouldering the entire load of the bridge and its burdensome construction is prepared for without difficulty by the hands of the "immortal" architect : "TELFORD who o'er the vale of Cambrian Dee / Aloft in air at giddy height upborne / Carried his Navigable road: and hung / High o'er Menai's Strait the bending bridge." Southey decorates Telford's "navigable road" and bridge with the language of the sublime which disproportionately touts the presentist product over enduring process. These civil artifacts are not only simply "hung" "aloft" by the engineer, but they also exist according to the sublime perspectival formula and occupy baffling, "giddy heights." Further enshrining and aggrandizing the works most pointedly highlighted in the poem, Southey compares his celebratory lines and lauded "structures" to those praised in some remote and more romantic, magic time. Southey's poem in fact expressly revives a mythologized historical account of these works, where the Caledonian Canal and the Menai Suspension Bridge are "ambitious enterprise[s]" which surpass those sung by "Minstrels in the age of old Romance" and "[t]o their own Merlin's magic lore ascribed." Blurring the lines of the "natural supernatural" built into the rhetoric of the romantic sublime, Southey invests Telford's modern suspension bridge and canal with like grandeur, but does so upon technological grounds and upon the genius of human authorship (Abrams).[25]

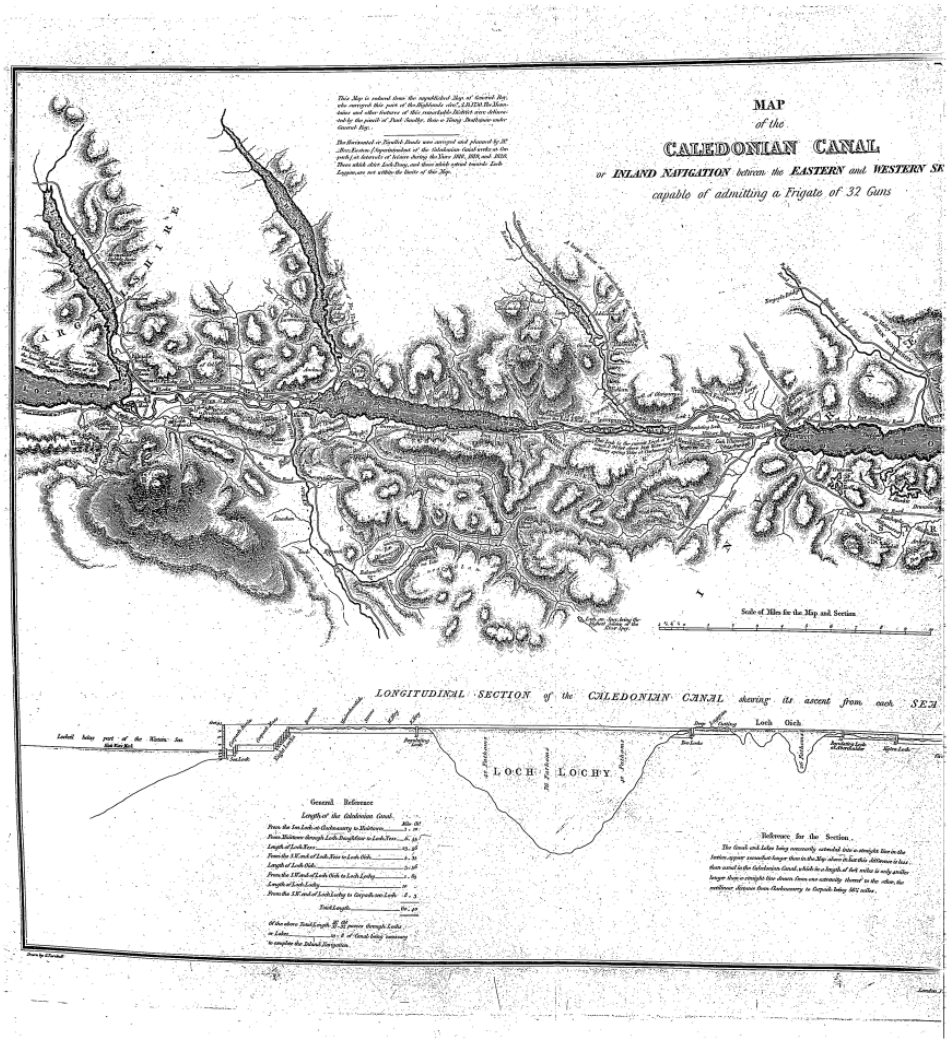


Fig. 2. Aerial view and cross section of the western end of the Caledonian Canal, which showcases Neptune's Staircase on the left. First leaf of foldout for plate 15, from Rickman, The Atlas to the Life of Tomas Telford, 1838.

Against the backdrop of a natural world populated by stunningly sublime landmarks, sublime figurations of the technological artifact arise. Southey's verse treats the most famous of the Caledonian Canal's locks, commonly dubbed "Neptune's Staircase," as "capacious basins" that effortlessly fill or empty as necessary. They embrace buoyant British ships, now and again hovering atop human sculpted pools of water, proceeding from lock to lock. Telford's "great work" of dredged basins advance "The Ship, descending or upraised, eight times, / From stage to stage with *unfelt agency* / Translated" (emphasis added). The poet ends his inscription with the following lines that bespeak a unique suspension and elevation above natural endangerment, where such a fashioned foundation grants humanity an exceptional passage across nature's hurdles both large and small: "Now o'er the deep morass sustained and now / Across ravine or glen or estuary / Gaining a passage through the wilds subdued." In this example, the engineer and his "work" navigate and harness the "laws of the subjacent element" —water—rendering its agency unfelt, acquiescent, and vanquished.

Southey's letters and his *Journal of a Tour in Scotland in 1819* reiterate this point more forcefully, attesting to how literary representations of the sublime in nature emerge in dialogue with figurations of technologies of the sublime such as the Caledonian Canal. In 1819 Southey joined Telford and the engineer's colleague and eventual biographer, John Rickman, and Mrs. Rickman, on a tour through the Highlands.[26] Rickman journeyed with them in a dual capacity, as a Secretary member of the Highland Road Commission overseen by Telford and as dear friend to both of his fellow travelers. The northern expedition afforded Southey the opportunity to accompany two of the most prominent figures at work on Britain's major infrastructural ventures of the period. For six weeks the poet laureate convoyed with them as they traversed the Highlands to inspect an ongoing network of projects, of which the canal was just one of many.[27]

Along the way Telford and Rickman also examined "piers, roads, and bridges constructed by the Commissioners" (Southey, *New Letters* 200). However, in the letter dedicated to the trip entire, "Letter to General William Peachy, Keswick. 10 Oct. 1819," Southey devotes his most lengthy description to the Caledonian enterprise. What follows is an excerpt from that epistle which reveals how the discourse of the sublime mediates Southey's narration of this meeting point between the technological and natural in the Highland landscape:

> The latter work [the Caledonian Canal] I had the satisfaction of seeing in all stages of its progress, for it is compleated [sic] at the two ends, and in the intermediate portion the excavations and other operations are going on. It is a truly *stupendous undertaking*, and perhaps its magnitude can be fully felt by those only who like myself have seen the extent of masonry which will be concealed under water when the whole is finished. The locks are made large enough for a 32 gun frigate, and at the western end there are eight of these in immediate succession. The whole length is 500 yards, the whole ascent 64 feet. When we saw it the *water was falling from one lock to another, in so many smooth cascades, shining and sparkling like polished steel, more resembling a scene in a pantomime than anything real. The workmen have given this place the name the Neptune's Staircase. There is a certain character of sublimity about it which is felt the more because you have at the same time the greatest natural object in Great Britain in sight—Ben Nevis. But the most astonishing sight is the off let for lowering the canal, if the waters should at any time flow into it faster than they carried off by the ordinary outlet.* Three sluices each 4 feet by 3 open into a strong arch about 25 feet high, which is built upon a rock, and needs indeed such a foundation. For when the sluices are opened the incumbent weight forces out the water with such scarcely conceivable

> velocity that the whole part of the canal between the stair-case and the regulating lock, six miles in length may be lowered one foot in one hour. *They were opened for us, and I never saw any thing comparable to the prodigious force with which the water filled the whole arch, and formed in a few minutes a torrent which would have swept away the strongest swimmer into the river Lochy*. (200-201, emphasis added)

Southey transfigures the would-be exclusive sublimity attributed to the highest natural point in Great Britain, Ben Nevis, into a spectacle subordinate to the stupendous undertaking unfolding before his eyes – those rarely glimpsed inner workings of Telford's protean canal. Even the water here takes on the look of "polished steel," with its "natural laws" seemingly made pliable by human hands and well-wrought tools. Furthermore, technologies such as the embedded foundations put in place after hours of steam dredging literally undergird the prodigious force attributed to water in this vignette. In both the opening and closing of this passage, the movement of the canal's locks and the fluidity of the substances they manage typify the sublime character Southey bestows upon the scene.

In a fashion perhaps similar to the stock sublime narratives of loose valleys and quivering foundations in earthquake accounts, Southey finds the "opened"-as-if-ruptured locks and their unleashed torrents to be "astonishing," without comparison, and "scarcely conceivable." To negotiate such "prodigious force" the design calls for a triumvirate of upraised sluices that funnel enough water into the chambers to suspend large seagoing vessels. They make ships sink or raise as they float down and descend upon the eight stair cascade that is Neptune's Staircase. Or, put another way, the letter confirms the observation of engineering historian Henry Petroski, that "[i]n the late 18th and early 19th centuries, before the development of the railroad, canals were a most important component of the infrastructure that fell under the rubric of 'inland

communication'" (para. 9). And it is in this sense that Neptune's Staircase is an early and more pagan cousin to the iron horse - the rail system that would be the iconic mode of conveyance found throughout the pages of Victorian literature. But where the locomotive machine bears a symbolic, hybrid title marrying technological artifact with nature's progeny described as metallic steed, the canal takes on a particularly quixotic nautical valence. Where years earlier Nesfield would have the Sunderland Bridge trump painting and poetry to underscore its sublimity as a vision made manifest, Southey here likens this stunningly animated Neptune-esque landscape to the magical play alive on the pantomime's stage. Not yet Darwinian species *qua* machine as in the iron horse, the Caledonian Canal epitomizes a potentially hazardous though tantalizing material sublime.

This materially- and empirically-interpolated permutation of a romantic sublime in nature draws upon eighteenth-century narrative traditions, which explored hotly debated Enlightenment questions about the transformative and material nature of the external world. Southey's letter channels the empirical wonder ascribed to the external world that I argue in the previous chapter increasingly informs sublime discourse in the latter half of the eighteenth century. His epistle revives a quality associated with the term *sublimate* noted by Samuel Johnson among others that describes confounding, swift mutations of matter as in a chemical experiment where a substance quickly transforms from dense matter to a vapour. In this sense, Southey deploys a stock but often overlooked trope of sublime discourse as his text still "moves" the reader by narrating the commotion of nature .[28]

However, in his fullest treatment of the Highland canal-work, Southey's journals betray how Telford negotiates mud, earth, and stone in order to raise the passage of British frigates. It is also in this work that the poet comes nearest to presenting the engineer's locks as instruments

operating alongside the riverbed as opposed to effortlessly occupying it. An entry dated September 12th countenances both the richness of the sea's floor and the much involved processes necessary to form Telford's locks:

> The masonry at the mouth is about ten feet above high water mark : the locks large enough to admit a 32 gun frigate, the largest which has ever been made. There was a difficulty at the mouth from the nature of the bottom, being a mud so soft that it was pierced with an iron rod to the depth of sixty feet. A foundation was made by compressing it with an enormous weight of earth and stones, which were left during twelve months to settle, after which a pit was sunk in it, and the sea lock therein founded and built. This was a conception of Telford's, and had it not been for this bold thought the design of the canal must have been abandoned. The length of the basin is 800 yards, the breadth 150. Already the Sea has, as it were, adopted the outworks, and clothed the embankment and the walls with sea-weed. (167-168)

Notably, this passage does not deploy the language of the sublime. In contrast to the more reductive characterization of landscape improvement characterized in his poetry and which also appears at times in his prose, here Southey allows for the formidable aspects of this liminal environment between land and sea and for the long duration involved in effecting the engineer's projections. Yet his record for the following day features functioning locks reminiscent of a giant's ingress.

> We went thro' one lock ; and when we were shut in between such tremendous gates on two sides, and such walls of perpendicular masonry on the other two, the situation might have afforded a hint for a Giant's dungeon. Farther up is the Regulation Lock, one

> such is required at the head and another at the end of each lake, according as the water may be higher or lower than in the Canal. (171).

Where Southey chronicles his team's arrested progress down the canal he resorts to customary sublime imagery. When his surrounds – both natural and engineered – deposit him in this unfamiliar and suspended state, he figures the liminal space and the narrow passage he travels via sublime discourse. Another such example exists in the final pages Southey devotes to the canal. Now reporting from the western end of the project, he writes:

> But *nothing is so remarkable along the line of the Canal, as the straight regular opening* which Nature has made for it. The highest level in the whole distance is but 96 feet above the sea, which is less than the height of Oxford Street above the river Thames. When the survey was taken, the same bearing carried the engineer thro' the whole length of the valley. One low hill near Inverness, and another near Fort Augustus are the only interruptions to the sight in looking thro' this great glen. Such an *avenue* between the mountains, extending from sea to sea, is in itself a noble sight, and a grand object for contemplation — it became still more so when regarded with a view to the use which is now to be made of it; (188, emphasis added).

Here the poet again comments upon the interplay between naturally and technologically sublime elements in the landscape that render both topographies all the more remarkable, granting especial significance to the a waterway fashioned by humanity and nature. If the tremendous heights of Ben Nevis underpin the extraordinary reception of Neptune's Staircase, the wondrously linear natural passageway reinforces the allure of its newly repurposed incarnation as avenue among the mountains. Southey transfigures the line of a preexisting geological fault

into the "line of the Canal," tracing sublime examples of arrested mobility, confounding moticity, and transformative movements along the way.

"A SPIDER'S WEB IN THE AIR": SOUTHEY'S TELFORD AND THE BRIDGE OVER THE MENAI STRAIT

For Telford, the Menai Bridge seemed an inevitability since the Act of Union in 1801, since he wanted to provide in the physical world a bond that had been forged in the legislative and political realm. The structure was to be the jewel of the Holyhead road project, and according to periodical accounts this "most stupendous piece of work" would not only extended across the turbulent Menai Strait but also reduce London to Dublin travel time by nine hours (*Mirror* 381). After completing other infrastructural works on his docket, he began seriously planning for this one in 1810. Progress halted in 1811 "when," as he put it, "circumstances occurred which led to the postponement of my … plans" (218). The nature of these "circumstances" is open to interpretation or supposition. He would however, return to his plans post-Waterloo via a coupling of parliamentary Acts in 1818 and 1819 that appropriated the funds and vessels needed to bring in building materials and to pay for labor costs. Thus construction of the Menai Suspension Bridge began with blasting in 1819, shortly after Telford would befriend Poet Laureate Robert Southey. Three months later, the "first stone of this wonderful work was laid (without the least appearance of pageantry, and it may be added, with the utmost privacy)" (Pring 571).[29] In fact various other parts of the project went relatively unnoticed. Many of the structure's quite involved processes prompted little fanfare. These tasks included forging the iron frames and suspension chains, laying the stone-work necessary for the two main piers (Fig. 3), and the quarrying for and construction of the seven grey marble arches that support the framework of the bridge and its roadway.

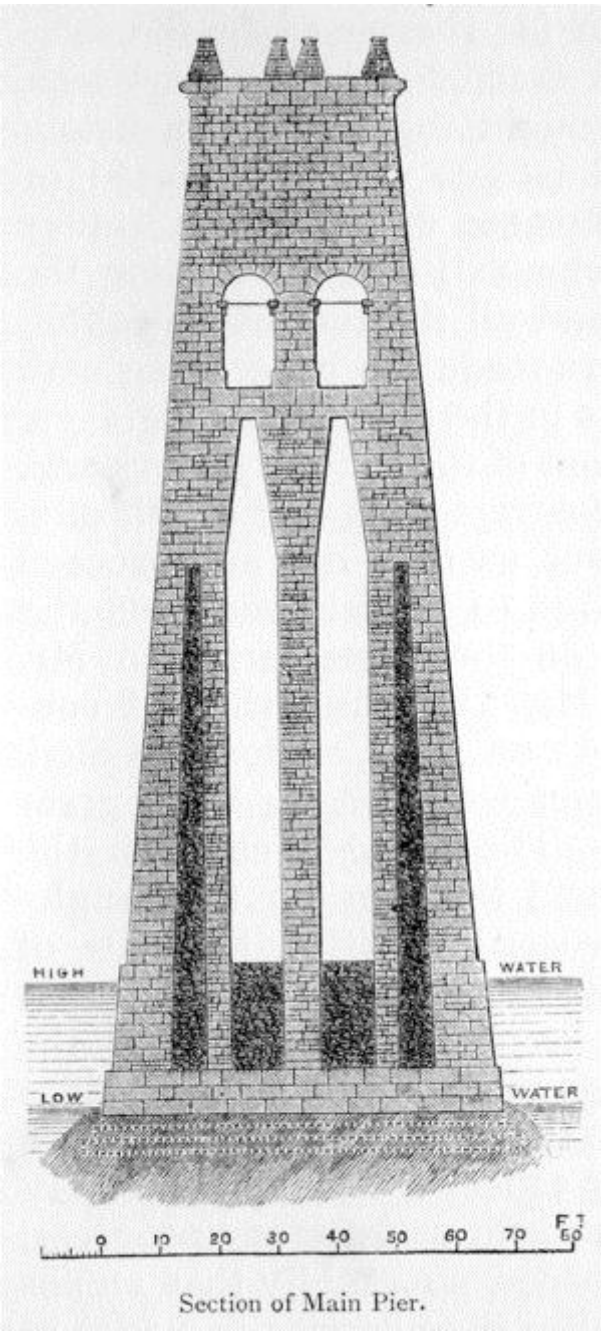


Fig. 3. Section of one of the two main piers of the Menai Suspension Bridge (Smiles 270).

In contrast to the hybrid natural-cultural entity praised in Southey's various accounts of the Caledonian Canal, throughout the nineteenth century authors deemed the bridge of the Menai Strait to be so wholly stunning that it no longer appeared to belong to either man or nature. Britons understood its iron chains and suspended passage as the stuff of lore; it was read as an artifact beyond nature and far above mere mortals (Nichol 207). Although it was again and again described in language and images, as the archive shows, its first viewers did stumble over themselves as they cleared room in their minds and lexicons to reckon with what some called the "eighth wonder of the world" (Pring 581). Telford's famed work is of course at once human- and earthborn but as scores of laborers helped it toward completion, print representations of the artifact undermine the bridge's association with each; much more than the feted Neptune's Staircase, in the popular literature of its day, the Menai suspension bridge becomes known as a thing inordinately sublime, which is to say its status as an iconographic civil artifact cannot but efface the natural and human work necessary for its composition.

The widely circulated compendium *The Mirror* displays the structure's sublimely-inflected status as a bridge beyond words, one that confounds representation and that "sets drawing at defiance":

> …nothing but a sight of it can convey anything like an idea of its magnificence to the mind. Every representation of it, as a drawing, cannot fail to be paltry. It sets drawing at defiance! The country round is bleak in the extreme, nor are there any features in the landscape to render it at all picturesque. It is nothing but the bridge itself; but that is everything! It is a creation in the clouds, and appears to be above the power of mortals either to erect or control; it almost forms part of the creation! (381)

This particular excerpt was published almost immediately following the completion of Telford's project (1826); and it bears mention that this passage went to press in *The Mirror*, a volume trumpeting itself as an compendium of "ORIGINAL ESSAYS; historical narratives; biographical memoirs; sketches of society; topographical descriptions; novels and tales; anecdotes; SELECT EXTRACTS from NEW AND EXPENSIVE WORKS; poetry, original and selected; THE SPIRIT OF THE PUBLIC JOURNALS; DISCOVERIES IN THE ARTS AND SCIENCES; USEFUL DOMESTIC HINTS;" (i). Thus, its treatment of the Menai Bridge would not be one to downplay spectacle, nor likely depart from popularly-held notions linked to an Herculean endeavor such as the construction of the largest suspension bridge the world had yet to see.

In such popular accounts, the engineer's masterpiece appears to be both independent and autopoietic. It is nothing but the bridge itself, and yet it is everything. Such narratives liken the vast civil artifact to a quasi-supernatural totality. According to the periodical, it appears as if it had been fashioned in mid-air and further seems a creation of the clouds. Dissolving the bridge's well-documented origins, *The Mirror* pointedly does not evoke the work of those who built it, nor does it bring forth even Telford's part in scheming its general outline. Given the sensationalizing bent of many of this publication's pieces, these words quite effectively exhibit what is most apt to pique the minds of its readers: the *je ne sais quoi* of the bridge that suggests that it has a life of its own, separate from the hands of its creators and unaffiliated with those substances and tools with which it was created. Evoking one of the more recurrent and bemusing topoi of sublime discourse, the publication confers a sublime feel to this materially mystifying landscape by comparing it to the terrain of giants. The author writes:

> At the first view that is obtained of Menai Bridge, on the road from Bangor, *one pier* only is visible; it then looks as if a giant had passed by, and carelessly dropped a silken

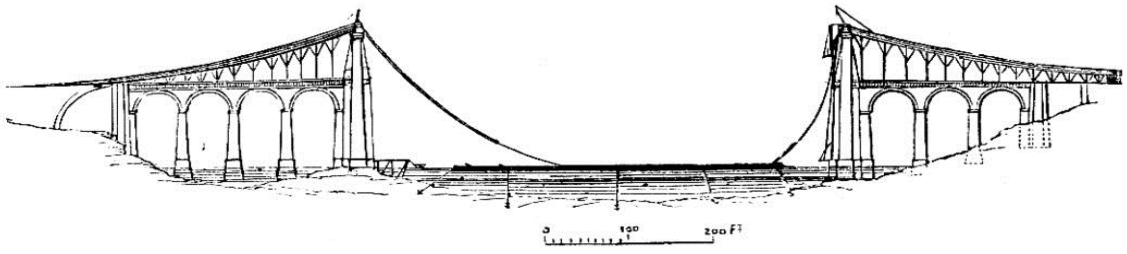
> thread over a rocky fragment; but when you closely examine it, its massy abutments and ponderous chains, the globe itself appears too weak and frail to support the burden! (381 original emphasis).

With this description it appears to be a by-product effortlessly established—a thing of waste more than craft insofar as a giant might have relaxed his hand, just happening to discard a gossamer thread. Next, the narrative effectually zooms in on the bridge; it now looks to be massive, almost extraterrestrial, with "the globe itself appear(ing) too weak and frail to support the burden." These oppositional analogues (bridge to silken thread and technological work to supernatural weight) hyperbolize the structure's apparent density. Moreover, these seemingly polar accounts of the infrastructural work qua sublime landscape each put pressure on monolithic or conventional understandings of earthly foundations and formations. The fantastic characterization of the span of reconfigured earth that is the suspended bridge implicitly entertains multiple ways of imagining the earth underfoot as well as suspended overhead.

Wherever this account describes a bridge able to materialize at will, or that exists supernaturally via the hand of a giant,—as some unearthly mass—it takes a page from the trope of the sublime at its most material and inherited from its now often forgotten verb form *sublimate*. S*ublimate*'s material majesty flourishes throughout poetic and popular narratives dedicated to Telford's technological progeny. But there is an additional fixture of the language of the natural sublime that is of some salience here—that of flouting established or imagined laws of nature according to the way that Latour earlier describes. In closing, the piece in *The Mirror* again rehearses the ways in which the bridge defies representation and recounts Telford's use of chain and rod to counter the more lawless seeming turns of "natural law:"

> In this part of the country, the features of nature are all great; it seems as if nature was sporting with mankind, and showing her superiority. All the erections of man are small and insignificant, whilst nature luxuriates in her creations, without law or bounds. But Telford has almost entered into a competition with nature.—What, though mountain is piled on mountain;—what, though sea roars in unrestrained fury at their bases; what, though the mountains and the sea are exposed to all the thundering of the lawless winds;—yet has Telford set them at defiance! He has chained mountain to mountain, by a bridge hung in the clouds. Though the storms roll above it, and the sea roars beneath it, it stands firm in unmoved magnificence, defying their united powers, and *there* it appears likely to remain, until that time when 'the foundations of the earth shall be shaken!' (381 original emphasis)

While this narrative rehearses the story of the biblical end of days as well as the well-trod and quite reductive story of that pits humanity against the terraqueous globe, it does so in a manner predicated upon sublime states of matter mobilized and transformed or matter successfully vested of its potentially threatening moticity. This story, like the visual associations between the truly earthen structure and something extraterrestrial, does not draw currency from truth, and even less upon fact. Just as the bridge does not hang in the clouds, it has never stood "firm." Even on the work's opening day, "[t]he wind, due south, blew fresh throughout the day, which caused a trifling, though scarcely perceptible, undulatory motion about the centre of the bridge" (Pring 580). More to the point, however, the author's appeal to fixity and call for the mortal creation of a perfectly firm foundation amounts to no more than wishful thinking. This text reveals a powerful human desire to augment the landscape into the shape of a more predictable



Cut of Bridge, showing state of Suspension Chain.

