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Introduction

“All Relics Here Together”

In a paper titled “Theory of the Earth” (1788), geologist James Hutton (1726–1797) wrote that in his study of the Earth’s development he found, “no vestige of a beginning,—no prospect of an end” (304).¹ The nineteenth century inherited this terrible legacy, a new sense of a boundless time that ultimately replaced the Bible’s compelling narrative of time’s very clear beginning and no less certain end. This familiar plot, aside from its theological import, framed time and stressed the centrality of human life. Geology, in contrast, burdened the nineteenth century with a sense of time that exceeded the limits of plot. Throughout the nineteenth century, writers struggled to conceive the infinity evinced by the natural world, a world newly understood as indifferent to human experience. Writing in the *Quarterly Review* in 1827, geologist Charles Lyell (1797–1875) states the case plainly: “all discoveries which extend indefinitely the bounds of time must cause the generations of man to shrink into insignificance and to appear, even when all combined, as ephemeral in duration as the insects which live but from the rising to the setting of the sun” (474). A generation later, Alfred Tennyson mourns the loss of a kinder nature that valued human life in *In Memoriam* (1850): utterly bereft, his speaker likens himself to “an infant crying in the night,” and indifferent nature coldly responds, “I care for nothing, all shall go” (54, 56). Tennyson articulates what many had realized by mid-century: “all” describes whole species and inevitably includes humanity. Fossilized creatures that lived and died eons past were messengers from the depths of geological time, revealing at once the immensity of the past and the certain fate of humans in the

future. Writing of Hutton in volume 1 of *Principles of Geology*, Lyell explains: “Such views of the immensity of past time . . . were too vast to awaken ideas of sublimity unmixed with a painful sense of our incapacity to conceive a plan of such infinite extent” (63). Yet, Lyell’s project, one shared by many Victorian writers, was to conceive the infinite plan.

Through geology—and archaeology, which developed in the young science’s wake—scientists fashioned narratives out of fragmented remains. The evidence they excavated revealed at once the extraordinary depth of time and the awesome ability of the writer to measure time and to craft its story. Immediately after marveling at the immensity of time and the difficulty of conceiving such an elaborate and infinite plan, Lyell asserts the capacity to imagine boundless time: “Worlds are seen beyond worlds immeasurably distant from each other, and beyond them all innumerable other systems are faintly traced on the confines of the visible universe” (63). Though time and space may be immeasurable, distant worlds are “seen” nonetheless. A consideration of Lyell’s strategic use of passive voice reveals the paradox that empowered geology and archaeology in the face of the “immensity of past time”: in this sentence, it is ambiguous who or what has performed the action (“traced”), and thus Lyell invokes at once the natural processes that leave evidence of change on the “visible universe” and also the scientist who interprets the traces of the past writ on the landscape. This conflation is echoed throughout the writings of the nineteenth century: the infinite expanse of time is matched with the geologist whose careful calculations make time vast, indeed, yet finite; the oppressive layers of dust that entomb not just individuals but entire cultures are plumbed by archaeologists whose discoveries give life to the very cultures and individuals that seem to have been destroyed.

Again and again, geologists, archaeologists, and writers influenced by these new sciences offer in one image, in one sentence, both the destruction and the preservation of the individual. The writer is empowered to understand and explain the “immensity of past time,” and this position as narrator of time’s vastness rescues the individual, in this instance the writer, from being obliterated by time. In *The Sense of an Ending*, Frank Kermode describes world history as “the imposition of a plot on time” (43). Natural history is somewhat different. As Gillian Beer asserts in *Darwin’s Plots*, “Lyell, and later Darwin, demonstrated in their major narrative of geological and natural history that it was possible to have plot without man—both plot previous to man and plot even now regardless of him” (17). The Earth has its own plot, not imposed by a person or a divinity. However, it requires the imagination of human observers to discern that plot and read it out. Beer later explains,

The humanistic core of Lyell’s work is its insistence on the power of man’s imagination, which allows him to recuperate the staggeringly extended time-scale of the physical world. Though his presence is diminished in the raw time-scale, his is the only source of powerful *interpretation*. (Beer’s emphasis; 39)

This notion of “powerful interpretation,” or even empowering interpretation, is the subject of this book. How does the individual look into the abyss of time and escape annihilation? Beer argues, and I emphatically agree, that narrative offered a way to imagine at once time’s expanse and the persistent value of the individual life.

Indeed, the authority of the excavator to tell the story of the Earth, a narrative constructed from the vestiges of the past, privileges the present and thus diminishes the alarming implications of the abyss that is the past.² It is from his or her position grounded in the present that the geologist or archaeologist examines fossils or ruins and draws conclusions about the past; he or she might also make predictions about the future. In both cases, the other times are dwarfed by the here and now, the present looming larger than the expansive past in its actuality, if nothing else. In her analysis of the human experience of time, *Between Past and Future*, Hannah Arendt describes the privileged position of the present: she writes that past and future have no known beginnings and both terminate in the present, a variation on Hutton’s theme. From this vantage point at the middle of time, writers assert considerable authority over the past and the future; as they muse on what has been and what will be, they always emphasize their own moment. Walter Benjamin similarly stresses the paramount importance of the present in history in his “Theses on the Philosophy of History”; he writes, “History is the subject of a structure whose site is not homogenous, empty time, but time filled by the presence of the now” (263). Benjamin uses a spatial metaphor, as so many who write about time inevitably do, and describes the present as being able to fill up all the space of history: thus, the present, despite all its fleeting qualities, is physically equivalent to all of the past. In the insistence on the importance of the present as a measure of both past and future, individuals claim a position of spatial, temporal, and narrative significance.³

In the chapters that follow I discuss the literature of excavation, an activity founded on the fundamental relationship between time and space: an object is removed from layers of Earth that signify the passage of time and re-presents the past. I pay particular attention to narratives from geology and archaeology, as well as literary texts that echo the concerns of these sciences. Born in the late eighteenth century, geology grew into a premier science in the first third of the nineteenth century. Like many sciences at this time, geology was accessible to everyone; there were no specialists, and many men and women from all strata of society read the texts published on geology and even participated in excavations. For much of the century, archaeology was regarded as a close cousin or even a branch of geology.⁴ Excavation was more geographically than disciplinarily bounded, and a single site often yielded interesting fossils as well as notable remains from human cultures. Some who excavated such sites made no distinction between these finds and happily displayed fossil fishes alongside prehistoric tools and human bones. In fact, the proximity of human remains to extinct faunal remains made the implications of geology for humanity very clear: people and their cultures are no more resistant to the passage of time than are bivalves or dinosaurs.

The relationship between the individual life and the immensity of time was a central concern for early geology, and the struggle between catastrophists and uniformitarians was, in addition to being an important and ongoing scientific controversy, a narrative struggle to define that relationship. Some early scientists interpreted the fossil record as evidence of a great catastrophe, some cataclysmic event that destroyed entire species in one blow.⁵ So-called catastrophists more easily assimilated scientific evidence with the traditional biblical account of Earth's history: for instance, they famously conjoined science and theology with their attention to the flood as the central geological event, a compelling explanation for the discovery of marine fossils on mountaintops. Yet, Charles Lyell and his followers promoted a different interpretation: what is now the craggy top of a mountain may once have been a level plain resting beneath the sea. Uniformitarianism, championed by Lyell, assumes that processes in action in the present are identical to those in action in the remote past. So the past can be witnessed by proxy, as it were, by the geologists who examine the processes they can observe in the present—as Arendt remarked, from the vantage point of the present, we can observe all time. In addition to its assertion of the value of the present, uniformitarianism assumes a vastly expanded time scale. Over such a tremendous amount of time, very small actions affect great change. For example, if small pebbles are knocked against the shore again and again for millennia, they will carve a coastline. Uniformitarian geologists believed the movement of the pebbles to be uniform, and they allowed millions of years for the pebbles to do their work; the equation results in awesome change caused by individuals who had formerly appeared to be absolutely insignificant. Thus, even as it exposed the terrible specter of eventual annihilation, geology offered a theory that empowered the small, the individual.