Fig. 2. Suspension chain connected to bridge and on floating barge necessary for construction (Smiles 274).

external world. But even here for that to succeed it amounts to only "unmoved magnificence."

Authors great and unknown heralded the unprecedented suspension bridge. The structure itself and the earth that was engineered and mined to make it, like the environment that it altered, garnered little regard, but a bridge suspended was in fact compared to "build[ing] castles in the air" (569). [30] Southey dubbed Telford "Pontifex Maximus" for his architectural brilliance especially in regard to bridgework and as mentioned earlier compared the technological artifact to a feat of magicianship or to the consequence of some Merlin spell. William Roscoe also pens his encounter with this marvel of engineering and multiform labors writes in similar regard: "in the clear light of an autumnal sunset,…—the bright sun, the rocky picturesque foreground, villas, spires, and towers here and there enlivening the prospect—the Menai Bridge appeared more like the work of some great magician than the mere result of man's skill and industry" (Roscoe qtd in Smiles 276). With this rhetorical gesture, nature and technology operate in tandem to render the sublime scene. Also couched in terms of the mysterious spectacle, the detailed account offered by Dr. Pring, which Telford published as one of the appendices to his memoir, describes that moment when the "the last suspension chain of this truly marvelous and sublime work was taken over, which completed the entire line of suspension" as a "spectacle so novel and interesting [that it] had drawn together persons of all ranks, from every part of the United Kingdom, in addition to those resident within thirty miles of the spot" (576). When Barry Allen suggests that a "bridge may be" just as suitable an example "of knowledge as any true scientific proposition or theory," he "define[s] the quality that marks an artifact as a work of knowledge as superlative artifactual performance" (6). Following this logic the Menai bridge is known and celebrated by and large with the culminating and performative act of placing the final bolt in the first suspension chain and then successfully

fixing the final chain itself; similar to a debutant ball, the artifact is celebrated when it can be used, and is put on display when it is deemed close to being "finished" or ready for social use—not as a thing of process.

Two points in the bridge's arduous development did elicit much pomp and circumstance: the day the first suspension chain "was thrown over the straits of Menai," and the fateful day when the workers fixed the last bolt for the final suspension chain. Finishing what was begun in May of 1819, with an explosive first strike by "removing the inequalities of the rock called Ynys-y-moch," the "Opening of the BRIDGE" commenced on January 30, 1826—a Monday (Pring 570, 579). The gala event produced to honor the public opening of "this stupendous, pre-eminent and singularly unique structure" married infrastructural pursuit with technologic spectacle and felicitation (579).[31] The symbolically-potent entity selected to first journey above the Menai Strait was the Royal London and Holyhead mail-coach set for Dublin. Included in its cargo was the resident engineer, the mail-coach superintendent, the director of the iron and timber work done on the bridge, the sons of the contractor for the masonry, and "as many more as could find room to sit or stand, or even procure a place to hang by" (579). After the mail-coach successfully crossed the toll booth, passing the "glare of lamps" lighted along the structure, a procession of notables followed: first ,the private carriage of one of the "Commissioners, drawn by beautiful greys;" Telford's own vehicle, carrying himself and Sir Henry Parnell, Esq.; the "first stage-coach," belonging to the "Pilot, Bangor and Carnarvon" company; the first "London stage-coach," the Oxonian; the carriage of Sir Erskine, "late proprietor of the ferry, drawn by four elegant greys, decorated with ribbons, followed by numerous gentlemen's carriages, landaus, gigs, cars, poney-sociables, &c. &c., upwards of one hundred and thirty in number, and horsemen innumerable" (579). At Telford's request the

expected, “regular, splendid procession” was forgone, but nevertheless the spirits of the thousands in attendance remained high because “numerous pedestrians, among whom were several persons of the first distinction, from both counties, continued parading along the beautiful platform roadway for several hours” (579). Then there were the national flags, the cannons on either side of the bridge, “which continued firing at intervals the whole day,” and the musicians that came together to mark the opening of the suspension bridge by playing the National Anthem (580, Smiles 277). Pring closes his review of the day’s events with the following announcement: “When we reflect on the varied appearance of the numerous persons and objects present, the elegance of the equipages, the bold and sublime scenery of the country adjacent, and though not least, of the general public utility of this grand national work, it must be allowed that the *cowp-d’ail*[32] was most enchanting;” (580). Utility meets refined elegance and sublimity in this “enchanting” view provided by the spectator, the outsider, and exists in contradistinction to Telford’s engagement with opening the bridge. The celebration itself merged the purposive with the superfluous. With the national mail-coach running out in front, the useful aspects of Telford’s creation ring first. Private carriages proceed secondly, hailing its non-commercial use-value within the UK. The presence of the band and the civilian deployment of military fire help to celebrate the opening of the “unrivalled structure” and reinforce the unique aura of the suspended arch (580). They also decorated the bridge with their nationalized presence, and others do so in kind with their confidence, with “at least five thousand persons” and “horsemen innumerable” traversing the newly laid surface erected far above the water (579).

Contravening the conventional sublime narratives that take the bridge for the stuff of fanfare and giant’s play, Telford’s writings evoke a thread of sublime discourse reminiscent of the Keatsian material sublime that interweaves sought after securities with a nod to materiality’s

more insecure and volatile features. In Telford's thoughts on the very bridge he helped to suspend above the Menai Strait, he writes of a thing in process, and of fear—he writes in the mode of technological thought and not in the epiphanic register of sublime discourse that privileges the heightened or arrested moment or the everlasting. The engineer here feels particularly anxious with regard to his uniquely designed suspension chain since "[i]ts failure had been predicted; and, … [the work entire] had been freely spoken of as a 'castle in the air'" (275 Smiles). Also, remembering weak pillars of the past, in his memoir he expresses concern over right materials and labor protocols. With "the example of the pillars of St. Chad's church (Shrewsbury), [and] when that edifice fell in the year 1788" in mind, he explains that "one of the most important improvements which (he has) been able to introduce into masonry consists in the preference of cross walls to rubble, in the structure of the pier, or any other edifice requiring strength" (221). Adding that rubble fill used in buildings like St. Chad's church were no better than "a heap of rubbish confined by side-walls," he reveals the fallen church "was ever fixed in my memory" (221). Hence, he celebrates not the ability to move from point A to point B, but facets of the bridge itself that buttress, support, or ground the structure and that do not afford any sort of vainglorious promenade. This point falls in line with his demurring on the suggestion that he allow an even bigger show than what occurred on that Monday. In his autobiographical narrative he delights chiefly in putting fear at bay, and relishes recounting moments like those of the year 1823 when the first iron-plate in the main-chain tunnel was fixed on the 31st of March, the mode of fixing the main-chains in the rock being an important operation, and worthy inspection by every visitor of the bridge, who feels no dread at entering by a side-drain (on the Anglesea side) into a cavern in the rock, containing gigantic iron-work, and productive of

feelings of superhuman agency. No precautions were spared to render every part perfectly true, and therefore secure;" (224-5).

The engineer is invested in the tale of sublime romance—the epic quest, while the greater populace rides the tide of a proliferating sublime discourse grounded in material mystery and not far off from the mystique bestowed upon transubstantiation. Telford looks to the joints, cross-walls, the interiors of caves and tunnels, while his supporters revel in the patina of technology, mankind, and landscape offered in the view from above and atop the bridge. Telford's account of the opening day of his bridge spans just two concise paragraphs, while that of what he includes in the appendix written by Pring (which I have discussed at length above) flows over more than two pages of text. Below is the architect's take on opening day:

> Upon my report to the state of the works, the Commissioners determined that the passage over the bridge should be opened on the 30th of January 1826. The weather, about that time, proved very stormy; and previously to the opening day, Sir Henry Parnell and myself examined the entire structure, and found all necessary arrangements made. On Monday morning, at half-past one o'clock, the London mail-coach, occupied by W.A. Provis, W. Hazledine, the two junior Wilsons, Thomas Rhodes and the mail-coach superintendent, was the first that passed across the estuary, at the level of 100 feet above that tideway which heretofore, had presented a decisive obstruction to travelers. The Chester mail passed at half-past three o'clock, and Sir Henry Parnell, with myself, drove repeatedly over; about nine o'clock, and during the whole day, was an uninterrupted succession of passing carriages, horsemen and pedestrians, who had assembled to enjoy the novelty; and in the evening all the workmen were regaled with a joyous festival. Thus was successfully accomplished a complicated and useful bridge of

> unexampled dimensions, which has now, for the last eight years, converted what was formerly a disagreeable and sometimes dangerous part of the journey to and from Ireland, into an object of national curiously and delight." (228-9)

Workers enter into Telford's account, something no other document consulted here does as they record the day's events. However, what his account fails to note (but is mentioned in Pring's survey within his appendix) are the four deaths incurred by men laboring on this project. While he might valorize process more than his bridge's viewing audience, it is interesting to find that he does not record the deaths of those who passed away while under his employ. Pring's version recounts not only a national achievement in the creation of a technological artifact that drew an "inconceivable number of foreigners, of the highest distinction and celebrity…which seem(ed) to have excited the surprise and attention of the most scientific men in every quarter of the globe" (580). It also commemorates the deaths of J. Read, David Roberts, Robert Roberts, and John Key, without failing to note the representative nature of the constitutively "singular coincidence" affiliated with the national origin of each of the departed, being Scotch, Irish, Welsh, and English, respectively. Here, the attention bestowed upon the deceased, like that of the emphasis put upon the final bolt, or final chain, points less to human frailty in the face of natural and technological obstacles as it adds a nationalized dimension to both how the bridge is viewed and how it is written and read. Telford, while sometimes taking recourse to the language of the sublime, never forgets the material; he in essence enacts a Keatsian material sublime while others adopt a more conventional sublime that more broadly masks the difficulties of work, cost, loss, and threat.

Chapter 4

Subliming the (In)human: Kleist, Hazlitt, Melville and The Mechanical Performer

> Romantic performance embodied a paradox, if not [Diderot's] *Paradoxe*. As poets and theorists stressed the primacy of organism and spontaneous vitality in artistic creation, theatrical practice entered an age of unprecedented worship of technical virtuosity. By their very nature, virtuosic displays tend toward the premeditated and the mechanical.
>
> —Joseph R. Roach, *The Player's Passion: Studies in the Science of Acting* (1985).

Whereas the seismograph and the bridge mediate sublime nature with their respective movements and suspensions, the trope of kinesthetic mastery instills the flesh and blood of the Romantic performing body with a motorized mystique. It is as if the ideal of human bodily control is best understood in mechanized terms. In my previous chapters, I identified how Romantic conceptions of nature emerge in conversation with technologies of the sublime. In what follows, I begin to examine how a technologically-oriented material sublime reconfigures the human. Reading Herman Melville's *Moby Dick* (1851) alongside William Hazlitt's "The Indian Jugglers" (1821-22) and Heinrich von Kleist's "On the Theater of Marionettes" (1810), I progress in reverse chronological order to show first how authors like Melville and Hazlitt deploy an inherited discourse of the sublime to make sense of repetitive employments that are also spectacular physical achievements. These movements enact the type of "virtuosic displays" investigated by Joseph R. Roach in his landmark work *The Player's Passion.* Roach suggests that such deft manoeuvers "tend toward the premeditated and the mechanical" "[b]y their very nature" (165). Notably, Melville and Hazlitt each enlist the figure of the East Indian performer to signal an almost inhuman adroitness, and in both cases onlookers find the most precise and practiced labors of the body to be not simply amazing, but seemingly without effort, without

work, god-like. By linking the representation and importantly—the viewing audience's reception—of jugglers in Melville and Hazlitt to that of the dancer in Kleist, I next trace a genealogy of the language of the sublime as it is deployed in the Romantic period to signal kinesthetic mastery. More specifically, I consider where this lofty discourse ascribes qualities both miraculous *and* mechanical to the figure of the human virtuoso, particularly from the point of view of the audience. And if the seismograph arose to chart man's fears of a mobile earth and if the suspension bridge seemed to conquer nature even as it revealed the fragility—the almost gossamer nature—of even man's mightiest structures, this discourse of the mechanical virtuoso reminds us that most of us are not machine-like gods of genius but mortal beings of mere talent.

To acknowledge the attention Romantic authors devote to such instances of kinesthetic mastery and their representations of human bodies as sublime-in-themselves is to recognize a narrative that rivals the late Kantian, formal idealist notion of an immaterially transcendent sublime. While Kant's conceptual formula praises the human mind over the human body as the apogee of all earthly creation, this chapter demonstrates that the sublime lies not only in the imagination but also resides in the gestures and movements of a machine-esque body. The rhetorical "subliming" of these highly trained subjects yields a two-fold significance. First, the work of the practiced hand enthralls audiences by demonstrating unparalleled efficiency and grace, which authors recurrently describe in terms of extra-human material prowess and control. And where the earthquake channels the arresting morphologies born by the term *sublimate*, where solid ground suddenly and inexplicably transforms into an open chasm, the virtuoso is said to affect change with often no more than a thought, just one touch, or sheer mechanistic thoughtlessness. Within this schema, rigorous thought becomes extricated from obvious efforts; the sublime trope of the exquisite performing body as automated instrument degrades

achievements that never enjoy the appearance of such grace and ease. Here, too, the rare sight of extraordinary agility or virtuosity translates into a fantastic albeit brief reprieve for onlookers, a palliative spectacle for viewers whose own labors seem Sisyphean next to the miraculous or mechanical gestures of sublimity. Though, of course, we return from this reprieve to the realities of mortality as the technological sublime again reminds us not of our transcendence but our materiality.

A WHITE WHALE AND HUMANITY'S MOST MOVING PARTS

In three memorable passages from *Moby Dick; or, the Whale* (1851) Herman Melville alludes to a nineteenth-century icon of physical dexterity: "Indian jugglers" (229). The novelist first mentions the group while introducing the thin but deadly rope (or whaling line) used by harpooners.

> Thus the whale-line folds the whole boat in its complicated coils, twisting and writhing around it in almost every direction. All the oarsmen are involved in its perilous contortions; so that to the timid eye of the landsman, they seem as Indian jugglers, with the deadliest snakes sportively festooning their limbs. Nor can any son of mortal woman, for the first time, seat himself amid those hempen intricacies, and while straining his utmost at the oar, bethink him that at any unknown instant the harpoon may be darted, and all these horrible contortions be put in play like ringed lightenings; he cannot be thus circumstanced without a shudder…Yet habit—strange thing! what cannot habit accomplish? (299)

The ship stages a magnificent workspace replete with such tropological fixtures of sublime discourse as the startling phenomenon of lightening, the observer's shudder, and a pervading sense of instant endangerment. To the unaccustomed "eye of the landsman," to the awe-struck

the spectator, the scene becomes akin to the arresting performance of the Indian juggler; the astounding display appears like one meted out by the accomplished hand of perfected habit.

Later, during a description of "pitchpoling"—the act of spearing a whale while engaged in its pursuit—Melville again discusses the work of the whaler with reference to the more than human qualities ascribed to London's famed Indian performers. "Of all the wondrous devices and dexterities," he writes "the sleights of hand and countless subtleties, to which the veteran whaleman is so often forced, none exceed that fine manœuvre with the lance called pitchpoling" (289). Poised for action, its handler "[re]minds you somewhat of a juggler, balancing a long staff on his chin. Next moment with a rapid, nameless impulse, in a superb lofty arch the bright steel spans the foaming distance, and quivers in the life spot of the whale" (289). Melville metaphorizes the figure of the juggler into an emblem for the automatic "nameless impulse[s]" and extraordinary precisions executed by certain shipmen. Then in his third mention of the familiarly nimble Eastern troop, he extends such a comparison also to the more remarkable movements exacted by the whale, specifically the "measureless crush and crash of the sperm whale's ponderous flukes, which in repeated instances have one after the other hurled entire boats with all their oars and crews into the air, very much as an Indian juggler tosses his balls" (296). Directly following these lines *Moby Dick's* legendary narrator, Ishmael, reflects upon the generally sublime and unaccountable features of these movements:

> The more I consider this mighty tail, the more do I deplore my inability to express it. At times there are gestures in it, which, though they would well grace the hand of man, remain wholly inexplicable. In an extensive herd, so remarkable, occasionally, are these mythic gestures, that I have heard hunters who have declared them akin to Free-Mason signs and symbols; that the whale, indeed, by these methods intelligently conversed

> with the world. Nor are there wanting other motions of the whale in his general body, full of strangeness, and unaccountable to his most experienced assailant. Dissect him how I may, then I but go skin deep; I know him not, and never will. (296)

In their unknown and unknowable yet communicative and "mythic gestures," Melville's whales and whalemen resemble a spellbinding team of Indian jugglers, which, as I show in the sections that follow, is a group long associated with an exceptional, mechanical, and yet sublime physical exactitude.

HAZLITT AND THE SUBLIME MEASURE OF MECHANIZED MAN

Examining everything from emergent discourses of race in the eighteenth century and British colonialism to English theatre and even modernity in general, recent scholarship on Hazlitt's "The Indian Jugglers" (1821-22) most often identifies the essay as a blatantly Orientalist text.[1] However, Hazlitt uses the spectacle generated by the jugglers from the subcontinent as a discursive springboard for a conversation that goes well beyond the beaten path of the West subordinating the East. Following his discussion of their routine is a more lengthy assessment of other players, artists, and entertainers who contribute to a broad culture of performance and exhibition. Composing an emotively-charged reception *history* and reception *hierarchy* of the products of various English artists such as Sarah Siddons or Sir Joshua Reynolds and the poets Wordsworth and Coleridge, he also includes a grief-addled survey of his own print journalism and expository prose. To round out this already variegated sample, Hazlitt terminates the piece by remembering his favorite athlete, the then renowned player of fives (or hand-tennis), the Irishman John Cavanagh. In the end, the essayist ranges to include both 'high' and 'low' traders in aesthetic experience, highlighting the cultural significance of each.

As the aforementioned Orientalist readings suggest, Hazlitt does characterize the exhibition of the Indian jugglers to be both sublimely and mystifyingly entertaining. A majority of these critical accounts make much out of the comparison Hazlitt creates between the jugglers' display of physical mastery and some sort of contrivance, or mechanically manifested *sleight of hand*: what these accounts ignore is that the mysteries of the East, in a sense, give way to the monotony of practice and technique. Indeed, by yoking the discourses of technological reproduction and routinized mechanization to the jugglers, Hazlitt paints these showmen in a dehumanized light, as Melville would also do a quarter of a century after him.[2] However, I contend that this narratological configuration does not spring solely from racial or national insecurity. If Hazlitt's tiers of human excellence are judged comparatively, with a side-by-side analysis of the reception Hazlitt details of both the very Western Cavanagh and the "Oriental" jugglers, his essay points to a larger historical legacy.

When considered for its depiction of the reception history of the jugglers, the Irish sportsman, Reynolds and Wordsworth, the piece stands circumscribed not so much by the discourses of race, class, or nation as by the discourses of aesthetics, art, and the artist. Examining the three main subjects Hazlitt includes in this study—artist, athlete, and street performer—I suggest that the dehumanization alive in Hazlitt's review of the Indian jugglers also exists in his glorification of the celebrated English artist, Sir Joshua Reynolds, and the heralded Irish athlete, John Cavanagh. The mechanically perfect juggler and the great genius seem to occupy opposite ends of a continuum, but they share a position that lies beyond—whether "above" or "below"—ordinary humanity. To be dehumanized could mean to reduce a subject to an object status, but it can also mean to elevate it above mortal man; both the god and the machine are dehumanized, not human. As with Melville's honored workers and mystified

whales, if there is dehumanization here, it is because these figures define the extraordinary, the extra-human. However, Hazlitt's jugglers are not metaphorical. His prose reveals how larger theatre-going audiences might have registered such acrobatics while their renown was still newly minted.

Hazlitt's musings in "The Indian Jugglers" essay also expose how London urbanites depend upon their most mystified physical performers to define their own place within the society of spectacle. The wonderment Hazlitt discloses bespeaks the delicate position occupied by a society "that by education and habit was addicted to spectacle"; such awe arises out of a fragility running throughout "an insecure aristocracy" and amidst growing middle class audiences consisting of neither great, genius performers nor 'mechanized' masters of any sport (Gaull 328). That is, those who stood agape at displays of technical virtuosity had developed a habit of their own, taking solace in the exhibition of physical mastery. As I discuss later, in greater detail and as Hazlitt's article itself demonstrates, the Romantic era's evolving print culture plays a pivotal role this process, which extends this phenomenon beyond the city center. Hazlitt lived within the kind of media-saturated culture described by Guy Debord in *Society of the Spectacle*. His accounts of Cavanagh and the Indian performers uncover some of the ways that consumers have long made art objects out of athletes and showmen, often to great social, and at times moral, benefit. He demonstrates how such entertainers appear to operate within a seemingly transcendent or infinite realm, momentarily escaping reality as Debord might have us consider it. Yet it is in these very moments that relations embedded within celebrity culture and popular spectatorship produce bonds among men which cannot be reduced to mere alienation. Taking in the work of the physical performer, poignantly realized in the moment of its execution, so ephemeral by nature, bystanders mitigate their own mortality and arduous labors, even as the

entertainer's excellence renders them inferior.[3] Their sublimity helps to define the bounds of the rest of humanity.

Hazlitt's essay presents a debate on the value of human labor and human life measured against the sublime. While in the previous chapters this discourse frames nature in commotion, unprecedented material transformations, and infrastructural innovation, here it informs the reception of both the great artist and the deft movements of the sportsman. An analysis of Hazlitt's luminaries sheds light on the various ways an observer might process the often befuddling and amazing talents of others. As a rule, such creative energies are put in terms of two respectively waxing and waning philosophical discourses. Namely they manifest in terms of increasingly popular versions of vital organicism and on the one hand rely on the trope of the natural or organic genius. On the other, Hazlitt describes the extraordinary player in a manner that still clings to Cartesian strands of mechanist thought, which casts the human form as a physical instrument reminiscent of the deist's corporealized celestial machines. Yet in gesturing toward either philosophical model or the occasional mixture of each, Hazlitt draws upon sublime discourse to parse what Roach calls the "fugitive nature" of the "creative process" and the "performance event" (Roach 16). Thus it may be of little surprise to find the great artist, Reynolds, assigned to the realm of the natural supernatural.

The organic genius, Reynolds, looms largest amidst a wider hierarchy of human performance where the virtuosic sportsman and acclaimed jugglers follow close in tow. For Hazlitt, an exquisite painter such as Reynolds accesses the more vital, supple, and plastic facets of the infinite, the boundless, and the unending. He molds "ever-shifting forms of an eternal principle" made visible only for a second and made attainable only through the painter's art (82). "[W]here fine art begins, and where mechanical skill ends," Hazlitt states, is where the artist is

capable of imbuing the work of art with some "soft suffusion of [his] soul, the speechless breathing eloquence, […] that which is seen for but a moment, but dwells in the heart always" and which "must be taught by nature and genius, not by rules or study" (82). He reminds the wider populace that in general no man or woman can command entry into this realm or usher it forth by obeying the "mechanical" modicums of order, training, or work—it is present essentially and naturally only in the genius, and according to him, beyond ordinary human reach. Weighing Reynolds's rarity, he says the "odds are a million to one" that you could replicate the painter (82). In regard to lesser artists: "You may make indeed as many H[ayman]s and H[ighmore]s, as you put into that sort of machine, but not one Reynolds amongst them all [would result] … unless you could make the man over again" (82). Hazlitt mentions the category of the technological in reference to Reynolds only to emphasize the artist's distance from performers befitting an account of the human instrument as offered in Diderot's well-known work *Paradoxe sur le comédien* (1775). Here the aesthetic object Hazlitt considers is not so much the work of art or the paintings Reynolds creates, but instead it is an especially cultivated but organic specimen—a man, the artist himself.

Most of all, in this passage Hazlitt suggests that Reynolds' special advantage arises from his ability to craft repeatedly works of art that seem effortless. The art of Reynolds is beyond the grasp not only of those embarrassingly human artists such as Hayman and Highmore, who cannot but expose the labor in their images, but also of the poets, Wordsworth and Coleridge, whose work the essayist associates with labored literary production (82, 87). To be a sublime producer of art or exhibitor of skill and not merely to appear organic or mechanical, effort must fall away.

Later in the essay, Hazlitt contends that, through his sport, John Cavanagh also traverses beyond the limits of normal human potential. It is interesting to note that his remarks on Cavanagh began as an obituary in *The Examiner*; that is, they originate in a recognition of death, finitude, and an end of human life, which is a point I return to later. For now, my primary concern resides in Hazlitt's commemoration of the player of fives and the sublime qualification attributed to this finite being by way of manual labors, by way of seemingly omnipotent motor skill and not abiding organic genius. Hazlitt underscores the athlete's exceptional, dehumanized, and sublime status by playing up his effortless grace and unique ability to transcend the physical constraints placed upon the rest of humankind. In terms both divine and technologic, the worth of the sportsman hinges upon a lionization of mechanistic causality. The fives-player's appeal depends on the visceral processes encompassing touch and mental thought, and correspondingly Hazlitt depicts him not as disembodied and divine but rather as exceedingly physical and mechanical.