Matthew Arnold (1822–1888) explores the impact of geology on the individual in his poem “Dover Beach” (1867).⁶ He breaks the calm he establishes in the first few lines of the poem—“The sea is calm to-night” (1)—with the imperative in the ninth line, and he continues on to describe the powerful action of pebbles:

Listen! you hear the grating roar
 Of pebbles which the waves draw back, and fling,
 At their return, up the high strand,
 Begin, and cease, and then again begin,
 With tremulous cadence slow, and bring
 The eternal note of sadness in.

(9–14)

Arnold here describes the “grating roar” of uniformity: the small actions of the pebbles he hears in the present echo the same pattern occurring day after day for countless years. The “tremulous cadence slow” describes not only the sound of the rocks but also the sound of the ages passing slowly, slowly, and Arnold states

in line fourteen that they bring “the eternal note of sadness in.” His phrasing here is subtle and important: the grating roar does not bring in sadness; rather it brings in the eternal note. The pebbles grating against the strand make a sound that endures across all time; it is eternal. The note is also one of sadness, a sound that depresses rather than elevates the spirit. Indeed, Arnold goes on to describe a different roar: the “melancholy, long, withdrawing roar” of the “Sea of Faith” (25, 21). The note the pebbles sound forces the sea of faith to withdraw, and this withdrawal is also a “roar.” By repeating the word “roar,” Arnold makes a clear connection: the sound of the pebbles drowns out the sea of faith. Yet, for all his lovely articulation of science-inspired angst, Arnold does offer hope.

The grating roar does not bring in sadness; it only brings in a note, a sound, which may oppress with its fierce and persistent roar, but which has no inherent value. The person who hears the roar may feel sadness, especially if the roar dampens the soothing sounds of faith, but he could also feel empowered. Let us return to the imperative of line nine: “Listen!” The grating roar of the pebbles only signifies the passage of a tremendous amount of time if someone listens to their sound and interprets its meaning. Arnold first compels the reader to hear the note and to drown in its annihilating significance, but he reverses this hopeless sentiment in the final stanza when he offers a second imperative: “Ah, love, let us be true / To one another!” (29–30). When the reader listens at line nine, he or she hears geological time and can only conclude that human lives are worthless, but when Arnold makes this second command, he insists on the value of an individual life. The interlocutor is exhorted to value another person despite the “darkling plain” of life, rife with confusion and ignorance. Love and the bond between two people, despite all evidence to the contrary, matter in this poem. Arnold even matches the “eternal note of sadness” with his own note; the “Ah” he sounds at the beginning of the poem’s last stanza vies with the depressing note and strives to uplift. The embattled lovers may not be audible above the grating roar of science, but they huddle together and drown out faith’s retreat. And Arnold’s “Ah” is audible: the poet-speaker makes a sound that resounds alongside the “eternal note of sadness,” and the result is a fierce harmony that drowns out the individual voice even as it throws that desperate cry into relief. In the following chapters, I examine texts from geology and archaeology alongside works by Alfred, Lord Tennyson and Charles Dickens that struggle to hear and amplify the individual’s cry.

Making Meaning of Fossils

Fossils invited the Victorians to think deeply about time. Similarly, many historians of science have used fossils to structure their histories: Martin J. S. Rudwick charts the discovery of the geological time scale through these remains in *The Meaning of Fossils*, Claudine Cohen traverses the same territory through a single fossil-figure—the varied forms of the mammoth—in *The Fate*