> In general, the ball came from his hand, as if from a racket, in straight, horizontal line; so that it was in vain to attempt to overtake or stop it. As it was said of a great orator that he never was at a loss for a word, and for the properest word, so Cavanagh always could tell the degree of force necessary to be given to a ball, and the precise direction in which it should be sent. He did his work with the greatest ease; never took more pains than was necessary; and while others were fagging themselves to death, was as cool and collected as if he had just entered the court. His style of play was as remarkable as his power of execution. He had no affectation, no trifling. […] His blows were not undecided and ineffectual—lumbering like Mr. Wordsworth's epic poetry, nor wavering like Mr. Coleridge's lyric prose, nor short of the mark like Mr. Brougham's speeches,

> nor wide of it like Mr. Canning's wit, nor foul like the *Quarterly*, nor *let* balls like the *Edinburgh Review*. (87)

Against a backdrop of so much poetic and intellectual lumbering, simple and effectual ease reigns supreme. Here Hazlitt in essence rehearses the proof offered by philosopher Ted Cohen in his recent study *Thinking of Others*: "[q]uestions of difficulty and virtuosity arise not only in the appreciation of sports, of course, but also in the appreciation of art" (58). Great orator and ball player alike appear ever ready, always fitting, so much so that they take on the shape of an unstoppable force. The key to Cavanagh's popularity is efficiency—an efficiency beyond the general human hand and at home in the technology of the racket.

Bearing Hazlitt's account, the sportsman seems more like a holdover from an Enlightenment-era clockwork cosmos than an organically natural genius like Reynolds.[4] During Hazlitt's time there were many competing and coexisting understandings of the planet and the universe, with many of them blurring rather than defining the lines between the terrain of human and that of the mechanism. Discussing the nature of these metaphysical and or cosmological complexities, John Tresch shows how representations of the "machine-human" or the "automaton" often became "potent and paradoxical symbols for the [late romantic] period's clashing worldviews, whether materialism, traditional Cartesian mind-body dualism, mystical illuminism, or monistic pantheism; they could embody technological control and reduction, as well as channeling supernatural powers that defied clockwork rationality" (89, 91). Hazlitt's essay confirms such an account of history because in it he reveals the degree to which the language of the temporal and the technological unite to play a key role in defining the human. In addition to this, Hazlitt's prose also allows for the opportunity to consider how sublime

representations of time and manual operations also play a role in defining the worth of human beings and their labors across such competing and cooperating theories and ideologies.

Throughout the essay Hazlitt highlights the incredible rapidity Cavanagh routinely manifests in order to accomplish his dexterous feats. While lauding the ball player, the writer proclaims that "there was not only nobody equal [to the athlete], but nobody second to him" (88). As the critic sheds further light on Cavanagh's exclusive status as a sportsman, he enumerates the ways in which the fives player exists outside traditional conceptions of time. "He who takes to playing at fives is twice young. He feels neither the past nor the future" and overall, "'nothing can touch him'"(87). The game itself functions as a paradisiacal fountain of youth, one that enacts a reversal of time and halts the sensation of temporal progression. Further, while nothing "can touch" Cavanagh, Hazlitt frames the player's touch and the work of the sportsman's hands in terms of the hyper-efficient and the automatic—machine like.

After first carving out a special temporal mode for Cavanagh's general line of business, Hazlitt next emphasizes the lightning-quick efficiency of his performance, endowing Cavanagh with immediate and superhuman speed and agility. The essayist writes: "Whenever he touched the ball, there was an end of the chase," and while at play "his presence of mind [was] complete" (87). "He saw the whole game, and played it; took instant advantage of his adversary's weakness, and recovered balls, as if by a miracle and from sudden thought" (87). Cavanagh requires only a mere touch to determine the outcome of the game, with a finger controls the fate of an entire match. Also of note is the providentially or panoptically-grounded temporal control Hazlitt bestows upon Cavanagh, with which he is able to see the "whole game" from start to finish.[5] Omniscience arrives the moment Cavanagh touches the ball, and it renders the athlete's hand so capable that it resembles the fabled and instantaneously productive hand of God. Such

accolades classify Cavanagh as though divine, while they also affix the athlete's hyper-efficiency within the embodied realm of the tactile. Technological efficiency and mechanical speed of course augmented human labor practices. When introduced into sublime narratives of the Romantic period, they also provide a model of ease based not upon leisure or rest but upon the full efforts of the worker while operating at prime capacity.[6] The pinnacle of human being takes form while laboring like a perfect machine, exchanging a storied legacy of sweat for the radiant posturing of effortless execution.

The nuanced cultural significances behind sublime characterizations of the mechanical performer come to the fore in the context of reception history. That is to say that it is in the close study of the blissful enthrallment of the spectator where it becomes possible to resolve the issues brought forth in the above discourse analysis. In sum, Hazlitt's text contains a narrative of sublime dehumanization that not only grounds hierarchies of class or race or nation, but that more simply codes and mystifies labors that require habit and precision in the manual technique of the worker. Hazlitt's work exemplifies how spectators alternatively lionize *or* belittle entertainers so that they occupy *sublimely great* or *sublimely rote* positions, allowing onlookers, in all of their mediocre finitude, to imagine virtuosic performances as entryways into the infinite and ineffable. Most spectators live lives of quiet mediation. Convening with written records or hewn relics, audiences rely upon the efforts or accomplishments of others to help them gain access to some sense of timeless, effortless, or transcendent greatness. This experience or—in both Kant's early writings on the sublime and in Hazlitt—this *feeling* develops when the common bystander witnesses the work of a great artist or a dazzling performer.[7] For Kant "[t]he sublime must always be great;" moreover, sublime "feeling is sometimes accompanied with a certain dread, or melancholy; in some cases merely with quiet wonder" (48, 47). The greatness

read into sublimely dehumanized subjects like the juggler and the fives-player turns upon the illusion of an immediate tactile omnipotence.[8] David Best describes a similar phenomenon in his monograph *Philosophy and Human Movement*: "However successful a sportsman may be in achieving the principle aim of his particular activity, [the crowd's] aesthetic acclaim is reserved for him who achieves it with maximum economy and efficiency of effort" (106). It is my contention that such aesthetic judgments ultimately repattern narratives bent upon wish-fulfillment, based upon a model of human life without strenuous labor and (im)possibly without end.

KLEIST'S "PURE PENDULUMS" AND THE LOCOMOTIVE "SOUL" (*VIS MOTRIX*)

'Tis by the researches of the virtuoso that the hidden parts of the earth are brought to light,
—Thomas Paine, Pennsylvania Magazine, Feb 1775.

Kleist's canonical short story "On the Theater of Marionettes" also considers the labors and natures of the human body under the rubric of mechanist causality. And just as in Hazlitt, overlapping discourses of the mechanical and the sublime inform the narrator's estimation of what classifies as the height of choreographed movement. But where Hazlitt emphasizes Cavanagh's instantly realized volition, his potency of thought incarnate in just one touch, Kleist foregrounds the apparently unconscious prowess of the human machine. The German author structures his tale around an enigmatic dialogue shared between two spectators, each of whom believes he recognizes most precisely the fundamental dynamics of superb physical movement. The protagonist of the story converses with a famous dancer who understands the marionette show before them to be far more than some perfunctory display of a puppeteer "grinding the handle of a hurdy-gurdy" (265). Instead, he sees in the movement of the puppet "something very mysterious"—"nothing other than the soul of the dancer" (265). In other words, in the manikin's

performance he finds the graceful soul of the one who pulls the strings. He claims that it is the truest dance of the puppeteer. Although the protagonist reports that his fellow onlooker "would never convince [him] that in a mechanical figure there could be more grace than in the structure of the human body," by the end of the tale Kleist's narrator revises this thesis (265). On the whole, as in Hazlitt and Melville, "On the Theater of Marionettes" raises questions about the character and value of human kinetics.

Throughout the story, the dancer-puppeteer's kinesthetic movements correspond with but do not mirror the supposed mechanical causality displayed in the performance of the marionette. Tracing a shared obedience to gravity, Kleist unites the work of puppet and puppeteer:

> [one] must not suppose that every single limb, during the various movements of the dance, was placed and controlled by the puppeteer […] Each movement, he said, had a center of gravity; it would suffice to control this point from the center of the figure; the limbs, which are, after all, nothing but pendulums, would follow mechanically on their own without anything else needing to be done. He added that this movement was very simple; that each time the center of gravity is moved in a direct line, the limbs would start to describe a curve; and that often when simply shaken in an arbitrary manner, the whole figure assumed a kind of rhythmic movement that was identical to dance. (265)

Kleist's story takes up the enduring question of volition in terms of both mechanical and human entities.[9] Here dance does not have to be initiated willfully to be dance but does necessitate bodies set to motion. According to the tale, the protagonist cannot fathom such simple equivalence between the organic and the inorganic, or further, what the doll could "have over a living dancer" until he learns that its advantage springs "[f]irst, [from] a negative gain" (268). Ironically, a freely swinging pendulum, a pure pendulum, appears to obey the laws of cause and

effect but escapes the taint of cause and *affect*. In opposition to a human in motion, the marionette is such a figure that "never *strikes an attitude*" (268). As if marred by the forbidden fruit of knowledge, history, or consciousness, the "living dancer" cannot abjure learned affectation and so cannot move simply according to materialist or Newtonian laws of physics alone.[10]

> For affectation appears, as you know, when the soul (*vis motrix*) locates itself at any point other than the center of gravity of the movement. Because the puppeteer absolutely controls the wire or string, he controls and has power over no other point than this one: therefore all the other limbs are what they should be, dead, pure pendulums following the simple law of gravity, an admirable quality that one may seek in vain among the vast majority of our dancers. (268)

Pure pendulums go on to resemble the unaffected hand of God. Human dancers live flawed lives driven by material *and* immaterial forces. Humans make mistakes that "are unavoidable ever since we ate of the fruit of the tree of knowledge. But Paradise is bolted shut and the cherub is on our tail; we are obliged to circle the globe and go around to the other side to see if perhaps there's a back way in" (269).

"Paradise" is not simply organic but also technological, and Kleist's version of this origin story stresses the role of the mechanism in the familiar biblical tale. Technology keeps us from being perfect dancers—the gate of Paradise is bolted—and technologies offer a way back to the divine and unspoiled heavens if we depend upon cart, boat, (or shuttle?) and journey around the world to return to the perfection of God or mechanical being. Technologies or, perhaps, mechanical beings frame Paradise, travel with us. They too are bodies in motion laboring physically, but in this story they do not have to perform the same types of intellectual, emotional,

psychological labor as humans do, and this adds to their flawlessness, fortifies their closeness to a likewise disaffected God.

The perfection of the deity that built Paradise resembles the perfection of the mechanisms that work to enclose Paradise. Here humanity also only returns to Paradise after a long, technologically-lived journey. Humans are not flawless, and the vast majority of them are quite unlike the God of this saga and, likewise, quite different from the technologies in it; what comes easily or without effort to the puppet or the godhead comes to the human only by way of many labors and with much exertion. The protagonist's dancer-teacher informs him "that it would be almost impossible for a man to attain even an approximation of a mechanical being. In such a realm only a God could measure up to this matter, and this is the point where both ends of the circular world would join one another" (269). The dancer-spectator ventures once more to explain his position:

> We see that in the organic world, to the same degree that reflection gets darker and weaker, grace grows ever more radiant and dominant. But just as two lines intersect on one side of a point, and after passing through infinity, suddenly come together again on the other side; or the image in a concave mirror suddenly reappears before us after drawing away into the infinite distance, so too, does grace return once perception, as it were, has traversed the infinite—such that it simultaneously *appears* the *purest in human bodily structures that are either devoid of consciousness or which possess an infinite consciousness*, such as the manikin or the god. (273, emphasis added)

The various assumptions in Kleist's passage prove fruitful when considering the role of the artist, athlete, and "mechanical" performer-juggler in Hazlitt. Reflection, perception, and contemplation lie at the heart of the problem. Contemplation supposedly degrades in the organic

realm, in the human world, as opposed to the inorganic or the sublime arenas of grace. Belabored creations, arduous or strained movements, or weighty intellectual labors all appear less perfect because they confront their audiences with the realities of human endeavor, of an imperfect human life clouded by the ravages of self-conscious knowledge and effort instead of clarified by it. If such grace were to be glimpsed in human form, it springs from only the greatest *performance*, which allows humanity the stage needed to *appear* perfect before their crowd—where "perfect" means to execute physical excellence without betraying the struggle necessitated to achieve this result.

As with Hazlitt's understanding of dehumanization, Kleist's sense of performative labor illuminates everyday human toil. The seemingly effortless and thoughtless movements of the marionette resemble the instantaneous or easy products of divine powers, of something belonging to the infinite realm of the sublime. Meanwhile, the seemingly perfect, rare, and fluid movements of a great dancer, or juggler, for that matter, counterbalance the life of the spectator, of the humbled laborer, of the physically finite and intellectually clumsy connoisseur of the infinite, the effortless, and the careless. As with Hazlitt's dehumanized because superhuman sportsman and jugglers, the marionettes occupy a place on par with the divine and infinite because they are the mechanically exceptional peddlers of a "grace" that there emerges all the "more radiant and dominant" upon the muddied terrain of an earth out of Paradise. The juggler, the artist and the athlete are as the technology of the concave mirror in Kleist. Being human, they come from a place like the multitude, but being so refined and full of seemingly effortless grace, they go off into "the infinite," suddenly appearing before us again, and so grace returns once knowledge, "once perception, as it were, has traversed the infinite." To "appear" to have "no

consciousness at all" is to appear infinite, divine, sublime—that is, to appear to be the mechanical puppet or the god.

MYSTIFIED MECHANICAL CAUSALITY IN KLEIST AND HAZLITT

Both Hazlitt and Kleist mystify a logic of mechanistic causality that frames the reception of the quasi-divine or sublime human performer. Sublime mechanistic being founds Hazlitt's description of Cavanagh's totalizing touch as much as it grounds Hazlitt's portrayal of the Indian jugglers who toured London beginning in the early 1800s.[11] Such an analysis problematizes the argument that Hazlitt's captivating jugglers signal little more than imperialist anxieties surrounding a "dexterous threat from the East" (Whale 210). Rather the effortless execution meted out by the juggler and the fives-player strikes a chord with Kleist's marionettes and most perfect dancers. As suggested by John Kinnaird, while "'The Indian Jugglers' has won frequent acclaim as perhaps the classic statement in English of the difference between 'intellectual' and 'mechanical,' imaginative and non-creative excellence … [there is a] reciprocity that Hazlitt discovers between these modes of power not only in their contradistinction" (295). Indeed, while Reynolds may occupy the seat of the organic genius, Hazlitt dedicates a majority of his narrative space to the "talent" of either the jugglers or Cavanagh, perhaps angling his essay toward readers tickled by the growing "Regency fetish" that was the sporting event.[12]

Joining together athleticism and other spectacles of human kinetics, Hazlitt paints the labor of the jugglers just as exceptionally swift or sublimely effortless as that of Cavanagh. He estimates that "[a] single error of a hair's breadth, of the smallest conceivable portion of time, would be fatal: the precision of the movements must be like a mathematical truth, their rapidity is like lightning" (86). The actions of these acclaimed performers evoke a two-fold sublime in this passage: in resembling the sublimity attributed to mathematics (as a pure or *a priori* truth),

and once again in sharing terrain with stunning natural display of the lightning bolt. Not surprisingly, Uttara Natarajan, Tom Paulin, and Daniel O'Quinn all contend that Hazlitt's jugglers find easy association with the Burkean sublime.[13] Indeed, the Burkean sublime's trademark mixture of discomfort and delight first appears when Hazlitt considers the shows of London's Indian performers: "You are in pain for the result," Hazlitt admits, "and glad when the experiment is over; and I would not give much to be merely astonished without being pleased at the same time" (87). Decades before the jugglers performed in London, in his *Philosophical Enquiry,* Burke differentiates between the sublime things of the earth that we admire, and beautiful ones that we love: "The sublime, which is the cause of the former, always dwells on great objects, and terrible; the latter on small ones, and pleasing; we submit to what we admire, but love what submits to us; in one case we are forced, in the other we are flattered into compliance" (103).[14] In this way, Hazlitt admires how the jugglers are able to "do what appears an impossibility, and to do it with all the ease, the grace, [and] carelessness imaginable" (78). If Burke postulates correctly that late-Enlightenment- and early-Romantic-era audiences could love beautiful things but admired things sublime, then Hazlitt handedly confers sublimity upon the jugglers by holding them in such high esteem: "To conceive of this effort of extraordinary dexterity distracts the imagination and makes admiration breathless" (78). Certainly in Hazlitt's text the juggling showmen incarnate the infinite and the magnificent just as much as Cavanagh does.

However, it must be granted that in the end Hazlitt relegates the juggler's performance to the status of mere talent, on the one hand furthering the case for an Orientalist reading of this work, but only if race alone determined this classification. Yet, as I have noted previously, he also values Cavanagh as a mechanized talent and not some natural genius. In addition, talent is,

for Hazlitt, the temporal opposite of genius but not the qualitative opposite of genius. Aphoristically, Hazlitt proclaims: "Talent differs from genius, as voluntary differs from involuntary power. Ingenuity is genius in trifles, greatness is genius in undertakings of much pith and moment" (84). While talent and genius are both described as punctuated and discontinuous in this passage, "pith" and "moment"—the vital part, the key instant—loom large in the work of a great organic genius. In turn, those who display talent expose genius only in short bursts or "trifles." Hazlitt accentuates a talent/genius dichotomy by once again relying on the discourse of the mechanical; he distinguishes between the powerful artist who appears to exert aesthetic influence due to his own control or volition, and the talented entertainer who seems to produce captivating machinations only by way of habit or inertia. These last players might look as though they perform effortlessly but in so doing also in effect lose some semblance of apparent agency. They work "involuntary[ily]" or unconsciously. So, even though Hazlitt showers similar accolades upon the jugglers and Cavanagh as he does for Reynolds, theirs is not an equivalent gateway to sublimity. In Kleist's terms, the jugglers and Cavanagh are to Reynolds as the puppet is to the god. Still, it is important to note the way in which both ends of this continuum manifest awe-inspiring genius, frustrating any wholesale disregard for the jugglers' or Cavanagh's 'miraculous' labors.[15] Normal human beings lack both talent and genius. In contrast to the norm, the jugglers exist alongside Cavanagh, and Reynolds for that matter, as admirable and sublime touchstones to the infinite. The majority of those occupying the society of the spectacle exist in a realm between the fall from the grace of the marionette (imaged in Kleist in the story of the beautiful young man who sees his own reflection and becomes terrifyingly self-conscious) and the grace found in the return to paradise.

"NOTHING TO SHEW FOR ALL MY LABOUR AND PAINS"

In stark, if not ironic contrast to his treatment of the sublime excellence of the juggler, sportsman, and painter stands Hazlitt's take on his own work and abilities. Determining what Cohen calls the "expressive value" of technical and physical difficulty, upon introducing the "chief of the Indian Jugglers" Hazlitt is "ashamed" and questions his entire life's pursuit, especially intellectual labors impossible to display (Cohen 58; Hazlitt 77, 79). Comparing himself to the jugglers, he asks "Is there no one thing in which I can challenge competition, that I can bring as an instance of exact perfection, in which others cannot find a flaw?" (79). Moreover, on the material manifestation of his work, he exclaims, "What abortions are these Essays!" (79). "Have I been idle," he laments,

> or have I nothing to shew for all my labour and pains? Or have I passed my time in pouring words like water into empty sieves, rolling a stone up a hill and then down again, trying to prove an argument in the teeth of facts, and looking for causes in the dark, and not finding them? (79)

Although Hazlitt's intellectual and literary "pains" do produce physical proof of his labor with every written line, his repeated bouts with the page amount to the performative equivalent of impotence and useless recurrence. All that he can "show" is the repetitious and perhaps uninteresting Sisyphean task of putting pen to paper, which amounts to the commonplace display of an endless if not impossible project. While various scholars have discussed Hazlitt's self-criticism as proof of western culture's penchant for fine art, performance, and overall, visual culture over literary production and intellectual labor in general, they have paid little attention to the temporal scales Hazlitt enlists in order to weigh his expository pursuits.[16] One fine exception stems from the criticism of John Whale. He observes, "in many ways, the significance of

Hazlitt's whole essay lies in its appreciation of temporality: the limit placed on human performances whether they be concerned with ethereal genius or mechanical perfection" (214).

On the nature of his own tasks, Hazlitt's literary work lies far afield from that of the 'instantaneously effective' human marvels found in the movements of the fives player or street performer. Unlike these men and the painter he praises, it occurs to him that "(his) time" not only fails to yield "exact perfection" as exhibited by those he exalts, but it also seems that he has "passed (his) time" writing essays that amount to little more than fool's play or useless repetition (79). These emotively charged asides do warrant scrutiny, especially since Hazlitt reworks already drafted and published material into this essay and utilizes recycled material throughout his career. For instance, in publishing "The Indian Jugglers" he renders the previously printed Cavanagh obituary doubly efficient. However, within this essay on the gradations of human excellence, Hazlitt strategically disavows the reuse of his eulogistic remarks, falsely aligning his own efforts with the more tortured and strained labors of general audiences ostensibly made up of a more general kind of human. Such writerly sleight-of-hand, however unrepresentative of his true state of affairs, allows the essayist to claim for himself the subject position of those not apprehended as either a god of any art or master of any great skill. Through the device of self-critique, he positions himself with the larger reading populace and the wider reaches of urban viewing audiences, giving voice to those who labor without a popularly lauded or recognized purpose. If a given reader finds Hazlitt's work to do little more than prove and reprove that Hazlitt does nothing without effort, or can produce nothing in a mere instant, then his rhetorical strategy has reached its greatest potential. He connects intellectual labor to the limits of "his time," the time that he imagines himself to possess and has available to use or expend. Thus he situates himself as one able to appreciate the aesthetic value of virtuosic display because he has

some first-hand awareness of the difficulty it presents.[17] For one's labor to be marked as human and marked by finitude means to perform repetitive and often useless work in contrast to the mechanically or the divinely dehumanized greats who repeatedly exhibit excellence. More than anything else, the work of the base mortal is grueling, difficult if not impossible, and when read against the long durée it suggests a quantitative waste of life rather than its qualitative celebration or glorification.

Throughout his essay, Hazlitt's attention to the passage of time and the finitude of human existence frames his reception theory of the human performer. Whether he evaluates himself, or the work of the vast genius, or that of the talented showman, how Hazlitt imagines the temporal command of each respective laboring body designates the reception of its labors. In place of composing an expository work that critically examines the work of art, the majority of Hazlitt's essay investigates and establishes a reception theory for the human being based on the finite human condition. Filtered through such an understanding of labor, Reynolds, Cavanagh, and the juggler read as if they occupy a space of some alternate temporality, regardless of whatever time they dedicate to honing their respective tasks in actuality. Hazlitt's measure of human showmanship lies in a temporal balance weighted by *apparent* labors and the traditionally sublime notion of the finished product.

Overall, Hazlitt cuts across the racial or national markers most often taken up in the essay to expose how humanity in general negotiates being branded by labor and by time. Moreover, Hazlitt's piece points to how this temporal relation plays out in the emergent celebrity and sport cultures alive in this period, with the well-oiled human machine performing no small consultation in the face of time's apparent passing. While I do not deny that Hazlitt's aesthetic purview is colored by early nineteenth-century classist and xenophobic impulses, the evidence

here shows something altogether different at the heart of this text, that being a commentary on the (un)aesthetic nature of everyday lives and labors in relation to the show of the extraordinary laboring body while on display.

And if the work of the human-machine when rendered effortless and instantly efficacious as in Kleist's marionettes or even Hazlitt's jugglers helped to frame the life and work of the common viewer, the newfound role of the obituary allowed for such aestheticizations of easy human skill to carry on post-performance and post-mortem. The proliferation of the obituary column examples the union between celebrity culture and questions of finite human life and the realities of labor, evidenced with greater specificity in the longstanding popularity of Hazlitt's piece "Death of John Cavanagh." [18]

REPETITIVE MASTERY IN PRINT; OR, RECYCLING THE OBITUARY

Incontrovertibly, the press plays an influential role in manufacturing an aura around great or popular acts and actors, which is easy to observe in our contemporary moment. Romantic era periodicals likewise offered a physical space for authors to communicate and confer the value of such aestheticized beings as kinesthetic performers, repackaging and projecting their spellbinding shows to a burgeoning mass audience and even into the future, with their celebrity or popularity outliving their performances and outlasting their lives. Tom Mole, for example, identifies a similar focus in the celebrity culture of the Romantic era, where he finds a wholesale ontological shift that champions specific people, moving from a time when someone could have celebrity based more or less upon birth and rank to a time when particular people became celebrities through specific actions (2). This process of distinction and differentiation underscores how particularity became all, even as the numbers of celebrities and popular icons grew in tandem with a burgeoning print culture. The print history of the fantastic figure of the

Indian juggler and the elegiac column Hazlitt dedicates to Cavanagh's life both exhibit this trend. On the literary longevity of the Cavanagh piece takes on a life of its own. A wide array of reproductions appear as annual reprints in the almanac-like "Everyday Books" assembled from 1825 through to 1965, in anonymous tributes, and among more elaborate republications appended with aggrandizing statements in praise of Hazlitt's pen.

Quite necessarily mortality brings with it an end. Human finitude factors into the morphology of the obituary just as it frames the reception of human achievement, with a clear advantage granted to the most graceful, careless, effortless seeming performers. The work of the masses, though, and supposedly that of Hazlitt's own efforts, amount to an anti-tribute to the human life. They, at the end of it all and regardless of all their strivings, have "nothing to show." Hazlitt links his reverence for great artists of paint, sport, and performance to the same register as whatever cultural relevance exists in the tombstone, the epigraph, and the obituary, which, fittingly, Hazlitt uses to close his essay. Commemorating both the man and his labor's value to the spectating masses, the Cavanagh obituary pays homage to the place of the sportsman relative to his audience. Hazlitt lends Cavanagh's pastime a greater gravitas than that granted to the stuff of war and the pursuit of peace.

> It may be said that there are things of more importance than striking a ball against a wall—there are things indeed which make more noise and do as little good, such as making war and peace, making speeches and answering them, making verses and blotting them; making money and throwing it away. But the game of fives is what no one despises […] (97)

In the same vein, Hazlitt's final paragraph heaps praise upon Cavanagh, writing that "we might recommend to [the keeper of the grounds] for a motto over his door [at the fives court] – 'Who

enters here, *forgets* himself, his country, and his friends.' And […] by […] calculation of the odds, *none of the three are worth remembering*!" (100, emphasis added). For the avid fan, Cavanagh and his sport each transcend the worth of nations, the value of beloved friends, and even the sanctity of the self. Winding to a close, Hazlitt writes "[w]e have paid this willing tribute to his memory" (100). This is a memory that teaches us to forget—to forget the anxieties Hazlitt harbors in regard to himself, his time and labors, his brethren and nation. Hazlitt's essay, then, may bear the mark of empire, as some have suggested, but ultimately investigates how humanity pays tribute to its own entrapment in time. Hazlitt suggests that our most fruitful, yet still fantastic, gateway to immortality lies not in conquering nations nor even in bringing peace, but just might lie in those glimpses of genius and talent apprehended in sport—in physical performance and embodied displays of human excellence.

Those who exhibit mastery of some physically dynamic feat are so deeply treasured because they enable a momentary forgetting of one's own finitude, one's incomplete and limited being. By extension, I would add that spectators in a sense deposit an alternate temporal domain in kinesthetically virtuosic human beings just as they invest it into cultural artifacts—all of which foster a momentary forgetting of one's daily struggles and ultimate finitude, and just as they navigate anxieties surrounding the idea of being forgotten, they breed a sense of connection to a less temporally finite existence. Read in this way, Hazlitt's essay allows readers to ponder how, without such human or inhuman touchstones, it could be vastly more difficult to connect to some semblance of the infinite, and perhaps more importantly, without them, could dampen a person's capacity to negotiate her relative inferiority and certain finitude.[19] One such touchstone, as it were, that began a new life in print at the turn of the eighteenth century was the obituary column.

Appropriately, to conclude his essay on the value of human life so thoroughly circumscribed by human finitude, Hazlitt turns to the obituary of the great ball player, turns to the public record of his ephemeral yet transcendent excellence. Also suitably enough, early in the commemorative piece, he acknowledges the crucial role physical performers bear within society: "When a person dies who does any one thing better than any one else in the world, which so many others are trying to do well, it leaves a gap in society" (97). Hazlitt concludes the jugglers essay with two quotes, with two literary works used again and born anew: an epigraph by Wordsworth, which I will return to later, and the lengthy excerpt, from the obituary, which he borrows from himself and which comprises just under a third of the jugglers piece entire.

> To return from this digression, and conclude the Essay [sic]. A singular instance of manual dexterity was shewn in the person of the late John Cavanagh, whom I have several times seen. His death was celebrated at the time in an article in the Examiner […] I shall here take leave to quote it. (96-97)

The writer quietly introduces his own review of Cavanagh's life, using the passive voice and never stating directly that he will now commence with quoting himself. To close his study of the "gradations in all exertions of human skill and art," he invokes the image of his lucky seat as the spectator of the famed ball player's work and so positions himself once again as an apt judge of his abilities (100). Next he alludes to the obituary column as the most appropriate depository for recording his celebrated existence. For Hazlitt the obituary assumes the reliability and archival potential of the tombstone (120). Exposing on overlooked moment that unites celebrity and print culture in a way that has not been examined previously, Hazlitt imbues the fleeting performance of the ball player with a lasting distinction by channeling his sublimity into the obituary column. With this, an athletic virtuosity transforms into an aesthetic history, allowing Cavanagh to then

become recognizable as a unique work of art as long as the record remains. The piece becomes an extension of life inscribed via public commemoration rather than sheer memory; it becomes a physical and print surrogate for the fleeting performance that once stunned audiences but now exists only in abstentia.

A genealogy of the obituary unlocks how print technologies helped to cement Cavanagh's god-like status. They furthered his role as a sublime conduit to the infinite for the larger populace, albeit through an exhausted series of reproductions that amount to a sublimation in the conventional sense.[20] *Obituary* first appears at the turn of the eighteenth century in 1701 (OED). Prior to the emergence of the newspaper column that we are familiar with today, the term initially signaled a type of record keeping that tied necrology to calendaring within certain religious houses, churches, and monasteries. Such registers did not include the passing of any and all parishioners but recorded only the *obits* or *obitual days* of those worthy of note: founders and benefactors. Commemoration of their death-days occurred annually or according to a calendar known as a *necrology* or *obituary* or *daily* (OED). In contrast to the everyday obituary column of our current era, such catalogues did not afford room for the death of "celebrity" and plebian alike. The OED places *obituary*'s association with secular announcements as early as 1738, but even still, these notices covered only the "eminent" or the "well-known" (OED). The emergence of the *obituarist* in 1792 evinces when the practice of drafting death announcements of notable figures became a commonplace. However, *obit* only quite recently (1874) took on its more contemporary meaning where it refers to a more general print cultural artifact. Since that time it denotes simply a commemorative entry within a designated newspaper column, inclusive of anyone willing to pay for space on the page in addition to popular figures recognized by the wider reading public (OED).

Similar to the non-secular obits and obitual day ceremonies practiced at least since the fourteenth century, the legacy of the obituary once conferred the highest esteem, bespoke intimate admiration, and paid homage to a particular debt owed to great benefactors. Those repeatedly and annually celebrated according to the necrological records of a given religious community were those wealthy enough to fund, or dedicated enough to found, their respective religious institutions. They were the exceptional and the foundational members, the integral and formative elements who seemed to imbue the religious house with life even though they had since passed away. The notion of passing away also lies at the heart of the terms *obituary* and *obit*. Around 1382 *obit* signified death, or the decease of a person as well as already signifying the date of an ancestor recorded on a calendar. By the mid-seventeenth century *obit* also applied to "the setting of a celestial object." This link between the celebrated dead and the setting of a celestial object harkens to the sublime status of the animated performer presented here. Especially when considered in light of Kleist's figuration of the Cartesian human instrument as a pure, god-like pendulum, the religious or necrological connection between the passage of magnificent orbiting body and the passing of a virtuosic human assume a fascinating parallel. The celebrated founders of a particular religious community, the amazing performance of the player of fives, and the grace of the marionette or the juggler all effectively play the role of the sublime celestial object. Returning to the case of Hazlitt's work, however, only Cavanagh receives an obituary and because of its multiple and frequent reprintings (not only among Hazlitt's oeuvre) Cavanagh's history resembles most closely that of the original honorees of the obitual calendars, of the almost celestial and quite integral members of a particular community whose presence deemed continual celebration in print.

When it first appeared in the *Examiner* during the year of the fives-player's death on February 7, 1819, Cavanagh's obituary appeared in the third section of the weekly periodical subtitled "The Theatrical Examiner." The text inserted directly above this maiden publication of "Death of John Cavanagh" proleptically foreshadows the type of technological exactitude and efficiency Hazlitt attributes to expert performers like Cavanagh in the Indian jugglers essay he had yet to draft. These prefatory remarks (presumably by Leigh Hunt) hail Hazlitt for his "pithy" style and state that his sentences "are sure to remind us of so many little iron balls, equally round, complete and substantial; and they never fail in their mark; *as the howling blockheads are sure to make known*" (original emphasis; 91). Of course is not surprising that Hazlitt was this widely read, or that he was both lambasted and adored, as this passage attests. While we have in fact continued to know of the famous essayist, what is notable in this case is that the various reprints of Hazlitt's eulogistic observations found in popular cultural registers and periodicals rivals that of the period's grand patriarch of celebrity culture, Lord Byron.

To properly contextualize the game of fives and its acclaimed player, it is necessary to provide a brief sketch of the sport's history and attendant cultural practices. Throughout the eighteenth and nineteenth centuries it was a popular British and early-colonial diversion although just how far the game goes back in time cannot be precisely stated. The amusement has existed for many centuries and in the original publication of "Death of John Cavanagh" Hazlitt suggests that "[h]and–ball was before the days of Homer." It could be said that the sport's long history might have something to do with its simplicity. It requires no more than a head wall (sometimes called the dead wall), a small ball (historically made of leather, hempen, or rubber), and at least two players. Due to the level of physicality involved, it ranked among working-class leisure activities while "shooting, fishing, and foxhunting" were "popular upper-class sports" at this

time (Huggins 196). The rules of the fives resemble those of squash, and it requires a similarly high level of agility and quick response time from its players. After a player strikes the ball, it darts rapidly off the wall and the opposing player must send the ball volleying back to the wall without letting it hit the ground more than once. According to legend, the amusement earned its name in honor of the instrument that strikes the ball: the hand. More specifically, it refers to the four fingers and the additional appendage of the thumb.

In Britain, fives courts exist both in and out of London, and three well known courts include London's famed court in Saint Martin's Street, the exterior walls of a chapel at Eton, and in the Copenhagen-house at Islington. Not only was it popularly played on the sides of many church and chapel walls but also outside prisons. Regardless of locale, fives attracted audiences from a wide array of classes and provided upper-crust onlookers with ample betting and gaming opportunities. The balladry of the eighteenth-century Cumberland poet Robert Anderson also suggests that village girls might also have played handball (Huggins 200). By the last quarter of the eighteenth century, fives courts also began to stage boxing or sparring matches, which likewise attracted an ample gaming contingent.[21] The sixth edition of *The Political Songster Or, A Touch On The Times, On Various Subjects, And Adapted To Common Tunes* (1790) contains an entire poem dedicated to fives and its cultural resonances. The verse highlights the game's "Sprightly Sons" with "Youthful vigor tripping round, / Pleasure's consecrated Ground […] 'Tis my Boys a well fought Game […] Where in heart-felt sportive glee / Worn down Vet'rans smile to see" (ln. 1, 17-18, 12, 15-16). Even according to eighteenth-century popular poetry, the game returns older spectators to a fantastic bastion of consoling youth and vibrancy. The closing lines of the work go on to extoll a world made full only with such necessary wonderment and diversion:

Fives amongst the Sons of Fame,

Was the ancient Britons Game,

Mixt with prudence still the wise,

Call it healthful Exercise;

Ne'er let good old Customs drop,

Strike the Ball and keep it up.

For our fav'rite Sport of Fives,

…

Round the World the Seasons through,

Youth their various Sports pursue;

Some resort where Cards are seen,

Some the Cockpit, some the Green,

Ours against the stately Wall,

Is to jerk the bouncing Ball. (ln. 19-25, 30-35)

Hazlitt's review in particular, so widely circulated and reprinted, secured and rejuvenated Cavanagh's physical aesthetic, activating a deeply entrenched cultural capital anchored in his position as a player of fives. Presses repeated circulated the essayist's account of a fleeting yet marvelous performance and fashioned a protracted death of Cavanagh's sublimity, one doubly mediated by technological discourse and print technologies. By continuously circulating the critic's appraisal of the player's relatively transitory deeds, printers consistently recycled, re-calendared and adulated the sportsman's accomplishments for almost two centuries. A 1826 *Every-Day Book* harbors one of the more intriguing rehearsals of Cavanagh's obituary. Retaining a vast majority of Hazlitt's original material, this compendium situates the game of fives, its

history, its legacy, and that of Cavanagh, around the locality that today still is the Copenhagen-house.[22] The curious past of this building is worth note, even if only anecdotally. After a robbery the landlord used her recovery funds to build additional rooms, which soon after made for fine ball play. The property was then so widely "talked of" that it since became renown for fives-play and attracted the late Irish sportsman among scores of others (863). The entry charts the evolution of the game of fives, tracing its predecessor, "hand tennis," back to antiquity. The apparent age of the sport helped to legitimate it and its requisite ceremonies made game play all the more present. These included dance, song, and ceremonial tosses, not unlike traditional rites performed at a contemporary baseball game replete with its national anthem(s) and ceremonial opening pitch. Traditionally, the game of fives and its respective

> [b]all-play was formerly played at Easter in churches, [… and] The ceremony was as follows: the ball being received, the dean, or his representative, began an antiphone, or chant, suited to Easter-day; then taking the ball in his left hand, he commenced to dance to the tune, others of the clergy dancing around, hand in hand. At intervals the ball was handed or tossed by the dean to each of the choristers, the organ playing according to the dance and sport: […] It was the privilege of the lord, or his locum tenens, to throw the ball, and even the archbishop did it. (863)

These longstanding customs reflect the how cultural traditions crystalized around the game and the aestheticized entertainments it showcased.

For a game that resonates with the aesthetic category of the sublime in Hazlitt's account (for its alleged tie to the fountain of youth and for its staging of the performance of the utmost effortless human machine), here its players continue to find new life in print histories. Moreover, original passages authored for the article on "*Fives-play*" from the *Every-Day Book* of 1826

repattern the sublime narrative of the mechanical virtuoso offered by Hazlitt. These newly-forged lines also privilege seemingly effortless physical feats and a technologically-glossed state of athletic perfection. One such note recalls a historical notable, "A damsel, named Margot, who resided at Paris in 1424, played at *hand-tennis* with the palm, and also with the back of the hand, better than any man; and what is most surprising, says St. Foix, at that time the game was played with the naked hand" (865). Even the originary name for the game of fives, "hand-tennis," bespeaks its lineage opposite its racketed spawn, squash and tennis, both of which did indeed derive from the game of fives. Buttressing the aggrandizement of the damsel Margot's bare-handed play, this record reports that "[a]nciently they played with the naked hand, then with a glove, which, in some instances, was lined; afterwards they bound cords and tendons round their hands, to make the ball rebound more forcibly; and hence, … the racket" was born (864). The game's long duration pairs with its legacy of unmediated hand-to-ball contact to garner its association with the infinite, with a world beyond finitude. Hazlitt's homage to the renown fives-player evokes the sport's history of direct influence and unmediated touch in part because Hazlitt never mentions any tool or even any glove or if he does, he highlights its absence. These rhetorical gestures afford him the ability to trumpet human accomplishment in sport sans racket, painting the deceased Cavanagh all the more singular—as the mechanically perfect causal agent, as the ultimate human instrument of the sport he once played.

Chapter 5

Not Upon "Mont Blanc": A Shelleyan Poetics of Singularity and a Paean to Aqueous Force

INTRODUCTION

There is a general consensus that "Mont Blanc" (composed 1816, published 1817) is an encomium to the storied massif mentioned in Percy Bysshe Shelley's title.[1] For one, Earl Wasserman asserts it "must now be obvious that the summit of Mont Blanc is the symbol of power" (95). Frances Ferguson argues that "Shelley seems almost definitely [to be] trying to think the mountain … as a brute physical existence" or on the other hand to "let Mont Blanc be merely a blank" (202-3, 204). And perhaps most forcefully, as Christopher Hitt puts it, "Shelley aims to recover—the mountain, the real mountain, of the poem" (139). Yet Shelley's language suggests that he is less interested in celebrating the imposing monolith in itself than in exploring the inherently productive and destructive faculties of water.[2] This focus—on flowing water as opposed to solid rock—invites the reader to reconceive the role of the human mind and the human being figured in Shelley's lyric. Various readings have found the poetic subject turning from an intimidating mountain to an empowering bastion of individual ratiocination or imagination.[3] However, it is my contention that the poem destabilizes the Wordsworthian egotistical sublime to promote a material sublime rooted in constant, and often unsettling, earthly change and earthly interdependence. With its insistent trumpeting of water, and especially the element's more deleterious faculties, Shelley's work does not embrace Wordsworthian, anthropocentric limitless imaginings, but rather, elevates a Huttonian, geologically-founded imagining with limitation.

The final installment of *Technologies of the Sublime* displays how a material sublime more richly conceived yields new understandings of romantic subjectivity, literature, and landscape. While Keats compliments earthquake and seismological narratives by embracing the haunting appeal of dissolving or shattered foundations, Shelley does not stop with a revisionary reading of nature's sublime dangers. Rather he puzzles over the subtler turns of earthborn obliterations required for and by earthly productions of all types. His well-known poem on the aesthetic of the sublime furnishes a departicularized iteration of a material sublime, a deviant sublime to which all organic and inorganic entities are subject and thus not exclusive to great works of nature, culture, mind, or hand. Disavowing any elite supremacy granted to the human being or the celebrated object by sublime discourse, "Mont Blanc" installs uniform yet wondrous states of revolving and overlapping decrepitude and virility. Heretofore, the previous chapters outline the material and technological permutations of sublime discourse that begin to make room for the type of non-exclusionary sublime aesthetic Shelley provides in his geologically- and aquatically-sensitive poem.

Principally, following the water in "Mont Blanc" allows for a much needed reappraisal of the extent to which James Hutton's *Theory of the Earth* (1788) influences Shelley's poem.[4] The theologically controversial Scottish geotheorist surmised that the planet's habitable surface was the result of overlapping and balanced processes of decay and regeneration, and that overall "geological change is cyclical rather than progressive or degenerative" (188). Hutton also relates his *uniformitarian* thesis in ways that parallel the aesthetic of the natural sublime—an aesthetic that trades upon the wonder that great objects of nature inspire in the mind of the observer.[5] His theory founded a geology of everyday operations, of deep time, and of a continuous sublimity; in the simplest terms, he believed that nature's laws were constant but that those laws included

processes of change difficult for humanity to grasp.[6] For Hutton it is almost as if our planet successively resurrects itself, "requir[ing] the destruction of an animal and vegetable earth prior to the former land; and," he continues, "the materials of that earth which is first in our account, must … be concocted for the production of the present earth" (127). His view countered the widely-held *neptunist* theory of the formation of the earth championed by Germany's Abraham Gottlob Werner. Wenerian geotheory offered a biblically-compatible catastrophic and diluvian history of the globe's formation, and ultimately, Hutton's hypothesis corrected a previous overestimation of the role of more immediate, cataclysmic events in the development of the planet's land formations and oceans. Hutton's *vulcanist* model relies instead upon a combination of sudden events as well as a series of gradual changes, all occurring within a set of natural laws that define a process of constant transformation. While, as Martin J. S. Rudwick observes, "by mid-century the equation with the biblical Flood had been generally abandoned," Hutton's "conception of the earth as a highly *dynamic* body, at depth as well as at the surface, was almost without precedent" (175, 172). Ultimately, *uniformitarian* theories like Hutton's showcase a *plutonian,* thermodynamic, and continually active planet, a thoroughly sublime, ongoing "system of motion and life" without any determinable origin or end (34). More particularly, according to his thesis, warm, rising seas perpetually eat at the shore, ceaseless movements of glaciers rend higher ground, and rivers mobilized by subterraneous heat carry away part of the ground in between. In brief, Hutton's globe is imbued with a fluidity that sustains biotic life just as it erodes and destroys our landforms—just as it dissolves the very earth itself.

In all of these aspects, Hutton's theory prefigures quintessential Shelleyan ideas.[7] Indeed, critics have argued both how the natural philosopher's work informs Shelley's poem and how its influence has been overemphasized in this regard.[8] However, they have neglected to

consider how *Theory of the Earth* explores the cognitive abilities of the human mind, particularly taking up the "wonder and astonishment" produced in the mind upon witnessing, but never fully processing "great" natural functions (Hutton, *Theory* 118). That is, his account explores the relationship between mind and matter under the sign of the sublime in a way that is suggestive for "Mont Blanc." Hutton's earth is a naturally, geologically sublime orb, and one organized on a deistic model bereft of direct divine agency—a fitting model for the theologically skeptical poet, Shelley.[9] Providing a version of the natural sublime that matter, not myth, inspires, he invites readers to recognize an incremental and continual loss of earth, a loss that is wholly integral to any terrestrial constancy or uniformity enjoyed on our planet. Shelley strives to show readers that on such a frighteningly creative and destructive planet, the best prospect for poetry may not include a view from the mount, but might follow the water and reveal a view from below.

MONT BLANC WAS BEFORE US

The Shelleyan earth resembles the Huttonian globe—it ahistorically subordinates man to the successive machinations of the planet.[10] With Shelley's speaker singing not before some sweeping prospect but from the cacophonous river valley below, the poet unites humanity and the terraqueous globe through a range of *fluid channels and sublime transformations* instead of projecting the potency of human thought and language, or even of the natural world, onto one sublime landmark. Spurred to write not just in response to Wordsworth's alpine scenes from the *Prelude* (1805)[11] but also in reaction to Coleridge's well known poem on sublime landscape, "Hymn before Sun-rise, in the Vale of Chamouni" (1802), Shelley offers in his poem a loco-descriptive treatment of the same great mountain range above Chamonix valley. While "Mont Blanc" famously marks the later poet's most concentrated treatment of the logic of the sublime aesthetic, it is my contention that Shelley's non-anthropocentric and departicularized treatment

of the natural sublime emerges from his figuration of aqueous force paired as it is with the humbling physical location of the subject in his poem. As Donald H. Reiman and Neil Fraistat observe, "The actual scene of the poem—the place where Shelley stood when he was inspired to write it—is on the bridge over the Arve River in the Valley of Chamonix in Savoy. […] Shelley sees only the rushing river; he hears the falling of the streams melting off the glacier, Mer de Glace, above" (96). Reiman and Fraistat's biographical note provides an astute reminder: that Shelley's poetic contribution, ostensibly on the mountain-turned-tourist-attraction, did not arise from any commanding view atop the legendary massif. Pointedly, in a work celebrated for its imaginative embrace, Shelley avoids writing any direct description of the mountain's pinnacle or its corresponding vista, neither of which he saw during his visit. Literally maintaining a position beneath the summit, Shelley's poem stems from a view slanted up, toward the water drainages he does indeed behold. This view from below empirically informs his poetic subject's complicated engagement with the glaciated mountainscape.[12]

Thus, perhaps it was for the sake of full disclosure that Shelley abuts the main title of his poem "Mont Blanc" with "Lines Written in the Vale of Chamouni," serving doubly to acknowledge his true subject matter: his reference to the title of Coleridge's pantheistic treatment of the same geographic locale, and his grounded view of rushing run-off water seen from the bridge upon the vale. Writing along these lines, the poet shares various thoughts on his angle of perception in a letter to Peacock about his trip to the storied site: "As we entered the valley of Chamounix … clouds hung upon the mountains, at the distance perhaps of 6000 feet from the earth, but so as effectually to conceal not only Mont Blanc but the other *aiguilles* as they call them here, attached & subordinate to it" (*Letters* 1:497). Shelley also repeats two times over that "Mont Blanc was before us" and the second time he explains that the mount "was covered with

cloud, & [that] its base furrowed with dreadful gaps was seen alone… [with] Mont Blanc [shining] thro the clouds at intervals on high" (1:496-7). When Shelley returns to visit the famed crag, he reports again on the "thin clouds hanging over the highest mountains" and remarks upon his naturally restricted view: "Mont Blanc forms one of the sides of this vale also, & the other is enclosed by an irregular amphitheatre of enormous mountains" (1:501). This aquatically – naturally -- hindered prospect contrasts with the view Wordsworth poetically records from his walking tour of 1790. Although at the start his "heart leap'd up when first [Wordsworth] did look down" from the "summit of Mont Blanc," the massif famously appears to him as a "soulless image," all too dishearteningly bereft of humanity and its attendant souls perhaps, but full of human and social disappointment, certainly (446, 453, 454).[13] With the white mass bereft of a soul, such a gesture echoes the fashionable tenor of sublime discourses yielded by Horace-Benedict Saussure in *Dans les Alps*, the ur-text of alpine mountaineering that popularized Mont Blanc anthropomorphically as a strong "shoulder[ed]" "colossus" and the "sovereign" of the entire range (l.446). As mentioned above, also relevant to any consideration of the intertextual inheritances of Shelley's "Mont Blanc" is Coleridge's early nineteenth century treatment of the crag; in his 1802 poem on the mountain "chain of Mont Blanc," Coleridge imagines a "dread mountain form" capable exclusively of crying "God!, God! … like the shout of nations" (l.56).[14] Crafting particularly crucial revisions of the conventional prospect poem, Shelley the self-proclaimed atheist, expunges the glacier of any such divine voices, as many critics rightly note.[15] Further, his poetic subject never relishes any (de)moralized or humanized panorama nor does he ever occupy the commanding position within the landscape, and corresponding narrative, as Wordsworth does and Saussure before him. Shelley's observer stands next to the glacially hewn Mont Blanc, stands with it, adjacent to it instead of upon it, not to champion the genius mind or

the pantheistic divine, but to ponder the awe-striking glories and terrors of earth's own water.

Although human eyes never enjoy a governing survey from atop Mont Blanc in Shelley's text, what the poetic subject does witness is water in its various material forms. For example, in his letters he repeatedly refers to a "mass of undulating ice"—"This vast mass of ice [that] has one general progress which ceases neither day nor night. It breaks & rises forever … One would think that Mont Blanc was a living being & that frozen blood forever circulated slowly thro' his stony veins" (500). Not rock, nor even humanity, but water, whether flowing water or ice-in-motion, exists as the chief subject and agent in Shelley's poetic survey.[16] In a landscape more hydraulic than topographic, the mountain plays second fiddle to the force of "waterfalls" and "a vast river" moving "ceaselessly," the Arve that "bursts and raves" (9,11). Shelley not only champions a subordinated view from below the mountain upon the bridge above the Arve, but he here rewrites another traditional characteristic of the genre. He figures water in a way that does not paint rivers or seas as fluid extensions of divine or political might, or as means to access a nostalgic preserve uncolored by cultural and social realities. He praises water for itself. Like Hutton, Shelley's natural sublime discourse turns upon the ahistorical and impersonal flux of the terraqueous earth.[17]

Nothing wields more sublimely stunning yet fearsome power in Shelley's lines than ubiquitous and amorphous water. In all of its forms, moving quickly or slowly, Shelley catalogues its astounding force: "Ocean," "ice," "rain," "earthly rainbows," "waterfalls," "floods," "fountains," "streams," "springs," "well[s]," "cloud," "glaciers," "snow," and even "vapour" "revolve, subside and swell" in his poem (85, 17, 86, 25, 9, 64, 101, 84, 4, 122, 15, 100, 74, 138, 95). Nigel Leask's seminal essay on the underlying "geological context" of the poem likewise detects the heft of aqueous force, positing that the "most forbidding and

destructive agent of natural power in *Mont Blanc* is undoubtedly glacial, and … Shelley's glaciers reveal a strong link between his poem and Hutton's eternal earth-cycle (200). Leask makes a critical intervention with this move, addressing how the incorporation of Hutton's uniformitarian theory allows the poem to counter running ideas such as neptunism, catastrophism, as well as a Coleridgean pantheism empowered by God's vigor.[18] However, Leask does not provide an in-depth analysis of the lines where Shelley writes ice and water into a seat of near total primacy, nor does he spend time with Hutton's language in detail or Playfair's 1802 popularizing account *Illustrations of the Huttonian Theory*. Such examinations are helpful, though, particularly since Shelley shifts the focus of his prospect poem away from one's private holdings or historicized grounds to pay tribute to the slippery yet captivating transformations fashioned by fluid glaciers, oceans, rivers, clouds, and storms.

SHELLEYAN AESTHETICS MEET HUTTONIAN SUBLIMITY

Theory of the Earth offers a model for Shelley's sublime aesthetic, one that turns upon the agency of water. Hutton's text comes rife with references to an overwhelming sense of awe and inspiration derived from the befuddling, interlocked structures of terrestrial catabolism and anabolism. While scholars have long suggested that these ideas influenced the geological subtleties figured in "Mont Blanc," it is also useful to consider how the Scottish theorist's findings might also have helped to shape the poem's language of the sublime. For, like Shelley, Hutton describes not only the logistical complexity inherent to the earth's water-borne processes of regeneration, but also the cognitive hurdles that vast natural processes produce for the human mind. He writes:

> The whole of a great object or event fills us with wonder and astonishment, when all the particulars, in the succession of which the whole had been produced, may be considered

> […] The raising up of a continent of land from the bottom of the sea, is an idea that is too great to be conceived easily in all the parts of its operation, many of which are perhaps unknown to us; and without being properly understood, so great an idea may appear like a thing that is imaginary. In like manner, the co-relative, or corresponding operation, the destruction of the land, is an idea that does not easily enter into the mind of man in its totality, although he is daily witness to part of the operation. 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 foundation of our dwellings. Thus, great things are not understood without the analyzing of many questions, and the combination of time with many events happening in succession. (119)

Underscoring the work that water does on this planet, the geotheorist grants that the earth's both sudden and incremental transformative processes easily overwhelm human understanding and sensory apparatus. He considers two examples of what he elsewhere paints as the operations of the earthly "machine in general, with those moving powers, by which its operations, diversified almost *ad infinitum*, are performed" (38). With the instance of land formation, which he describes as an idea exceedingly difficult for the human mind to conceive, he takes it for granted that such an involved formulation "fills us with wonder and astonishment." Such diction gestures toward the telltale mixture of inspiration and fearsomeness found in the aesthetic of the natural sublime. The natural philosopher next suggests that rattled as one might be from this, it should be no surprise that the "wonder and astonishment" we take away from "great object[s] or event[s]" might easily lead to misunderstanding and thus to considering nature to be "like a thing that is

imaginary."

In addition to identifying what amounts to a cognitive challenge, Hutton also isolates an element of disavowal embedded in the way humanity gauges water's incremental erosion of the land. "We must acknowledge" that rivers "carr[y] away […] part of our land," and that the "hostile attack of the sea upon our country" "sap[s] the foundation of our dwellings" even though we may prefer not to consider this inevitability. He provides a model of human understanding measured by our ability to reckon with and grasp the emergence and presence of "great things," even those that overwhelm us to such a degree that we question their reality. Furthermore, he evaluates the human mind based on our shared capacity to face what hides within the earth's great powers of production, that being, its "co-relative and corresponding operation[:] the destruction of the land." In other words, Hutton urges his readers to accept the virulent, and at times mind-boggling, corrosive movements of water. Just as Shelley will do later, the natural philosopher uses fluidity to highlight a material agency that is at work both within the human being and beyond it. Noah Heringman confirms this very point in his consideration of "Mont Blanc." He offers that Shelley's poem illuminates a "sense of dynamic geological process and nonhuman agency" (71). For Hutton, in order to fathom such material agency, the human mind must call upon the imagination so that one can conceive of the river in flood; in turn, such a conception, which requires great effort, empowers our potential to acknowledge the awful "sublimity" of rivers and floods as they ever-transform and carry away the ground that we more easily, more comfortably seem to know.

Hutton insists upon the inherent fragility of our terrestrial environment, built as it is from "a series of great natural revolutions in the condition of the earth's surface" (Playfair qtd. in Hutton 159). Thus, even our beloved *terra firma*, "that solid mass, which of itself had potential

stability against the violence of the waves, affords the instruments of its own destruction, and thus gives occasion to its actual instability" (Hutton 320). Addressing this main topic early on—not simply humanity's engagement with the earth or the globe's overall composition, but the earth's tremendous, complementary processes of catabolism and anabolism—Hutton invites readers to "consider what is to be the subject of examination, and where it is that we are to observe those operations which must determine either the stability or the instability of this land on which we live" (319). He encourages the human subject to understand the earth as something other than an enduring emblem of human agency. Further, the theorist suggests an alternative to envisioning the earth "merely as a machine" (40). Instead, he queries: "may it not be also considered as an organized body? Such as has a constitution in which the necessary decay of the machine is naturally repaired, in the exertion of these productive powers by which it had been formed" (40). Hutton's sublime aesthetic parallels Shelley's: it illuminates material and physical curiosities in and of themselves. The earth itself is both wonderful and astonishing for Hutton, with no match in machine or humankind, neither in a Kantian imaginative response that might somehow make room for the complexity of the planet's grand operations, nor in a Burkean matrix of social forces or commercial and national orders. Moreover, the proto-geologist presents the earth's composition and dissolution as acting necessarily in tandem, in correspondence with one another and operating in the sublime terms of a necessary mixture of good and bad, the wonderful and the thunderstruck. Jonathan Playfair, Hutton's first biographer and early advocate, helped to popularize these ideas in his more accessible *Illustrations of the Huttonian Theory of the Earth* (1802), where he distills the natural philosopher's geotheory. Paragraphing Hutton, he explains how "by far the greater part of the bodies which compose the exterior crust of our globe, bear the marks of being formed out of the materials of mineral or organized bodies, of

more ancient date. The spoils or the wreck of an older world are everywhere visible in the present […]. [I]t is in vain to look for anything higher in the origin of the earth" (Playfair qtd. in Hutton156; Hutton 118). The material of the earth (its age, transformations, and re-emergences) sparks wonder and intrigue of the highest order—a mystique thus associated not only with Hutton, but also with Shelley's sublime discourse in "Mont Blanc"—especially when the earth is understood for the fluid-born "wreck" that it is. In other words, my emphasis here is that for these authors, awe and mystery rise out of the material world and not from any transcendental or divine immanence.

Much has been said about "Mont Blanc" as a tribute to the potential of human thought; however, my aim is to uncover a wider, geologically-informed sublime aesthetic alive in Hutton's theory and Shelley's poetics, and that requires a return to the poem's metaphoric exchanges between thought and water. Indeed, I cannot overstate the extent to which Shelley links the human mind to the impressive plasticity and potency of aquatic force. No doubt, it is precisely this metaphor that drives so many to associate "Mont Blanc" with the Kantian, subjective sublime—a sublimity that celebrates the expansive, imaginative, yet reason-based capacities of human thought. Similarly, for Shelley intellectual activity resembles a flowing network of ideas: "The everlasting universe of things" funnels "through the mind" just as water runs efficiently along well-worn routes like "Ravine[s]" and riverbeds (1, 2, 12).[19] The intricacy of the Shelleyan metaphor reveals itself a few lines later when the poet writes of the "secret springs" that are the "source of human thought" (5). Regardless of their origins, such outpourings of human ingenuity, like the fount he juxtaposes with the mind, emerge only by way of collaborative technique. A union of water and rock produces the rush of sound, the transformation of matter into meaningful utterance. Whatever sublimities might invigorate

"human thought," "rapid waves," or "waterfalls," each produces merely "a sound but half its own" (5, 2, 9, 6). These lines emphasize the necessity of collaboration, or to use Huttonian phraseology, "co-relation," between fluidity and stability. Shelley suggests that aqueous and human existence both require some element of interdependency; whether addressing "human thought" or the crash of "rapid waves," he underscores the inter-related origins and ends of the earth's various natural and human products.

Looming at the foot of the mountain and spreading to the top of the vale, sublime waters surround the poetic subject. Shelley's beholder is encircled by the aqueous flows and aquatic circuits of biotic life in the Vale of Chamonix. The power of the glacier's aqueous forces cloud the subject's view and help to launch the poem's erstwhile hiker into bouts of reverie, emphatically not the stuff of human exercise or contrivance found in traditional prospect poetry. Water, either in the form of vaporous cloud or the spray from the glacier's rapid runoff, envelopes both observer and landscape. Shelley writes:

> Thus thou, Ravine of Arve—dark, deep Ravine—
> Thou many-coloured, many-voiced vale,
> Over whose pines, and crags, and caverns sail
> Fast cloud shadows and sunbeams: awful scene,
> Where Power in the likeness of the Arve comes down
> From the ice gulphs that gird his secret throne,
> Bursting through these dark mountains like the flame
> Of lightning through the tempest;—thou dost lie (12-19)

Invoking the multiform and versatile faculties of water, Shelley stresses the element's omnipresence and overall potency. The river and its less tangible brethren like the "cloud" and

"etherial waterfall" promote the "strange sleep" that "Wraps all in its deep eternity" (29). Instead of placing humanity above the other things of this earth, Shelley subordinates the work of all earthly entities to the work of water.

SHELLEY AND THE PROSPECT POEM

Later known as loco-descriptive or topographical, prospect poetry was famously described by Samuel Johnson as a sort of "local poetry" (9:77). Hailing the Irish poet, Sir John Denham, Johnson avers that he "is deservingly considered one of the fathers of English poetry" because his "Cooper's Hill" (1643) brought forth an entirely "new scheme of poetry" (9:75, 77). According to the father of the English dictionary, this new poetic mode would later cement its value in being "copied by Garth and Pope" (9:77). Further, Johnson describes Denham as the "author of a species of composition that may be understood as *local poetry,* of which the fundamental subject is some particular landscape, to be poetically described, with the addition of such embellishments as may be supplied by historical retrospection or incidental meditation" (9:77).

While "Mont Blanc" offers a poetic description of a particular landscape embellished with meditation and retrospection, it does not conform to the tradition Johnson outlines. Such works generally invoke nationally rooted myths or, like Alexander Pope's "Windsor Forest" (1713), economically beneficial endeavors manifested through sciences like agriculture and economics.[20] In *Landscape, Liberty and Authority,* Tim Fulford demonstrates how traditional prospect poetry reinscribed and legitimated social and political power by allowing "propertied classes" to imagine their "distant, extensive, and detached view of the scene" as a symbol of their naturally reinforced dominance (4). In contrast, Shelley subordinates his narrator-surveyor not to a naturalized human order mirrored by the landscape, but to the actual natural order independent

of the gazer. His poem refigures the awestruck observer who, following Burke, rightfully bends to a sublime landscape just as he would to a more or less naturalized monarchic or dictatorial world. Even more, he showcases *water*, not land, monarch, or God, as the most sublimely daunting and inspiring entity within the poem.

We can see how "Mont Blanc" differs from its predecessors by setting it against Pope's iconic work, "Windsor Forest." This poem belongs to the more traditional stock of prospect poetry, even though critics now rightly recognize it as a nuanced commentary on British commerce and national identity. Pope depicts the royal grounds, the haunts of shepherds and huntsmen, and various colonial locales—all specifically British holdings. He also figures the Thames and Britain's well navigated seas to highlight the Empire's ability to "join the regions [that the world's seas] divide" (378). Replete with celebratory views of English properties, woods, and plains, as well as an account of key national events, Pope's exquisitely crafted paean to the royal hunting grounds and the gardens that make up Windsor Forest affirms Fulford's claims. This poem, like others within the its genre, exhibits the role prospect poetry plays in naturalizing a particularly aristocratic political purview even as Pope also uses his poem to critique the damaging byproducts of such an order.

In "Windsor Forest," nature acquiesces both to the desires of the poetic subject and to the power of Granville, the military figure most praised in the work. The muses of the natural world are called upon imperatively:

> Invite my lays. Be present, sylvan maids!
> Unlock your springs, and open all your shades.
> *Granville* commands; your aid O Muses bring!
> What Muse for *Granville* can refuse to sing?" (3-6)

Not even the powerful muses of the epic tradition can refuse Granville, but Pope's lines do often take on a melancholic tenor when he describes a landscape that appears to exist only for man's desires, whether local and agricultural or global and imperial.[21] The viewer finds nature offered as "gifts [that] in waving prospect stand" (39). We see lands transformed into agricultural grazing lands for English "flocks" (37). The multitude of "our oaks" fulfill their commercial destiny bearing "precious loads," or patrolling "realms commanded" when retooled in the form of naval ships (31, 32).[22] Across the board, Pope's heroic couplets reveal a landscape where "Rich Industry sits smiling on the plains" (41). Linking formal order in the poem to an economic order sustained by the products of English surrounds, Pope exposes how Britain's military and monarchical might springs from its "humble mountains" (35).

Where, as we will see, the constantly mutable substance of water connotes a radical, non-possessive or non-proprietary potential for liberation in "Mont Blanc," Pope's celebration of the River Thames in the latter half of "Windsor Forest" signals a nationally-marshaled deluge of "British floods!"—a nautical control ushered in by the British Empire and its naval supremacy (217). In the same vein, while fluidity will captivate and perplex the lyric subject of "Mont Blanc" for its sheer ephemerality and continuous flux, here water becomes an enduring symbol of English supremacy. Pope's "Old father Thames" figuratively advances, "swelling" and pooling in the form of flood waters at the Queen's behest. The aquatic, though powerful, is a thing to be secured and harnessed. Pope amplifies the nature of such possessive intent by repeatedly referring to the possessive pronoun "[h]is" when describing father Thames's protective "advance" (327, 329, 320, 331, 332, 328). "His swelling waters; and alternate tydes /" enforce the Queen's command (332). With this more threatening characterization of London's iconic river, Pope highlights the ferocity alive even in his pastoral portrait of Windsor Forest. His

Thames wears the dress of a proprietary, Burkean sublime, with potentially destructive, nationalized aqueous forces poised threateningly before anyone in the world who would dare disobey the Queen (326).

Moreover, by metaphorically militarizing the Thames and its surrounding environment, Pope grapples with England's fraught history of exploiting its own resources in a mad scramble for the accumulation of capital through access to other lands' resources and other people's labor.[23] In the following passage, a paternal Thames harbors an army of oaks ever poised for combat and the spread of empire:

> And floating forests paint the waves with green.
> Thro' the fair scene rowl slow the ling'ring streams,
> Then foaming pour along, and rush into the *Thames*.
> Thou too, great father of the *British* floods!
> With joyful pride survey'st our lofty woods;
> Where tow'ring oaks their spreading honours rear,
> And future navies on thy shores appear.
> Not *Neptune*'s self from all his streams receives
> A wealthier tribute, than to thine he gives.
> No seas so rich, so gay no banks appear,
> No lake so gentle, and no spring so clear.
> Not fabled *Po* more swells the poet's lays,
> While thro' the skies his shining current strays,
> Than thine, which visits *Windsor*'s fam'd abodes,
> To grace the mansion of our earthly Gods:

Nor all his stars a brighter luster show,

Than the fair nymphs that grace the side below:

Here *Jove* himself, subdu'd by beauty still,

Might change *Olympus* for a nobler hill (214-32)

The poem boasts of British soils superior even to the ancient Greek gods' imagined ethereal stronghold, suggesting the mere hills of Windsor Forest might outshine the divine "terrain" of Mount Olympus. "*Windsor*'s fam'd abodes" house "earthly Gods" fed by a Thames figured so fantastically as to be the father of the emphatically nationalized "*British* floods." Like Windsor Forest, the "Unbounded Thames" is unbounded only inasmuch as the British Empire is unbounded (397).[24]

If John Burns is correct in his pronouncement that "The Thames is liquid history," then surely the turbulent history Pope sees reflected in that body of water is almost entirely nationally and commercially situated (qtd. Bird 502). It is as if Pope feels that his contemporaries cannot see Windsor Forest through its future naval trees or the Thames apart from its access to commercialized seas.[25] Arising out of such a poetic tradition, Shelley's "Mont Blanc" in effect responds to Pope's ecological and social concerns by shifting focus to consider the fluids that run throughout all lands regardless of market or empire. His poem does not extol or decry some mythologically nationalized terrain, nor does it fix upon the problematic commercial properties of water, but instead wrestles with a scientifically inflected history of liquid.

OUT OF THE "WRECK OF AN OLDER WORLD": A FLUID REVOLUTION OF CO-RELATION

Shelley's sublimely powerful water suggests a Huttonian landscape where the habitable planet continually corrodes all that it builds. Quite like Hutton, the poet of the west wind plays

up water's dual roles as provider (feeding the "many-coloured, many-voiced vale") and destroyer ("bursting through" rock). Shelley compares the raging river Arve to a calamitous "flame / Of lightning," and then in quick order depicts water's complementary domestic side as parent to a "giant brood of pines" arrayed around it like "clinging / Children of elder time" (18, 19-21). Even the ephemeral winds come to "drink" from the "old and solemn harmony" of aqueous yet earthly "rainbows" born of the "etherial waterfall." Sustainer and demolisher, Shelley's waterfall bears fluid food for the atmosphere as it forms and eats away at the bed of rock on which it lays (23, 24, 25, 26).

Such moments showcase water's productivity, or more precisely, the element's correspondent maneuverings of regeneration via continual corrosion. This trope of renewal through decay arises repeatedly in the poem, ultimately showing how solitary agents have no place in Shelley's "Mont Blanc" since everything is part of an ongoing process. The productive destruction proposed in Huttonian geotheory and in Shelley's poem each hinge upon a system of "co-relation." A particularly strong example of this phenomenon comes by way of the aural representation in "Mont Blanc." Christopher Hitt addresses the multiphonic sounds and noises Shelley weaves into the poem, but never accounts for their collaborative origins (145). For indeed, the Ravine's "caverns [are] echoing to the Arve's commotion" (30). Again privileging the realm of the aquatic as the ultimate bastion of the natural sublime, Shelley shows how the rocky "caverns" become sounding boards for the "loud, lone sound" of the rushing river that "no other sound can tame" (31). Similarly, these crashing waves are "pervaded with that ceaseless motion," which denotes an unending if not unstoppable mobility and presence (32). Finally, and compounding each accolade of majesty with the next, the unceasing sounds and movements of Shelley's Arve produce an unremitting, comingling sound, amounting to a display that

overwhelms human comprehension. The following lines reveal the Arve's ability to overpower the mind of the speaker:

> Thou art the path of that unresting sound—
>
> Dizzy Ravine! And when I gaze upon thee
>
> I seem as in a trance sublime (33-5)

The familiar passage demonstrates what I think is not familiar to most readers: that it is the sight and sound of the ravine's waters slapping against a bed of rock—the collaborative "path of that unresting sound"—that so dizzies the "human mind" (37). Here again, Shelley's lines echo Hutton's passage on the river. In both cases, the movement of water in relation to land provokes a chain of cognitive roadblocks. Hutton characterizes the fluid and necessary deterioration of our land as an "awesome," frightening, and almost un-acknowledgeable or unintelligible truth; Shelley describes the sight and sound of the Arve's untamable liquidity in similar terms by directly citing the sublime, imbuing the river with a mixture of terror and splendor.

Both Hutton and Shelley use the language of the sublime to grapple with those amazingly generative yet startlingly catabolic processes at work on the globe. In both cases, such sublime wonder leads to reassessment, inspiring the awed subject to reconsider his place in the world and the very nature of the material world itself. Although it is so thoroughly a "Dizzy Ravine," a stunning and mind-boggling natural phenomenon, reckoning with the Arve's inherently virulent creative process nevertheless provides special insight. Like sounds that exist only in tandem, through a co-relation of water and rock, this "trance sublime" allows the "human mind" to hold "an unremitting interchange / With the clear universe of things around" (37, 39-40). Contemplation of the Arve reveals necessary but nonetheless wondrous truths of co-relation, and the glacial runoff it presents embodies an almost counterintuitive constancy in its mutability.

Taken together, this ontological order of collaboration and destabilization thwarts the pursuit of final analyses. Such projects become the equivalent of snatching at mere "shadows" or "Ghosts" (46, 45). These guesses at the order of things occur within the arena of *techne* and human creation—that is, inside the "cave of the witch Poesy," which lies "still" compared to the Arve's mobile and generation. Matched against a world that intermingles origination and cataclysm, even the plastic "Poesy" appears less flexible, especially those poetic efforts that deny the unstable nature of the earth itself —even more, that refute the insecure nature of life on this planet. Such literary reifications of the earth—appear still, dead, or corpse-like when compared to the "fast influencings" of the "Arve's commotion" and "unresting sound" (44, 38, 30, 33).

For both authors, the "wonder and astonishment" drawn from actual encounters between the imagination and the material world trump that inscribed on the page or even envisioned in dream. I would like to suggest that this is because such moments do not promote anthropocentric fantasies of limitless imaginings, but rather, imagining with limitation. While contemplating the liminality of the dreaming subject, the speaker next "look[s] on high" and wonders if the inhospitality of the intimidating mountainscape might be in league with the ever-present and influential, yet always distanced regions of "dream, and … the mightier world of sleep / Spread far around and inaccessibly" (52, 55-56). The poem conveys the reader out of poesy's cave, where one might attempt to understand the "Dizzy Ravine," and leads next to the "remoter world" inhabited only when we "sleep," a realm populated by the stuff of dream (49, 50). The human condition that prohibits wakeful access to dreams or curtails the living from accessing the realm of the dead, no matter how much sleep may possibly resemble death, appears a "fail[ing]." As living beings, we cannot set up camp in either a dreamscape or in whatever region might lie beyond or after this life. By such futile attempts

the very spirit fails

Driven like a homeless cloud from steep to steep

that vanishes among the viewless gales! (58-60)

However, Shelley reveals how to recover from this failing. He compares this limitation to an inevitable and vaporous transformation that bestows humanity with the flexibility given to the cloud (57). Shelley invites humanity to live more aqueously, and as Deleuze would have it, more singularly (*Pure Immanence* 8). Water is an element full of singularities (as rain, snow, ice, or cloud) but never particularities; it never completely stops transforming and so never continues to occupy any particular space, place, or time. This restricts permanence in the sense of continuing on as any particular entity, but this very same limitation allows water to do all that it does on this planet. Suggestively exchanging human bodies for ethereal clouds, Shelley casts aside the seemingly fixed terrestrial landscape tied to traditions of human possession or reappropriation, replacing the earthly yet "homeless [and humanoid] cloud" with a "desart peopled by the storms alone" (67). In both stanzas two and three he compares the human body to vapors and to the transitory body of water that is the cloud, a link he will make again a few years later in the poem "The Cloud" (1820). In that work, the lyric voice speaks for a cloud and portrays a sentiment very much in league with that of "Mont Blanc." What is solid, stable, or built to endure garners no applause: "I pass through the pores, of oceans and shores; / I change, but cannot die—/ … I arise, and unbuild it again" (75-6, 84). It is almost as if Shelley's notion of human corporeality and its relationship to the natural world meant that he could no longer praise the body as the stuff of firm, biblical clay, but that instead, he needed to reconsider it as the product of a more fluid fount and to reimagine it as a body of water.

Water in "Mont Blanc" exists nomadically, constantly moving and transforming the land.

It exposes alteration, not privatization, as the truest form of conservation. Thus, what might first smack of despair also rings of the human ability to embody a more transitory, nonproprietary mode of existence. Turning the subject's position to one that is neither the zenith nor nadir—one that is situated between—the human being is not a grand or vilified possessor, but at best becomes some sort of humbled and ephemerally-situated interlocutor. The poet underscores the sublime presence of the Arve at the close of stanza two and illuminates the sublime presence of the entire glaciated mountainscape by the end of stanza three. In each case, human theory and postulation recede. In place of limitless prospect of sight or mind, the "man may be / […] with nature reconciled" not through objective final analysis, but with sentient interpretation, with sense perception, with the subjective tool of deep feeling (79). Compellingly, Shelley places "interpret" on par with feeling ("Interpret, or make felt, or deeply feel") (83). Shelley's "wilderness" "teaches" the observer a sublime, "awful doubt" (77). Having already established a precedent within the poem of a fluidity that speaks to humanity (with the bursting and raving Arve) the "silent snow" of the glaciated scene now likewise assumes a currency that trumps human endeavor and analysis (74). A hindered view, a state of humility and uncertainty, allows "man" to listen and maybe yet hear the otherwise unheard "voice" of "silent snows" and that of the "great Mountain."

Stressing the wondrous feeling provoked by water's formidable powers and ubiquitous presence, Shelley's poem prompts the reader to find his or her own fluidity and flexibility in being able to acknowledge that stability is actually not possible. First Shelley likens Mont Blanc's hiker to the amorphous cloud. Next he metaphorizes the intimidating landscape into a stage for profound feeling as opposed to mere data collection or agrarian action; in doing so, he proposes something quite similar to the sublime, empirical experience captured in Hutton's geo-

theoretical papers. The penultimate stanza offers a comparison between the entire glaciated scene and its valley below to a stupendous arena where all of mortality exists in constant yet destabilized states of fluidity and flux: "All things that move and breathe with toil and sound / Are born and die; then revolve, subside, and swell" (94-95). Again the poet urges the reader to participate in the multiformity born of this terrifying yet appealing landscape, one that includes "fields," "lakes," "forests," "streams," "every future leaf and flower," as well as "[t]he works and ways of man, their death and birth" (84, 90, 92). In his poem, "Power" does not come to the observer through envisioning the natural world as a tessellated mosaic trumpeting human efforts of imagination as in Kant (95). Similar to how the subject's position below the Mount and before the Vale of Chamonix allows Shelley's viewer to witness the overwhelming and collaborative forces of water, stanza four asserts that the "works and ways of man" can only be recuperated when understood alongside works of nature and as works by nature. In the opening of his penultimate stanza Shelley pairs careful diction and word placement with a repetition of the word "and" to privilege a dwelling within and to promote a life lived amongst.

> The fields, the lakes, the forests, and the streams,
> Ocean, and all living things that dwell
> Within the dædal earth; lightning, and rain,
> Earthquake, and fiery flood, and hurricane (84-7)

Weaving the term "and" throughout his verse, Shelley's phrasing parallels that of Lucretius. As Deleuze reminds us, according to Lucretius "'Nature is not attributive but conjunctive: it expresses itself through 'and,' and not through 'is'" (qtd in Deleuze 267). Even the most cursory glance at the opening of the poem's fourth stanza reveals that Shelley's lines terminate mostly with aquatic entities (streams, rain, hurricane). Otherwise, he opens with "fields," a more

common terrestrial setting than a remote and daunting pinnacle. The only non-biological opening word in this sequence, "Within," denotes a place that requires the experience of co-relation. Shelley begins this line with the ontological and empirical term for the type of interrelated mode of existence his poem celebrates, honoring a life lived "Within," amongst, or amidst and not one lived above these natural phenomena. Correspondingly, the only non-water-based closing word in these enjambed lines is "dwell," a term that emphasizes how a given place or position shapes the experience of "all living things," and which also harbors the aquatic term "well" within itself. Shelley's use of enjambment also positions "streams" directly before "Oceans," suggestively echoing Hutton's river passage and its ethic of collaboration and combination. Similarly, the poet lodges the greater earthly community between the prodigious fecundity of the fields, forests and streams and the globe's more threatening entities: earthquake, volcanic eruption, and hurricane. Shelley pushes his readers to accept the earth's sublime material packaging. As in Hutton's work, the observer in Shelley's poem gazes on "the naked countenance of the earth," which instructs an "adverting mind" that contemplates the sublime multiformity of water, here at work in the glaciated landscape. Water embodies the *attributive wonder* found in earthly formation and decay.

A RAVING ARVE, A MER DE GLACE, AND A PROSPECT POETICS OF LIFE COMINGLED

Shelley's descriptions of the sublime powers present in the glaciated landscape speak to an awe moved by forces of co-relation instead of simple subordination. The sublime aesthetic that so wondrously captivates as the Arve continually slaps upon rock or as the Mer de Glace's snows silently glisten from above inspires a deference to the material world. And, as in *Theory of the Earth,* here such esteem does not patronize nature's progeny as aesthetic objects in need of

protection. Hutton prompts the amazed beholder to do more than passively witness nature's actions, urging the awe-struck observer to acknowledge the productive destruction caused by myriad operations of the globe. His call does not prescribe a sublime struggle for mastery but a sublime struggle for acceptance. In both writers' works the natural sublime helps us to acknowledge our end and our bounds as much as our beginnings and our potentialities.

In its rereading of the limit of all that we are not and perhaps of the curtailed reach of the human mind, the glacier's sublime and slow movements in "Mont Blanc" closely resemble the fearsome, overwhelming, and ever-present "succession" of events through which Hutton describes the formation of the earth's surfaces. Shelley's icy "city of death" appears wholly predatory; it unveils the peril that comes from life lived within a dynamic, earthly home (105). With its sequential and "perpetual" layers of snow and ice, the glacier's construction takes far longer than the creation of a human life, and during its lifespan will continue to break up the earth upon which it lays (109). Thus it follows that the "beaming ice" would appear "impregnable" to the human observer. It exists well outside the timeline of human procreation and the span of organic life most closely observed by humanity ("insects, beasts, and birds" [115]), so much so that the glacier's active role in wrenching apart rock and formulating the mountainscape are not immediate fodder for the human mind. What is most comprehensible is that the terrain is inhospitable to human appropriation and sustenance, and through such a lens appears only to yield "mangled soil / Branchless and shattered" (110-11). Throughout this passage, Shelley paints the glacier with monstrous overtones, admitting how "The race / Of man, flies far in dread" from such a prospect because there "his work and dwelling vanish" (17-18). But as if in tribute to Hutton, just after acknowledging this impulse, the poem swiftly reminds us that "[b]elow, vast caves / Shine in rushing torrents' restless gleam" "Meet[ing] in the vale" that

physically lead to Lake Geneva (120-1,123).[26] The glacier, like the river, springs eternal, but this equivalence flies in the face of human comfort, man-made habitation, and defies the habitual domain of human thought.

Hutton suggests that readers break from convention to visualize the earth's continual undoing and to recognize some part of the necessary deterioration wrought by major floods in the successive movements of any rivulet. He uses the limit of human sight, and the wonder of the unseen, to make readers envision the earth anew. In similar fashion, Shelley spurs the reader to imagine what may go unheard or unseen but nevertheless lies full with meaning. Once again championing an empirically channeled imagination, Shelley represents the value present in what might escape our first glance or fall lost upon first hearing. Not surprisingly, the poet does so by figuring silence in aquatic terms (as glacial snows). Ending stanza four with the "majestic River['s]" "loud waters" transmuted into "swift vapours [in] the circling air," Shelley synesthetically tackles the concept of change made constant (123, 125, 126). He mediates the audible through the visual. Thus he concludes his penultimate stanza with the majestically powerful river's heavy "breath[ing]" only to open his last stanza with the image of "Mont Blanc yet gleam[ing] on high" (126, 127). This de-anthropomorphized power "gleams" on high because water's ice and snow enwraps it. "[T]he power is there, /" for the eye to glean and for the ear to acknowledge; it is the "still and solemn power of many sights, / And many sounds, and much of life and death," inclusive of humanity but not exclusive to humanity (127-129). The unheard aspect of the snow's fall comes in tow with the unseen, with "flakes burn[ing] in the sinking sun," which "none beholds" (131, 132). "[S]nows descend / Upon the Mountain" and the entire scene becomes a pantomime dedicated to the quiet or unacknowledged forces of water (131-2).

Winds contend

Silently there, and heap the snow with breath

Rapid and strong, but silently! (134-6)

The sublime and "voiceless lightning" too resides "in these solitudes" (137). It "Keeps innocently, and like vapour broods / Over the snow;" it too seems to be lost in thought when contemplating water (138-9).

If we take Shelley quite literally, we can see that the "secret strength of things" is humanity's and overall, the earth's aqueous, fluid, and adaptable nature. His "secret strength of things / Which governs thought" also administers over the poem's "infinite dome / Of heaven," and, as we have seen previously, Shelley's heaven was peopled only by the cloud (140-141); it is not God but the water cycle that is revealed. This "revisionary" investment in a material sublime is what Christopher R. Miller describes as a "move [that] is typical of Shelley's poetics: to retain 'heaven' as a signifier of the sublime while purging it of associations with hierarchy or orthodox piety" (578). Fluidity is simultaneously our shared secret strength and a transformative, flexible, and mutable force that threatens all that it fosters. Water is a part of us and outside of us, in us and yet beyond us. Ice encased on the rock "gleams on high" while the human subject looks on from below to learn from it. Correspondingly, if we follow the collaborative sound that voices the power of the Arve, it will transform into unvoiced and unheard powers condensed into cloud and snow. So it comes as no surprise that Shelley concludes with a question wholly rhetorical and full of accusation:

And what were thou, and earth, and stars, and sea,

If to the human mind's imaginings

Silence and solitude were vacancy? (142-5)

If anything, what the sublime power of water has to teach is that solitude and silence are fully inhabited, powerful, and never vacant. Unheard snows do not lose potency for any of their seeming quietude. We are absent to the faculties of water and nature as they transpire over deep time, and so imagination must compliment empiricism so that we learn of our limits just as we learn of our potentialities.

In their respective projects each author promotes a destabilized version of the natural world; they offer an epistemology of dissolution that pays homage to our fluid and plastic material world. For both "Mont Blanc" and *Theory of the Earth* deploy narrative representation and figuration to exhibit a train of thought alive in this era that emphasizes cognitive confusion and general instability. Each welcomes an unsettling geological agency that dampens human potential and prowess. In *Ecology without Nature*, Morton notes that "[i]integrity, stability, and beauty are all aesthetic criteria" (194). Shelleyan poetics and Huttonian prose deliver positive aesthetic renderings of fluidity's fecundity *and* decadence in order to reevaluate and unhinge traditional ideologies of solidity, endurance, and posterity. Importantly, our general and shared condition of flux disturbs fanciful conceptions of solidity, endurance, and posterity within nature *and* culture. In a suggestive compliment to Hutton's generative and corrosive rivers lost in a sea of floods, Shelley's "many sights, / And many sounds" (including the unseen and unheard) do not only reveal "much of life," much of human progress, or much of the overarching productivity housed by our planet. These "many sights, / And many sounds" unveil "much of life *and death*" and ultimately reveal that preservation comes not from widening landed prospect but through an acceptance of natural, ecological instability. Our earthly strength requires loss: the loss of sound, the loss of land, the loss of stability. As if to urge us past the idea of holding claim to a paradise lost, Shelley's encomium to aqueous force asks us to acknowledge our world in terms of a

Huttonian *paradise* of loss.

Chapter 6 – Conclusion

Derridean Elsewhere and a Sublime "Impossibility of Staying Still"

MATERIAL SUBLIMITIY: REGROUNDING THE MEASURE OF MAN[1]

An intensely intimate documentary by Safaa Fathy, *Derrida's Elsewhere* (2000), brings viewers into the philosopher's house and classroom. Then in closing interviews we witness him near ruins and a shoreline pounded by breaking waves. Leading the camera on a tour through his home, Derrida climbs upstairs into the small, unlit attic that is his personal workspace. Once inside and surrounded by overflowing walls of books and precarious paper towers, he turns to his director and begins to assess the room in terms sublime:

> The sublime refers to what is just underfoot. Yes. At the same time high and under. This place has an aspect of the undersea, underground, under the heavens… Yet at the same time it can't be any higher. I can't justify this word that seemed convenient—I called it my sublime. It's also the place of sublimation.

Challenging simple perspectivalisms, here he is both above and under, aground and at sea. Using a word inexplicably apt for such a place of conflicting correspondences, he chooses *sublime* to describe "what is just underfoot," but cannot "be any higher." After turning to this expression to define the foundation below his toes, he also dubs his office to be a "place of sublimation," a locale brimming with obscure actions and ongoing process. Why does Derrida recruit the language of the sublime to style this room? Could it be the general state of disarray, the almost Buffon-esque condition of "sublime disorder" effected by stores of books and loose documents?

Or perhaps it was the study's overall portentous and quite vertiginous feel that brought this discourse of uncertainty to mind?

In another exposition on the intersections between thinking and dwelling, as Heidegger would have it, the last scene in the documentary leaves Derrida against a rough seascape as he reflects on the broader trajectory of his life and work.

> I do not know how to risk even the least sentence without dropping it to the ground in silence … to the ground its lexicon, to the ground its grammar and its geologics. How to say anything other than an interest as passionate as it is disillusioned … for these: language, literature, philosophy … something other than the impossibility of staying still, as I do here 'I sign.'

The arguments advanced in the present work unfold out of an intellectual pairing reminiscent of these two moments from Derrida. As Ron Broglio demonstrates, what he calls *Technologies of the Picturesque* (2008) are awash with discrete numbers, containable proportions, and reassuring exactitudes that make landscapes increasingly intelligible. *Technologies of the Sublime*, on the other hand—and the more kinesthetically-sensitive valences of sublime discourse they bring to light—recurrently resist the promise of stability or any easy legibility.

In the simplest terms, such sublimity is elsewhere; it is a sublimity on the move. How does one isolate or locate an elsewhere? A partial rejoinder to this unanswerable question exists with the elusive dynamics of moticity[2] itself and the aporia at the very heart of change, alteration, mutability and the sublime impossibility of staying still. Long ago Kant tarried with the hopelessness of quantifying or pinpointing the sublime in the *Third Critique*. Perhaps surprisingly, such thinking finds its physical counterpart represented in a divergent strand of the Romantic or natural sublime, the material sublime. Familiarly described by Keats, others turned

to a similar formulation to grapple with confounding environmental and architectural developments as well as exceedingly adroit human gestures and feats of kinesthetic mastery—those intriguingly termed "motor" skills that likewise channel a sense of wonder born of a marvelous moticity.

Writ large, *Technologies of the Sublime* spans the latter half of the eighteenth century through to the middle of the nineteenth to illuminate the shaping role of technology in discourses on the sublime; at the same time it reveals the place of sublime discourse in literary and reception histories of the era's celebrated infrastructural technologies, early seismological experiments, and even the human body as a Diderotean physical instrument.[3] This project examines the deep ties shared between discourses of the mechanical, the technologic, and an unsettling strand of sublime discourse. In the preceding chapters, I chart how authors variously understood and at times revised the discourse of the sublime in light of Britain's grand infrastructural pursuits and in the shadow of the so-called second scientific revolution, primarily investigated here in terms of emerging geological and seismological thought. Therefore, what I mean by "the material sublime" is not simply another way to talk about the Romantic or natural sublime conventionally understood. In those narratives authors routinely depict a temporary union between the observer and the powerful object or event in nature only to allow for the greater celebration of the human mind in finally transcending the magnitude of nature through the unbound imagination. As Khalip and Collings point out in their introduction to the recent special edition of *Romantic Circles Praxis Series*, "Romanticism and Disaster," "Kant in fact left empirical devastation in place, superseding it not by imagining any historically actual resolution but by creating a new category of solace, the mind's reassurance of its destination in a zone beyond any empirically available experience" (para. 8). Apart from such accounts, the material

sublime comes to the fore in dallying with the contingent vulnerabilities at play in the empirical realm—what Shelley calls "chance and death and mutability" in *Prometheus Unbound* (III.4.201); it acknowledges a level of fragility and a kind of constrained imagination typically disavowed in the more traditional sublime topos. Beyond this, contravening the Romantic era's growing celebrity and tourist cultures bent on the unique example, this less certain aesthetic also allows for a departicularized celebration of startling and constant transformations not inherently unique to any natural or technological landmark.[4]

Undulating landscapes, liquefied valleys, quivering needles, pulsating mercury, Indian jugglers, Kleistean dancers, ships suspended, bending bridges, a raving Arve, a now catabolic, now anabolic Huttonian globe all betray a type of motive majesty at home in the verb *sublimate*. This term resounds with a surprise and fearsomeness that springs from confounding morphologies of matter as in the swift mutation from dense substance to airy vapour. Its connotation, grounded in the movements of matter, is categorically distinct from the more familiar notion of *sublimity* that evokes a transcendent realm beyond the material world. When forwarding an appreciation for a necessary instability within the nature of things and the things of nature and humanity, the authors examined here offer something other than the seemingly limitless imaginings that scaffold the Kantian sublime place of solace that is the mind. For instance, no amount of mental play or structural planning can counter the swift waves of tumult that rupture the earth and collapse the bridge. This register of sublime discourse reflects that channeled by Telford in his deeply critical and troubling considerations of his vast infrastructural undertakings such as Menai Suspension Bridge. Furthermore, it appears when the engineer honors the numbers of labors and dangers such works require. It the same register of sublime

discourse deployed in the early work of Kant himself, the Kant living and writing directly in wake of Lisbon's tremors.

Of course, there are also more conventional iterations of this aesthetic found in sublime accounts of prominent landscape technologies, proto-seismological investigations, and the natural or human virtuoso. I have argued that the same valences within this discursive network that lead to Romantic celebrations of sudden or ongoing movements, be they earth-shattering or earth-generating or profoundly entertaining, also frame a more traditional reception of the sublime object and subject that pivots mainly on a final note of security rather than infirmity. Taking a page from the more predominant permutations of this discursive network, such figurations repattern the ways in which the general logic and language of the sublime codes time and labor. They confer glory to the finished product and instant agency, and in these cases diminish the value of the practiced labors behind a juggler's performance or the canal's construction. That is to say, the material sublime does not guarantee the type of sublime discourse that does not foreclose life's uncertainties. But it does avail an opportunity for one to think with the ongoing disorders and successive movements that pulse above us, below us and in us and that in themselves afford us the opportunity to consider "something other … than the impossibility of staying still."

Notes

Ch. 1. INTRODUCTION: TECHNOLOGIES OF THE SUBLIME

[1] See especially Monk, Hertz, and Weiskel.

[2] See for example Gigante.

[3] Due to its focus on the fragility that technologies mediate but do not extinguish and its attention to the mystery such devices provoke, my work departs from influential arguments posed by Max Horkheimer and Theodor W. Adorno. They contend that the Enlightenment is code for disenchantment, amounting to a totalitarian attempt to master fearsome nature wherein technology is no more than an economic tool. For instance, Horkheimer and Adorno forgo any cultural analysis of the technological artifact beyond its relationship to capital: "Technology…aims to produce neither concepts nor images, or the joy of understanding, but method, exploitation of the labor of others, capital. … What human beings seek to learn from nature is how to use it to dominate wholly both it and human beings. Nothing else counts" (2).

[4] Despite the fact that various British writers published accounts on the sublime in relation to politics, environmental catastrophe, and aesthetics, the most consistently cited eighteenth-century treatises on the subject are Edmund Burke's *A Philosophical Inquiry into our Ideas of the Sublime and the Beautiful* (1756), Immanuel Kant's *Observations on the Feeling of the Beautiful and the Sublime* (1763), and his *Critique of Judgment* (1791). This longstanding referential and citational habit is one that recent critics Ashfield and de Bolla rightly challenge in their jointly-edited collection of writings by scores of Scottish and Irish Enlightenment figures and English philosophers: *The Sublime: A Reader in British Eighteenth-Century Aesthetic Theory*, 1996.

[5] Foundational critical and theoretical texts on this area of inquiry include but are not limited to the following works: Abrams; Balfour "The Matter of Genre in the Romantic Sublime;" Balfour. "Torso: (The) Sublime Sex, Beatiful Bodies, and the Matter of the Text;" Carlson; de Bolla; Derrida, *Truth in Painting*; Frances Ferguson. *The Solitude and the Sublime: Romanticism and the Aesthetics of Individuation*. New York: Routledge, 1992; Furniss. *Edmund Burke's Aesthetic Ideology: Language, Gender and Political Economy in Revolution*; Lyotard; Mellor; Monk; Nicholson; Paley; Richardson; Weiskel.

[6] Siskin and Warner, *This is Enlightenment*, 2010.

[7] For an example of how a more materially-sensitive examination of the Romantic sublime enriches already established conversations on this subject, see this little remembered passage composed by Paul Fry in 1987: "the sublime is […] so obviously […] an unstable compound. It is a quantity yes, but the measure involved concerns movement, a movement that is stably discernible not as a rate but as a structure of exchange, and this moreover of the special kind that arises from delusion" (187).

[8] See Fraistat. *The Poem and the Book: Interpreting Collections of Romantic Poetry.* Chapel Hill, NC: U of North Carolina P, 1985, 3-23; Andrew Franta. *Romanticism And the Rise of the Mass Public.* Cambridge: Cambridge UP, 2007; Mark L. Greenberg. "Romantic Technology: Books, Printing, and Blake's Marriage of Heaven and Hell." *Literature and Technology.* Ed. Mark L. Greenberg and Lance Schachterle. Bethlehem, PA: Lehigh UP, 1992, 154-176.

[9] For studies on theatrical and musical contrivances see especially Christopher Baugh. "Scenography and Technology." Ed. Jane Moody and Daniel O'Quinn. Cambridge and New York: Cambridge UP, 2007; Gillen D'Arcy Wood. *Romanticism and Music Culture in Britain, 1770-1840 : Virtue and Virtuosity*. Cambridge and New York: Cambridge UP, 2010. Notable works on Romantic medicine include Alan Bewell. *Romanticism and Colonial Disease*. Baltimore: Johns Hopkins UP, 1999; Hermione de Almeida. *Romantic Medicine and John Keats.* New York and London: Oxford UP, 1991; George C. Grinnell. "Thomas Beddoes and the Physiology of Romantic Medicine." *Studies in Romanticism*. 45.2 (Summer, 2006): 223-250; Youngquist. *Monstrosities: Bodies and British Romanticism.* Minneapolis and London: U of Minnesota Press, 2003.

[10] See for example Virillo.

[11] See Scott J. Juengel, "The Early Novel and Catastrophe," *Novel: A Forum on Fiction* 42 (2009): 443-50, 444; Ray Gene, "Reading the Lisbon Earthquake: Adorno, Lyotard, and the Contemporary Sublime," *Yale Journal of Criticism* 17 (2004): 1-19, 3,9-11; Alexander Regier, *Fracture and Fragmentation in British Romanticism, Cambridge Studies in Romanticism.* Cambridge: Cambridge UP, 2010, 79-89; Suvendrini Perera, "Tortuous dialogues: Geographies of trauma and spaces of exception," *Journal of Media and Cultural Studies* 24 (2010): 31-45, 32-7.

[12] On the potential ethical charge of a more materially-understood sublime see Perera, 42.

[13] The familiar phrase comes from Keats's letter to Richard Woodhouse, October 27, 1818. There the second generation poet sets himself and his "poetical Character" apart from "the wordsworthian or egotistical sublime; which is a thing per se and stands alone)" (295). In contrast, Keats aligns himself with a more protean poetics that "is not itself—it has no self—it is everything and nothing—it has no character—it enjoys light and shade; it lives in gusto, be it foul or fair, high or low, rich or poor, mean or evelveated" (sic 295).

[14] Jeffrey N. Cox notes the "series of incongruities" Keats offers here, reminding readers that the lack of harmony in this set could echo Horace's *Ars Poetica,* II-1-5, which is precisely what Keats scholar Miriam Farris Allott contends (n. 2 p. 133).

[15] Intertwined print and scientific histories reveal the crucial role that technologies play in shaping this era's sublime aesthetic, and further, that the technological element of the sublime points to a material sublime of the everyday, not of the event or any singular occasion. This understanding offers a way back into the kinesthetic and sensual side of history—a material and tactile remedy to the currently more popular, transcendentally and impossibly disembodied version of the sublime that all too often renders humanity above and apart from nature, one that

frequently erases the role of technology and materiality as it lofts ideology and epistemology above natural ecologies or what we might call our earthly environment.

Ch. 2. THE SEISMOGRAPH, OR SUBLIME TECHNOLOGIES OF PLANETARY PERFORMANCE, 1750-1861

[1] It is perhaps not very surprising that the language of the sublime rather than the picturesque shaped questions dealing with the formation or deformation of the earth. In his introductory remarks to an edited volume on the "powers" of the earth, Richard Hamblyn observes how the "discourse of the Picturesque, […] sought to limit landscape to a formal sequence of arrangements and views, [and] showed little or no patience with the kind of subterranean scrutiny required by earlier activities such as geology. William Gilpin (1724-1804), the principle codifier of the Picturesque project, claimed that he 'never found any picturesque beauty in the interior regions of the earth' and sought consistently to overlook the widespread evidence of natural and industrial disruption which he encountered in his tours of the 1770s and 1780s" (xiv-xv).

[2] Ashfield and de Bolla 14.

[3] Ashfield and de Bolla 130.

[4] On the complicated interrelation between empiricism and formal idealism, Alexander Regier presents a concise encapsulation in the following note: "[Regier addresses] the supposed tension between the empirical (Burkean) and a formalist (Kantian) argument.[…] Furthermore, the empirical experience of the sublime *as a certain type of experience* (which *has* to be empirical) is a necessary stepping stone for Kant's formal argument to take off the ground. Inversely, the characterisation of Burke's account as one of purely empirical or descriptive psychology falls short of the analytical (and ultimately formal) claims he makes about the universality and structure of human experience and mental make up" (n. 41, p 203, original emphasis).

[5] See *A Letter concerning Earthquakes, Written in the Year 1693, by the late celebrated Astronomer, Mr. John Flamsteed, Math. Reg. F.R.S. to a Gentleman then residing at Turin in Savoy*.

[6] A quick glance at the holdings of *Philosophical Transactions* of the Royal Society of either Edinburgh or London from the seventeenth through the nineteenth century produces a number of earthquake accounts to vast to catalogue here.

[7] See especially James Secord in Gohau, Schaffer, and Secord. Secord notes that the genres of geotheory and geohistory were "significant literary forms within the metropolitan salons" (382).

[8] Historian Frances Willmoth explains the basis for comparisons between an earthquake and military fire: "The identification of the nitre-sulphur combination with gunpowder (potassium nitrate+sulphur+charcoal) led to practical examples of explosions being taken from the military sphere: the firing of the Tower's guns, the mining of Antwerp, and the accidental blowing up of

a powder-mill in Surrey were all recalled [in relation to volcanic activity, subterraneous fires, and earthquakes]" (52).

[9] See Colley 4-5. Colley acknowledges that Jamaica's Port Royal was more densely populated than Boston in the last decades of the seventeenth century, observing that "Port Royal was probably the most crowded and expensive English-speaking urban settlement outside London" (4).

[10] A sampling of such accounts includes the following publications: *An account of explosions in the atmosphere, or airquakes. Their distinction from true earthquakes. With some observations on the late shocks, near this city, &c. to shew that they were most probably of the former kind ...* London, [1750]; Wesley, Charles. *The cause and cure of earthquakes. A sermon preach'd from Psalm xlvi. 8. occasioned by the earthquake on March 8, 1750.* By Charles Wesley, M. A. Late Student of Christ-Church, Oxford. The second edition. London, Printed in the Year M.DCC.LVI. [1756]; Mather, Increase. *The voice of God, in stormy winds. Considered, in two sermons, occasioned by the dreadful and unparallel'd storm, in the European nations. Novemb. 27th. 1703.* [Five lines of quotations]. Boston in N.E., 1704; Prince, Thomas. *Earthquakes the works of God & tokens of his just displeasure. Two sermons on Psal. xviii. 7. At the particular fast in Boston, Nov. 2. and the general thanksgiving, Nov. 9. Occasioned by the late dreadful earthquake. Wherein among other things is offered a brief account o the natural causes of these operations in the hands of God: with a relation of some late terrible ones in other parts of the world, as well as those that have been perceived in New-England since it's [sic] settlement by English inhabitants. By Thomas Prince, M.A. and one of the Pastors of the Sout Church in Boston. The second edition corrected.* [Four lines from Psalms]. Boston in New-England, MDCCXXVII. [1727]; R. B. *The general history of earthquakes: Being An Account of the most Remarkable and Tremendous Earthquakes that have happened in divers Parts of the World, from the Creation to this Time; As they are recorded by Sacred and Common Authors; And particularly those lately in Naples, Smyrna, Jamaica and Sicily. With a Description of the famous burning Mount, Aetna, in that Island; And the Relation of the several dreadful Conflagrations and Fiery Irruptions thereof for many Ages. Likewise the Natural and Material Causes of Earthquakes, with the usual Signs and Prognosticks of their Approach; And the Consequences and Effects that have followed several of them.* By R. B. London, M.DCC.XXXIV. [1734]; Lozano, Pedro. *A true and particular relation of the dreadful earthquake which happen'd at Lima, the capital of Peru, and the neighbouring port of Callao, on the 28th of October, 1746. With an account likewise of every thing material that passed there afterwards to the end of November following. Published at Lima by command of the viceroy, and translated from the original Spanish, by a gentleman who resided many years in those countries. To which is added, a description of Callao and Lima before their destruction; and of the kingdom of Peru in general, with its inhabitants; setting forth their manners, customs, Religion, government, commerce, &c. interspersed with passages of natural history and physiological disquisitions; particularly an enquiry into the cause of earthquakes. The whole illustrated with a map of the country about Lima, plans of the road and town of Callao, another of Lima; and several cuts of the natives, drawn on the spot by the translator. The second edition.* London, MDCCXLVIII.[1748]; Montagu, Edward Wortley. *A philosophical discourse upon earthquakes, their causes and consequences; comprehending an explanation of the nature of subterraneous*

vapours, their amazing force, and the manner in which they operate; the Sentiments on this Head of the most learned Philosophers ancient and modern; the different Kinds of Earthquakes, distinguished by their Effects; and a copious Collection of authentic Relations digested under those Titles. To which is prefixed, a preliminary dissertation, in which is attempted a rational explanation of the rise, progress, and extent of the late dreadful earthquake, so sensibly felt through great Part of Europe, on Saturday, November 1, 1755. London, 1755; Hunter, Thomas. *An historical account of earthquakes, extracted from the most authentick historians. Containing a minute and very instructive relation of those dreadful ones that happened at Port-Royal in Jamaica, and at Catania in Sicily, in 1692, and at Lima and Calao, in 1746. A particular description of the late fatal one at Lisbon, from the relation of Captain Richard Overton, of Liverpool (who was actually in the city when it happened, and very providentially escaped being buried in the Ruins) and others. Mr. Archibald Bowyer's account of trying, condemning, and punishing two prisoners in the Court of Inquisition, and a faithful narrative of his escape from thence; written by himself, is occasionally inserted. With a description of the Auto de Fe, which the Portuguese were commemorating at the time, the earthquake happened. And a prefatory dissertation on the causes of earthquakes, with the method of making an artificial one. With many other particulars. And a sermon preached at Weverham, in Cheshire, on Friday the 6th of February last. By the Rev. Mr. Tho. Hunter, vicar of Weverham.* Liverpool, MDCCLVI. [1756]; Percival, Thomas. *Observations and reflections, on the late earthquake; or, more properly called, an airquake; which happened in this town and Neighbourhood, on Sunday the 14th of September, 1777, and An Attempt to investigate the Causes of these dreadful Harbingers of divine Vengeance to Mankind. By a gentleman of this town.* Manchester, [1777].

[11] For an extraordinary instance of the wide-ranging nature of these contributions to *Philosophical Transactions* see "An Account of an Earthquake in Siberia: In a Letter from Mons. Weymarn to Dr. Mounsey, Principle Physician of the Emperor of Russia, F.R.S. Translated from the French. Communicated by Mr. Henry Baker." *Philosophical Transactions of the Royal Society of London.*1763 53, 201-210. 203.

[12] See also "Extract of a Letter from Mr. Henry Green to Mr. James Ayfchough, Optician, in Ludgate-Street, relating to the Earthquake felt Sept. 30. 1750." *Philosophical Transactions of the Royal Society of London.* 46 (1749-1750): 723-28.

[13] See for example Prince.

[14] One example of the British earthquake compendia is *An Account of several remarkable earthquakes which have happened in various quarters of the world; with the direful consequences, that have accrued, from those dreadful convulsions of nature occasional shocks of such have been felt in Scotland, within these 13 years. Two so recently, as the months of January and February, 1799. Collected from ... authorities*. Dunbar, 1800.

[15] In addition, a long-standing trade relationship forged between England and Portugal also fueled British concerns over Lisbon's fate. Richard Hamblyn provides a brief and helpful history of this partnership: "several thousand [Britons] were long-term residents of (Lisbon). The scale of the British presence was due to a series of binding trade agreements dating back to 1385,

when England had agreed to protect the vulnerable Portugal 'as though she were England herself', in return for the right to export and sell unlimited quantities of valuable homespun textiles and , later, port wine; these agreements proved so favourable to British commercial interests that by the time Charles II married the Portuguese princess, Catherine of Braganza (whose legendary dowry included Bombay, Tangier and the Sri Lankan port of Galle), the bulk of Portugal's valuable import and export business was being handled by British merchants, whose offices and warehouses commandeered the length of the Lisbon waterfront" (113). Earthquake and economics aside, an alternate and enduring cultural link yoked together the histories and peoples of Britain and Portugal: throughout the eighteenth century ambitious Britons celebrated an older Portuguese empire often seeing the nascent British Empire as a rightful heir to the earlier imperial power that held a strong command of the seas and its own Indian investments and settlements. The widely read 1776 English translation of the great epic of the Portuguese empire, *The Lusiad; or, The Discovery of India. An Epic Poem*, notably fueled such ready and easy (although reductive) cultural comparisons. Moreover, William Julius Mickle's 1776 translation of Luis de Camoëns' Portuguese epic *Os Lusiadas* was well known and widely circulated. Mickle's introduction compares *The Lusiad; or, the Discovery of India. An Epic Poem* to Milton's *Paradise Lost*

[16] For more sources on instruments developed and used in this period that were also catalogued in this journal's letters, see "An Account of an Earthquake Felt at Lisbon, December 26, 1764: In a Letter to the Rev. Samuel Chandler, D.D.F.R.S." *Philosophical Transactions of the Royal Society of London.* 55 (1765), especially 44; "An Account of an Earthquake in the East Indies, of Two Eclipses of the Sun and Moon, Observed at Calcutta: In a Letter to the Reverend Thomas Birch, D.D. Secret. R.S. from the Reverend William Hirst, M.A.F.R.S." *Philosophical Transactions of the Royal Society of London*. 53 (1763), especially 258-61.

[17] John Michell. "Conjectures concerning the Cause, and Observations upon the Phenomena, of Earthquakes; Particularly of That great Earthquake of the first of November 1755, which proved so fatal to the City of Lisbon, and whose Effects were felt as far as Africa, and more or less throughout almost all Europe." *Literature and Science, 1660-1834: Vol. 3, Earthly Powers.* Ed. Richard Hamblyn. (1760; London: Pickering and Chatto, 2003). 225-241. For more information on the compressed air hypothesis, see John Andrew Peyssonel, "Observations upon a Slight Earthquake, Tho' Very Particular, Which May Lead to the Knowledge of the Cause of Great and Violent Ones, That Ravage Whole Countries, and Overturn Cities. By John Andrew Peyssonel, M.D.F.R.S. Translated from the French." *Philosophical Transactions of the Royal Society of London*. 1755-1756 50, 645-648.

[18] In his discussion of Robert Mallet, Noah Heringman observes that "[f]ar from being inaccessible to aesthetic discourse, the earthquake in Mallet is the sole province of a poetic imagination (as emphasized in the opening invocation) that provides the solitary observer, the aestheticized destructive capacity, and the formal resolution necessary for its representation" (Heringman "Style"117).

[19] Stafford. *Artful Science*. See also Simon Schaffer, "Natural Philosohy and Public Spectacle in the Eighteenth Century," History of Science 21 (1983): 1-43; Heringman 99.

[20] Trifunac provides more detailed information on thought process and innovations than I have room to incorporate here: "To study the frequency content of earthquake waves, Cavalleri used six pendulums with different periods and recorded their motion in fine powder. He assumed that the range of frequencies between two and four cycles per second was adequate to 'embrace every undulation occasioned by any earthquake.' He also assumed that the predominant period of earthquake motion would resonate with one of the pendulums showing larger amplitudes than the other pendulums" (593).

[21] Simon Schaffer, "On Astronomical Drawing." 444; see also Schaffer, "Self-Evidence.

[22] Robert Mallet. "Account of Experiments Made at Holyhead (North Wales) to Ascertain the Transit-Velocity of Waves, Analogous to Earthquake Waves, through the Local Rock Formations." *Philosophical Transactions of the Royal Society of London.* 151 (1861): 655-679. 655.

[23] Mallet's synopses of the inner workings of the seismoscope and chronograph provide helpful detail I do not have time here to display: "Briefly, the seismoscope (fig. 3*, Plate XXIII.) consists of a cast-iron base-plate, on the centre of the surface of which is placed an accurately formed through (*b*), 12 inches long, 4 inches wide, and 2 inches deep, containing an inch in depth of pure mercury, with its surface free from oxide or dust, so as to reflect properly. The longer axis of this trough is placed in the direction of the wave-path, the base of the instrument begin level. At the opposite end of the trough are placed standards with suitable adjustments; that at the end next the centre of impulse carries a tube (*c*) provided with an achromatic object-glass at its lower end, and a pair of cross wires (horizontal and vertical); its optic axis is adjusted to 45° incidence with the reflecting-surface of mercury in the through. At the other end of the trough an achromatic telescope (*a*) with a single wire is similarly adjusted, so that when the moveable blackened cover (*ee*) is placed over the trough, &c., no light can reach the surface of the mercury except through the tube c. The image of the cross wires in the latter is therefore seen through the telescope a, clearly reflected and defined in the surface of the mercury, so long as the fluid metal remains absolutely at rest; but the moment the slightest vibration or disturbance is by any means communicated to the instrument, the surface of the fluid mirror is disturbed and the image is distorted, or generally disappears totally. … In the present case … the impulse transmitted from these powerful explosions produced in all cases the most complete obliteration of the image, and in those of the most powerful mines experimented on caused a movement in the mercury of the trough that would have been visible to the naked eye. Indeed in that of the 24th of November 1860, the amplitude of the wave that reached the seismoscope was so great as to cause the mercury to sway forwards and backwards in the trough to a *depth* that might have been measured (665-667).

[24] In *Keats and the Mirror of Art* Ian Jack argues the Lorrain painting was in fact a work of art that Keats kept in mind while drafting the verse epistle to Reynolds (127-33).

[25] A near exception resides with Stuart M. Sperry who does address Keats's revisionary notion of the sublime, arguing that "Keats's method in the lines to Reynolds is progression by way of

contrasts and oppositions" but ultimately, Sperry reads the poem as a demand for imaginative transcendence (566). See especially 564-66.

[26] Notable studies on the material sublime include Pipkin, Smith, Vine.

[27] In this way, by dwelling with a material sublime more fully conceived, "the disaster is also not 'instability'" as Rei Terada argues in "Hegel's Bearings," *Romantic Circles Praxis Series, Special Issue: Romanticism and Disaster* (para. 3).

[28] The romance Keats refers to in closing is the long poem *Isabella; or, the Pot of Basil. A Story from Boccaccio* (1820).

[29] In similar fashion Kant's early work on Lisbon aligns with such a tempered assessment the overlapping questions of human and earthly fragility. Indeed, though Kant opens his treatment of the Lisbon quake with reference to the shock such disasters hand us, in effect agreeing with Voltaire's idea that Lisbon's catastrophe signaled an unavoidable reign of evil, or at best chance, Kant later offers the following: "As men, who were born to die, why cannot we bear that a few should die by an earthquake, and as such, who are strangers here below and possess no property, why are we inconsolable, when goods, which had shortly been abandoned by the universal way of nature, are lost? It may be easily divined that, when men build upon a ground, which is filled with inflammable substances, sooner or later the whole magnificence of their building may be destroyed by concussions. … Were it not better to judge thus: It was necessary, that earthquakes should happen upon the earth; but it was not necessary for us to build upon its gorgeous habitations" (133-4).

Ch. 3. "TO 'BUILD CASTLES IN THE AIR' AND 'A BENDING LINE SUSPENDED': ROBERT SOUTHEY, POET LAUREATE AND THOMAS TELFORD, THE FATHER OF CIVIL ENGINEERING"

[1] For instance, spanning from his first major appointment as the general agent of the Ellesmere Canal in 1793 to his final station as lead engineer for the Broomeilaw Bridge over the River Clyde in Glasgow, Telford helped to plan and supervise the construction of over 1,200 bridges, at least 7 canals, 920 miles of roads in the Highlands, and numerous harbours in England, Scotland, Wales, and Ireland. These numbers become all the more impressive considering that at this time Telford was only one of a cadre of celebrated British engineers working both in and out of Albion's Isles. William Jessop (1745-1814), John Rennie (1761-1821), and Thomas Wilson (1751-1820) were also famously active during the Romantic period. Jessop's notable achievements include his part in establishing the Grand Canal of Ireland (1753-1805), the West India Docks (1800-1802), England's Surrey Iron Railway (1801-2), and the Kilmarnock and Troon Railway in Scotland (1807-1812). Among other projects, Rennie won renown for his work on the Lancaster Canal (1792 - 1803), Kennet & Avon Canal (1794 - 1810), Royal Military Canal (1804-1909), Lune Aqueduct (1793 - 1797), Kelso Bridge (1800 - 1804), Waterloo Bridge (1811 - 1817), Southwark Bridge (1815 - 1819), and London Bridge (1824 - 1831). Wilson assumed major advisory or lead engineering roles in the production of the Wearmouth or Sunderland Bridge (1792-1796), Spanish Town Bridge in Jamaica (1800-1), Staines Bridge

(1803-1806), Yarm Bridge (1803-1806), Boston Bridge (1800-1807), and Newport Pagnell Bridge (1808-1810). It is also important to acknowledge the fact that Jessop and Rennie worked collaboratively on a number of Telford's assignments; in fact, all of the infrastructural civil artifacts mentioned here required the overlapping work of many hands and many minds. For a more detailed catalogue of Telford's various undertakings see Keith Ellis *Thomas Telford: Father of Civil Engineering* London: Priory Press Ltd, 1974, 89-91; A. W. Skempton, *A Biographical Dictionary of Civil Engineers in Great Britain and Ireland: 1500-1830*, London: Thomas Telford Ltd., 2002, 696-697.

[2] For recent accounts of eighteenth-century and romantic literature that treat both interior and exterior architecture see Nicole Reynolds, Building Romanticism: Literature and Architecture in Nineteenth-Century Britain (Ann Arbor, MI: University of Michigan Press, 2010); Sophie Thomas, Romanticism and visuality: fragments, history, spectacle (New York: Routledge, 2008); Tita Chico, Designing Women: The Dressing Room in Eighteenth-Century Literature and Culture. (Lewisburg, Bucknell University Press, 1999); Simon Varey, Space and the Eighteenth-Century English Novel (Cambridge: Cambridge University Press, 1990). On landscape and romantic literature and culture see also Ann Bermingham, Landscape and Ideology: The English Rustic Tradition 1740-1860 (London: Thames and Hudson, 1986); Raymond Williams, The Country and the City (New York and London: Oxford University Press, 1973).

[3] See Katie Trumpener, Bardic nationalism: The romantic novel and the British Empire, 1997; M. H. Abrams, Natural supernaturalism: Tradition and revolution in romantic literature, 1973; Jerome McGann, The Romantic Ideology: A Critical Investigation, 1985; Thomas McFarland, Romanticism and the forms of ruin: Wordsworth, Coleridge, and modalities of fragmentation (Princeton, NY: Princeton University Press, 1981).

[4] On Southey's relationship with Telford and the civil artifacts he designed, scholars note only that they were close friends, that they journeyed together with a group touring through the Scottish Highlands, and that Southey was to pen the famed engineer's biography but died before drafting it. See for example, Lynda Pratt, "Introduction: Robert Southey and the Contexts of English Romanticism." Ed. Lynda Pratt. Burlington, VT and Aldershot, Hampshire: Ashgate, 2006. xvii-xxix; Pratt, "Family Misfortunes? The posthumous editing of Robert Southey." Ed. Lynda Pratt. Burlington, VT and Aldershot, Hampshire: Ashgate, 2006. 219-238.

[5] Therefore my reading of supernatural landscapes both "natural" and "artificial" reads against the theoretical grain established by Max Horkheimer and Theodor W. Adorno in *Dialectic of Enlightenment* where they hold key thinkers such as Bacon and Leibniz responsible for a wholesale disenchantment of nature. See their "Concept of Enlightenment" for instance, in which they offer the following: "The 'happy match' between human understanding and the nature of things that [Bacon] envisaged is a patriarchal one: the mind, conquering superstition, is to rule over disenchanted nature. Knowledge, which is power, knows no limits, either in its enslavement of creation or in its deference to worldly masters. … Technology is the essence of this knowledge. It aims to produce neither concepts nor images, nor the joy of understanding, but method, exploitation of the labor of others, capital. … What human beings seek to learn from nature is how to use it to dominate wholly both it and human beings" (2).

[6] Although Kevin Hutchings does not investigate the architectural rhetoric of the poem, he constructs a useful parallel to my argument about material immediacy and thought. He claims that in "these lines Blake harnesses highly abstract metaphysical concepts ('World' and 'Heaven,' 'Infinity' and 'Eternity') to mundane experiences of material nature. He represents spatial 'Infinity' as something that must be grasped in the human hand, thus advocating a necessary connection between the metaphysical realm and the body's experience in the natural world. Similarly, 'Eternity' is to be sought *within* the human experience of time – and not within the relative abstraction of a lifetime but in the more easily apprehensible (because much more mundane) experience of 'an hour'" (58).

[7] Lynda Pratt, Tim Fulford and Ian Packer, eds. "General Introduction: Southey as a Letter Writer," *The Collected Letters of Robert Southey, A Romantic Circles Electronic Edition.* Par. 4. < http://www.rc.umd.edu/editions/southey_letters/letterEEd.26.genIntro.html>. Access date: 24 Feb 2012

[8] With its 236 foot span, it was two and half times longer than the Coalbrookdale Bridge in Shropshire, which opened in 1779. In *A Biographical Dictionary of Civil Engineers in Great Britain and Ireland: 1500-1800* A. W. Skempton marks the "development of iron arch bridges" as a "characteristic feature of the period," with the "pioneer Sunderland Bridge (Rowland Burdon and Thomas Wilson) to the mature bridges of Telford and William Hazeldine at Craigellachie and Tewkesbury and James Walker's Vauxhall Bridge in London, and the equally remarkable development of suspension bridges from the Union Bridge of Sir Samuel Brown to Telford's 580-ft. span Menai Bridge on the Holyhead Road" (xxx).

[9] Wilson implemented ironwork and a system originally divined by Thomas Paine in his plan for Schuykill in Philadelphia—a plan which Paine presented in France in 1786 (Peters 189).

[10] The Sunderland Bridge is now known as the Wearmouth Bridge and it crosses the River Wear near the mouth of the North Sea. Wilson's bridge first underwent repair in 1805 (just under twenty years after its grand opening) and got a massive overhaul by the famed civil engineer Robert Stephenson from 1857 to 1859.

[11] Bruno Latour, We Have Never Been Modern.

[12] Latour, War of the Worlds: What about Peace? Trans. Charlotte Bigg, Ed. John Tresh (Chicago: Prickly Paradigm Press, 2002). Further, Latour critiques the representational and material divide that many hold to ground the modern subject. He suggests that a regularized denominator of abstract and homogenous nature "was even more indisputably common when one moved from the world of human nature to the world of non-human nature. The possibility of disagreement among specialists or disciplines certainly remained, but ultimately the world (in the singular) external nature would be enough to bring agreement among them all. Different cultures existed, with their many idiosyncrasies, but at least there was only one nature with its necessary laws. Conflicts between humans, no matter how far they went, remained limited to the representations, ideas and images that diverse cultures could have of a single biophysical nature."

[13] For a foundational essay on the connection not only between building and thinking but also between building, dwelling [being], and thinking see Martin Heidegger, "Building Dwelling Thinking." *Basic Writings from Being and Time to the Task of Thinking* .Ed. David Farrell Krell. London: Harper Perennial, 2008, 343-63.

[14] For a counterexample to Dreicer's revisionist history, see Brooke Hindle, ed., Material Culture of the Wooden Age (New York: 1981).

[15] See also Robert Fletcher and J.P. Snow, "A History of the Development of Wooden Bridges," Transactions of the American Society of Civil Engineers 99 (1934): 314-408; Eric Schatzberg, "The Decline of the Wooden Ariplane in the United States," Technology and Cutlure 35 (1994): 34-69.

[16] See Gregory K. Dreicer, "Building Myths: The 'Evolution' from Wood to Iron in the Construction of Bridges and Nations," *Perspecta* 31 (2000): 130-41.

[17] For a recent analysis of creation literature and romantic fiat or "a double romantic signature of 'let there be' and 'let be'" that attempts to "avoid a return to the sublime as much as possible," see Eric Reid Lindstrom *Romantic Fiat: Demystification and Enchantment in Lyric Poetry,* New York and London: Palgrave Macmillan, 2011, 27.

[18] On this point, Ashfield and de Bolla observe how "[t]he sublime, in fact, is constantly understood via reference to the arrestation of movement, sometimes figured quite literally in the progress over a mountain top, or more figuratively as in the notion that the eye 'moves' through the landscape and is suddenly arrested in its movement by a specific 'eye-catcher'. This notion of suspension, of hanging in mid air, will be well developed in the romantic tradition, most especially in Wordsworth's poetry" (130).

[19] For a recent account of sublime aesthetic theory and sciences of the mind, and cognitive philosophy in particular, see Alan Richardson, The Neural Sublime: Cognitive Theories and Romantic Texts. Baltimore, Md.: Johns Hopkins University Press, 2010.

[20] One of the more important commercial enterprises with much to gain from the existence of the Caladonian Canal was the Baltic timber trade and the route also sought to shorten the distance required to reach North American ports (Rolt 94).

[21] There are competing figures on the actual cost of the Caledonian Canal. For instance, Joseph Priestley's "Historical Account of the Navigable Rivers, Canals, and Railways of Great Britain" (1831) documents the seemingly accurate cost of £977, 524, whereas historian L.T.C. Rolt only estimates the construction costs of the canal to total "over £900,000" (104). The Biographical Dictionary of Civil Engineers in Great Britain and Ireland suggests its total cost was double Telford's projected estimate (684).

[22] Of the various iterations of this poem and parts of it that I have been able to discover, there are at least three additional versions. Each of these alternate renditions of the poem remark upon the Highlands Commission project only, suggesting that Southey drafted the opening lines of the work that discuss the Caledonian Canal after and apart from those penned in praise of the famed bridge. It is important to note, too, that the earlier poems emphasize the Scottish origins of not only Telford but also of his fellow engineer Rennie, and therein bridges, roads and canals do not amass the feel of utter permanence in the face of nature which they take on in this later version.

[23] Rennie's name remains unlikely to pale in comparison within Britain, since he designed not only the Lancaster Canal (1792-1803), the Kennet and Avon Canal (1794-1810), the Royal Military Canal (1804-1831), but also the Kelso Bridge (1800-1804), Waterloo Bridge (1811-1817), and London Bridge (1824-1831).

[24] This persistent single author model, or better myth, obscures actual networks of collaboration. The Caledonian Canal endeavor lends just such an example; Telford worked jointly on that project with another engineer, William Jessop until 1812 (684). ["Telford, Thomas." A Biographical Dictionary of Civil Engineers in Great Britain and Ireland. Eds. A. W. Skepton et al. Vol 1. London: Thomas Telford Publishing on behalf of the Institution of Civil Engineers, 2002. 682-95.]

[25] Abrams.

[26] Rickman was Clerk Assistant of the House of Commons and stood as the Secretary to the Highland Road Commissioners during the period that Telford served as its lead engineer (1815-1830). Telford's general success in canal and bridgework, was only surpassed by his achievements in road-making, which all tolled covered approximately 1,200 new and improved miles throughout Scotland with the London to Holyhead Road (of which the Menai Bridge was a part) being the most famous and still in use ("Telford," 685).

[27] What follows is a rough sketch of one leg of the group's course as they headed toward the canal: "We returned [from visiting the Dunrobin Castle, also part of the improvement designs of the Commissioners] by the Fearn road to Dingwall, over the fells instead of along the coast; sent the Ladies to Inverness, and crossed the island to the western sea at Jean town, intending there to have crossed Loch Carron, and return to Inverness by Glenelg and Glenmoriston; but the new ferry boat upon which we had depended was not launched and as there was no means of getting the carriage across we retraced our steps. We remained three days at Inverness, one morning was given to the vitrified Fort, and another was past [sic] in going up the Caledonian Canal to Loch Ness. There we proceeded to Fort Augustus, and remained two days at Fort William—one day employed in inspecting the canal from its western end to the end of Loch Locky, another in visiting the Parallel Roads in Glenroy, one of the greatest curiosities in Scotland, or perhaps in any other country. Balachulish ferry was our next stage…." (*New Letters*, 200).

[28] Furthermore, such accounts of a mutable landscape that make up the material sublime consistently figure landscapes populated more with pagan and mythological touchstones like

giants or elves or even the seeming *deus ex machina* technics of the stage than any brand of Victorian, realist or scientistic class identification.

[29] However, placing the first stone did not take place until after the tide was effectively diverted from the Anglesey shore to fabricate a temporary causeway, which happened to carry away a number of cattle unaccustomed to the swifter, more concentrated stream that resulted from such augmentation (Pring 571).

[30] For a similar treatment of the bridge as '"a castle in the air"' see Smiles, 275.

[31] And not surprisingly, the full-fledged emergence of this technological artifact put to sleep its predecessor, the Bangor ferry which by that time was deemed "a public nuisance" (578). "On the night previous to the opening of the bridge, a notice was sent to the ferrymen," that once the first coach crossed the bridge, "the ferry-boats were to cease plying, and the ferrymen's services were from that moment no longer required,—an event that deserves to be recorded in letters of gold " (579 original emphasis).

[32] "VIEW, n. 1 l § *vue* (portée des yeux), f.; 2. l *vue* (etendue de ce qu'on peut voir), f.; 3. l *vue* (manière don't les objets se presentment à la vue). f.; 4. l *vue,* f.; *point de vue,* m.; *coup d'œil,* m.; *perspective,* f.; 5. l *vue,* (tableau, dessin, estampe), f.; 6. § *coup d'œil* ; *regard* m.;" (Spiers 611). Alexander Spiers et al. *Spiers and Surenne's French and English pronouncing dictionary* . Vol 1. New York: D. Appleton & Co., 1861.

Ch. 4. SUBLIMING THE (IN)HUMAN: KLEIST, HAZLITT, MELVILLE AND THE MECHANICAL PERFORMER

[1] See Campbell; Leask "'Wandering through Eblis': Absorption and Containment in Romantic Exoticism," *Romanticism and Colonialism: Writing and Empire, 1780-1830,* ed. Tim Fulford and Peter Kitson (Cambridge: Cambridge Univ. Press, 1998), 165-68; Daniel O'Quinn; Whale (206-20); Said.

[2] In this chapter I use the term 'dehumanization' in relation to considerations of the category of the human brought forth in the work of Giorgio Agamben, *The Open: Man and Animal* (7, 15-26), and the lately published remarks of Jacques Derrida, *The Animal That Therefore I am* (5-11, 22-25). Both of these works deploy a Hegelian notion of the human as a group that understands itself through processes of self-recognition and self-definition born out of negation. Therefore, throughout this essay, when I refer to Hazlitt's 'dehumanization' I mean to suggest that Hazlitt negates his categorical and ontological likeness to that of Reynolds, Cavanagh, and the Indian jugglers. He negates their normative human status, association and categorization, rendering them un-humanly sublime or transcendent.

[3] On the great performer's place in culture and how their lauded reception develops a wider taste for presentism and an overall emphasis on the epiphanic moment see Clair Brock.

[4] Buckley argues that by the mid-nineteenth century "[e]volution rather than revolution seemed the true way of history." Thanks to the work of Charles Darwin, "[c]ivilization was a branching plant which would droop and whither if its roots were neglected or dislodged. The organic image, applied both to nature and to human culture, replaced the standard eighteenth-century mechanistic analogy; the world was no longer a machine operating on a set cycle, but a living body fulfilling itself in constant adaptation to new conditions" (19).

[5] Foucault (195-228).

[6] To this point, Cohen explains that "virtuosity might be thought to be the exhibition of something difficult done without apparent effort" (58).

[7] See Kant, *Observations* (45-47); see also section 245 of Kant's "Analytic of the Sublime" in the third *Critique*.

[8] For a recent article that evaluates Hazlitt's sublime characterizations of the jugglers, see Melynda Nuss, "Creative Spectacle: Hunt, Hazlitt and De Quincy," *European Romantic Review* 21 (2010): 143-159. Whereas Nuss investigates what she identifies as "the sublime's tendency to bind an audience together before a common terror," and she discusses presentations of sublime on the theatrical stage, my evaluation of sublimed human subjects is part of a wider effort to uncover labor's relationship to the aesthetic category of the sublime.

[9] Roach addresses the issue of conscious volition in reference to "Diderot's specifications for the *grand acteur* … [where] only in 'the complete absence of sensibility' does the possibility of sublime acting exist" (164).

[10] On the prospect of various postlapsarian features being embedded within romantic iterations of the sublime David Simpson argues the following: "if the sublime was, as I have suggested, critically implicated in a postlapsarian theology; then the burden and definition of sin and transgression has also been reconfirmed as a private entity, which for the Christian tradition in general it already was. The romantic shift in the idea of the sublime thus brought it into line with what was already a dominant motif in the discourse of western culture, and in this way strengthened that culture's mythologies of self determination. Notwithstanding the popularity in some specialized academic circles of various models of social determination, it yet remains the case that among the population at large such models elicit a generally skeptical response. The history of the sublime renders this unsurprising" (256).

[11] See "The Indian Jugglers Eclipsed" Sept 8. *The Spirit of the Public Journals for 1813: being an impartial selection of the most ingenious essays and jeux d'esprits that appear in the newspapers and other publications.* Vol 17. (London: James Ridgeway, no. 170 Piccadilly, opposite Bond Street, 1814) 261; "The Royal Academy" Oct 28. *The Spirit of the Public Journals for 1813: being an impartial selection of the most ingenious essays and jeux d'esprits that appear in the newspapers and other publications.* Vol 17. (London: James Ridgeway, no. 170 Piccadilly, opposite Bond Street, 1814) 317. For other first-hand accounts of Indian jugglers by British subjects see Maria Graham, *Journal of a Residence in India* (Edinburgh: Archibald

Constable and Company, 1812) 126; *The Original Letters from India of Mrs. Eliza Fay*. ed. Walter Firminger (Calcutta: Messrs. Thacker, Spink and Company, 1908) 126-7.

[12] See Rackford; David Higgins, "Englishness, Effeminacy, And The New Monthly Magazine: Hazlitt's 'The Fight' In Context."

[13] Natarajan, 97; O'Quinn, 352; Tom Paulin, "Introduction." *William Hazlitt, The Plain Speaker: The Key Essays* ed. Duncan Wu (Oxford: Blackwell, 1998) xv.

[14] For critical investigations of various intersections between gender normativity and Burkean and Kantian accounts of the sublime and the beautiful see especially Anne Mellor, *Romanticism and Gender* and Ian Balfour, Torso: (The) Sublime Sex, Beatiful Bodies, and the Matter of the Text Author(s).

[15] On the various distinctions between genius, greatness, perfection, fame, celebrity, and popularity both according to Hazlitt and during the Romantic period, see Tom Mole's review of Brock and his recent monograph, *Romanticism and Celebrity Culture, 1750-1850*, 2009.

[16] See Campbell; Stafford, "How the Virtuoso Romantic Learned from the Enlightened Charlatan"; Schneider.

[17] See Cohen on the question of how onlookers "recognize 'ease' in difficulty" and the epistemological relationship necessarily established between viewer and performer in order for audiences "to apprehend the difficulty from the outside" (58).

[18] In *English Romanticism: The Human Context* Marilyn Gaull traces the "new and widely circulated newspapers and magazines [that] published obituaries and mortality reports, as they were occasionally called, analyzing the number of deaths, the causes, the locations, the age and sex of the victim." Further, she recognizes how "journalism was making death a public event," and "this new consciousness of death as a secular and impersonal event provoked a plague of meditations, reflections, monodies, and elegies by both major writers such as Coleridge, Byron, Keats, and popular writers such as Tom Moore and Thomas Campbell" (219).

[19] Pertaining to analyses of the variegated modes of labor considered here, it is important to note how this temporal displacement, through artists, performers, and athletes, is comparable to the temporal displacement through financial speculation Marx identifies as a defining movement of capitalism.

[20] Martin Heidegger. "The Question Concerning Technology." Heidegger speaks of the union between technology and art in the following passage: "Technology is a way of revealing. If we give heed to this, then another whole realm from the essence of technology will open itself up to us. It is the realm of revealing, i.e. of truth. This prospect strikes us as strange. Indeed, it should be so, as persistently as possible and with so much urgency that we will finally take seriously the simple question of what the name 'technology' means. The word stems from the Greek. *Technikon* means that which belongs to *techne*. We must observe two things with respect to the

meaning of this word. One is that *techne* is the name not only for the activities and skills of the craftsman but also for the arts of the mind and fine arts. *Techne* belongs to the bringing-forth, to *poiesis*; it is something poetic."; See also Richard Perry, "Episteme and Techne" *Stanford Encyclopedia of Philosophy* (2007).

[21] See Higgins, "Englishness, Effeminacy, And The New Monthly Magazine," 176.

[22] Another compendium that puts "Death of John Cavanagh" to interesting use, is the 1832 sporting publication, *Pierce Egan's Book of Sports, and Mirror of Life: Embracing the Turf, The Chase, The Ring, and the Stage, Interspersed with Original Memoirs of Sporting Men, Etc.,* which uses Hazlitt's obituary to serve as its entire description of the game of fives, promising readers that they will find "the sketch of late Pat Cavanagh ... highly interesting" 228-229.

Ch. 5. NOT UPON "MONT BLANC": A SHELLEYAN POETICS OF SINGULARITY AND A PAEAN TO AQUEOUS FORCE

[1]Percy Bysshe Shelley, "Mont Blanc: Lines Written in the Vale of Chamouni." *Shelley's Poetry and Prose*. Ed. Donald H. Reiman and Neil Fraistat 2nd ed. All references to Shelley's poems are from this volume and cited parenthetically by line number.

[2] While Alan Bewell suggests "that Mont Blanc is a poem about the power of glaciers," he uses the poem to discuss climate change, and not as I do in order to consider the simultaneously anabolic and catabolic processes linked to water in its solid, liquid, and gaseous forms (223-27). Touching on the productive and destructive figuration of water in the work, Eric Glenn Wilson offers that "'Mont Blanc' explores the problematic relationship between the mind and matter, freedom and fate, in the context of glacier theory. In the poem, the glaciers, seemingly dead things, serve as animated revelations of hidden fate, the cloud-covered peak" (55). However, departing from my more empirically-situated reading of the poem, Wilson singles out the supernatural and argues that "Science, however is not sufficient to account for this ice. Awed beyond empiricism, Shelley grasps for magic," and in the end to "read Shelley's 'Mont Blanc' with a glacial brain is to peruse the poem forever' (55).

[3] For example, Louise Economides's project addresses how to "progressively deconstruct anthropocentric subjectivity" by using "Niklas Luhmann's theory of communication as a possible framework for thinking issues of materiality that avoids the extremes of absolute constructivism on the one hand and naïve realism on the other" (87). Her essay investigates a "romantic sublime" understood traditionally to mean "the mind's successful union with nature," but also only "temporarily 'humbled' before nature" until ultimately the "mind and/or imagination is exalted above nature" (88-9).

[4] See Nigel Leask, especially 184-193. Leask's influential geological contextualization of Shelley's poem convincingly shows how Shelley's interest in geological debates of the early nineteenth century make "it hard to believe that such an informed scientific amateur and avid [Edinburgh] review reader could have been oblivious to what was after all the major geological and cosmogonical controversy of his day" (193). As Leask carefully demonstrates, the

Edinburgh Review and *Philosophical Transactions of the Royal Society of Edinburgh* both frequently printed Jonathan Playfair's distillations of Hutton's Vulcanist and uniformitarian theory in the first quarter of the nineteenth century. Such articles were likely to have come under the geologically curious poet's notice just as much as contributions from Tory periodicals such as the *British Critic*, which commonly published the more religiously amenable scriptural geotheory of the charismatic German natural philosopher Abraham Werner. See also Matthews, especially 193, 224-227.

[5] Jonathan Playfair, Hutton's contemporary and biographer, records the thinker's material and metaphysical concerns. He notes that although "Hutton's mind had been long turned with great earnestness to the study of the theory of the earth, he had by no means confined his attention to that subject but had directed it to the formation of a general system, both of physics and metaphysics." Moreover, Playfair notes that Hutton drafted manuscript treatises on each topic by the time they had become acquainted, which Playfair approximates at 1781 (qtd. in Hutton 74).

[6] As the main British proponent of *uniformitarianism* in an era that produced myriad theories of the earth, or *geotheories*, Hutton held that the earth's land and water formations have and continue to engage in successive transformations—transformations that often send the mind reeling. This contrasts with *catastrophism*, a theory promulgating the idea that violent, sudden, and more recent events shaped the earth. It also differs from *neptunism*, which offered that land masses emerged from a once completely oceanic earth. See Rudwick, especially 133-237.

[7] Rudwick reminds us that rightly or wrongly "Anglophone geologists have treated Hutton as their iconic 'founder' or 'father,'" noting too that his "system was well known at the time, and was discussed by other savants with the respect it deserved;" however, it was not as popular within wider philosophical circles that commonly sided with eighteenth- and nineteenth-century French and German accounts of the Earth's genesis offered by Desmarest, de Luc, Cuvier, and Werner, all of which rely on a mixture of scriptural and empirical evidence (158).

[8] For an argument emphasizing how Shelley's permutation of the sublime aesthetic fosters a sentiment of human humility, especially in relation to the larger ecosystem see Miall. Although Miall's article makes no mention of Hutton, his analysis of "Mont Blanc" focuses on the Huttonian strand within the poem, that being "Shelley's response to Mont Blanc" and the poet's "explor[ation of] what the sublime landscape can teach about the common basis of the mind and nature […] inflected with historical or natural processes on a scale we would not normally see" (158, 159). For an argument on Hutton's geotheory aligning with eighteenth century sublime aesthetics see Furniss.

[9] See Leighton. Whereas Leighton reads Shelleyan skepticism to argue that "Mont Blanc" investigates the prowess of human language and poetry, this essay considers the poet's skepticism as a marker of Shelley's dissatisfaction with human-centric and historical deployments of sublime topographical poetics popular in the early nineteenth century.

[10] Working in a manner similar to Shelley, whose poem functions within and without traditional romantic permutations of the natural sublime to highlight particular yet pervasive forces of

fluidity at play in the natural world, Hutton's speculative *Theory of the Earth* resists the particularizing historical function alive within the genre of the geotheoretical treatise to generate what earth science historian Gabriel Gohau calls "without a doubt the most ahistorical" theory of the earth (360).

[11] See especially Wyatt.

[12] Heringman also attests to a Shelleyan revision of the topographical genre. He suggests that "Mont Blanc" harbors the "impulse to demystify the exotic spectacles created by eighteenth-century tourism, to renew a sense of topography as prior to and outside culture" (56).

[13] See David Ferris on the "role to be played by a border in establishing the historical knowledge so crucial to the sense of anti-climax which leads to the sudden rise of the apostrophe to the imagination" 413-14. See also Thomas Weiskel, 195-204; Fry; Risinger.

[14] See Coleridge's headnote to the poem published 11 September 1802 in The Morning Post. After first likening the sounds of the Arve and the Arveiron to the raved calls of "a giant mad with joy from a [glaciated] dungeon," Coleridge's prefatory remarks ponder "Who *would* be, who *could* be an atheist in this valley of wonders?" (505 original emphasis).

[15] See Miller, 557-8; Economides, 89; Leask, 185; Ulmer, 196; Eilenberg; Bloom.

[16] Shelley's portrait of a sublime experience with nature does not end in mental, imaginative, or anthropocentric dominance, which Marjorie Levinson argues occurs in traditional Romantic descriptions of the natural sublime. Instead, the poet characterizes a geologically humbled subject and a scientifically-, logically-subordinated human subject. In so doing he effects not only a reappropriation of the prospect poem, but also a revision the sublime aesthetic that, according to Levinson, often "features the profitable transformation of nature and matter by a human" (114).

[17] In addition to recovering Hutton as an intertextual influence, Leask introduces other early earth science figures likely to inform the poem, namely Saussure, Buffon, and Jonathan Playfair (188-92). His suggestion that Shelley must have known the work of Hutton via Playfair, if not Hutton directly comes from keen observations regarding Shelley familiarity with Scottish luminaries. Scholars have long recognized the attention Shelley granted to the geotheorist Buffon thanks to Shelley's mention of him in his letters (Shelley in Jones 1:499).

[18] To this point, Nigel Leask calls attention to "the Scottish enlightenment notion of an anti-catastrophist economy of nature" and a commitment to "deep time" in Shelley's work, arguing that with "Mont Blanc" the author "dismantles a pious, catastrophism reading of natural agency" erecting in its place "a rival aesthetics of the natural sublime" (182). Whereas Leask identifies Huttonian theory as part and parcel to Shelley's atheistic "poetic skepticism," I place more direct emphasis on the Huttonian strands of sublime thought in this text and consider Hutton's words directly in my investigation. Instead of suggesting that Shelley "seeks to reorient imaginative response to Mont Blanc" my aim is to follow the imaginative response to water depicted in the

poem, demonstrating the work's complicated place within the prospect poem tradition within which Shelley self-consciously participates.

[19] For example see Bode.

[20] Alexander Pope, "Windsor Forest." *The Poems of Alexander Pope.* Ed. John Butt. London: Routledge, 1989. Hereafter cited parenthetically by line number.

[21] Pellicer suggests that the poem "cultivates [a] sense of enclosure because [Pope's] 'Windsor' is emphatically the *Forest* of the poem's title: not merely a wood … but a monarch's bounded preserve" (465).

[22] Pat Rogers describes it as a "poem of the river" but "Windsor Forest" draws on the Thames for its subject matter in only half of the work entire. The rest is left to the forest grounds, especially the arboreal majesty of British boughs and English oaks.

[23] See Irvine 973.

[24] For more on relationships between "Windsor Forest" and British Imperialism see Kaul.

[25] John A. Richardson foregrounds the troubling Atlantic history behind Pope's "Windsor Forest," demonstrating that after first docking at its African ports, the South Sea Company generally travelled to the eastern side of the Caribbean and South America typically for slave trading and resource extraction. A more accurate name for this specific commercial enterprise, he asserts, would have been the "Atlantic Company" (6).

[26] Reiman and Fraistat reveal that here Shelley gestures toward the urban spaces of Geneva, which the Arve feeds with its glaciated run-off water (n. 2, 100).

Ch. 6. DERRIDEAN ELSEWHERE AND A SUBLIME "IMPOSSIBILITY OF STAYING STILL"

[1] Michael Adas's study of the industrial revolution and Western political economies of the nineteenth century *Machines as the Measure of Man: Science, Technologies, and the Ideologies of Western Dominance* (1990) provides a variety of examples that foreground the imbricated nature of sublime and technological discourse. In this work Adas also unwittingly shows how this discursive relationship often turns upon not simply sheer materiality or rapid cultural "advances" but a mysterious dynamic attributed to movement. For instance he cites a moment from 1815, when "Sir Richard Philips recounted how a walk through London had left him with vivid impressions of the 'triumphs of mechanics' and the '*precision and grandeur of action* that was really sublime,' a source of astonishment to every onlooker" (136 emphasis added).

[2] In the first volume of Bernard Stiegler's *Technics and Time* Richard Beardsworth and George Collin's translation of the French yields the word "moticity" to describe the nature of movement

and its various states. I follow Stiegler (or more precisely, his translators) in my use of this term, which I differentiate from motion taken simply as an act, activity, or action.

[3] Ellis notes that the "canal age" of 1755-1794 predated the "growth of railways in the 1830s" (140). In Britain and Ireland, a renaissance of roads and bridgeworks occurs between these two industrial flourishings of water and rail. For an overview of the vast number of arches and thoroughfares erected and repaired by Britons and the Irish during this time see Skempton's introduction to *A Biographical Dictionary of Civil Engineers in Great Britain and Ireland: 1500-1830*. For parsing the overlap between late eighteenth and early nineteenth century sublime discourse and the ways in which eighteenth-century mechanist philosophies understood the performer's body "as a physical instrument, like a piano or a clock, whose capacities and limitations [… exist within a] material continuum," I am indebted to Joseph Roach's study *The Player's Passion: Studies in the Science of Acting.*

[4] For a seminal text on the growing tourism and leisure industries of this period see Nicholson; for a work that evaluates what we would today call the ecotourism industry and the place of Mont Blanc as an iconic sublime landmark within this cultural arena see Freedgood.

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