of *the Mammoth*, and Simon J. Knell details the development of scientific societies through focus on the fossil in *The Culture of English Geology, 1815–1851*. Each of these histories takes as its subject fossils and how scientists advance their interpretations of them. Others, such as Paolo Rossi and Claude Albritton, have offered more general overviews of the history of the “discovery of time,” as Stephen Toulmin and June Goodfield call it. They do not emphasize fossils or any other particular element of geology; instead, they present a time line of individuals whose scientific contributions evolve toward what we consider fact today.⁷ Yet, even these more expansive histories of geology remain tied to scientific discoveries, whether analyses of fossils, advances in stratigraphy, or refined understanding of comparative anatomy. Such a focus is entirely appropriate, for these works are histories of science. *Excavating Victorians*, however, is neither a history nor a piece of scientific writing, and thus in its genre and its content it diverges essentially from this body of literature to which it is much indebted.

Science is the subject, sometimes directly and sometimes obliquely, of the writers whose writing is my subject. My focus is on the literature inspired by advances in geology, not on geology itself. In the twenty-first century, considering science and literature together seems novel, an intriguing conjunction invited by academia’s recent emphasis on interdisciplinary study. However, the disjunction that makes the conjunction so appealing is itself a product of the twentieth century and obscures the fact that disciplinary boundaries are a recent invention. Science and literature were not distinct from one another in the nineteenth century. Beer states the case very clearly at the outset of *Darwin’s Plots*, her great contribution to the literary study of what we now consider to be scientific texts: Darwin and his contemporaries “shared a literary, non-mathematical discourse which was readily available to readers without a scientific training. Their texts could be read very much as literary texts” (4). She goes on: “Moreover, scientists themselves in their texts drew openly upon literary, historical and philosophical material as part of their arguments” (5).⁸ She describes how metaphors and narrative patterns moved freely between scientists and nonscientists: for insistence, she argues that Darwin was influenced no less by Malthus’s prose than by his theory, and further that he was influenced no less by Milton and Dickens than by Malthus. And Beer makes certain her reader understands that though Darwin is her focus, the patterns she describes are typical of the period.

I follow Beer in attending to the literary discourse that arises out of the science of geology. This body of literature contains works by scientists—I pay particular attention to Lyell and Gideon Mantell (1790–1852)—and more traditional literary figures, such as Tennyson and Dickens. I also examine writings published in the popular press, travel literature, and the reports of professional archaeologists, all commenting on sites of archaeological ruin in London and at Pompeii. To be clear: I posit no causal relationship—Dickens, for one, was not influenced by science writing any more than scientists writ-

ing were influenced by Dickens. My subject is a discourse that includes the categories we today identify as “literature” and “science,” but that in the nineteenth century was simply a body of writing addressing a changing understanding of the Earth and the value of human life. Beer writes explicitly of her methodology and offers an excellent gloss on my own: “My method pays close attention to Darwin’s language. He did not *invent* laws. He *described* them” (Beer’s emphasis; 46). She analyzes Darwin’s language, his descriptions: in short, her focus is not on his science but on his writing, though she is persuasive in her insistence that the two should not be severed. Like Beer, I attend to text, and I am much influenced by her description of the symbiotic relationship of science and literature. She explains:

Though the events of the natural world are language-free, language controls our apprehension of knowledge, and is itself determined by current historical conditions and by the order implicit in syntax, grammar, and other rhetorical properties such as metaphor, as well as by the selective intensity of individual experience. (46)

Beer makes the important point that language is important not only because it describes natural phenomena, but also because it serves as the intellectual system that enables an observer to make sense of nature first in his own mind and only later in narrative form. The frequent use of reading as a metaphor for geological study illustrates the point: Lyell, for example, wrote that study of the present-day Earth reveals the “alphabet and grammar of geology,” and it is the task of the geologist to close read that terrestrial text. It is my task to close read the texts that arose from the work of scientists such as Lyell and the many others who participated in the discourse of reinventing time.

The Observer and the Trace

When an observer excavates a site and uncovers a fossil or an artifact, she raises that object from the depths of time past to the surface of the present. The excavator, thus, has the power to move objects from one time into another. I mean this literally—a geologist lifts a fossil shell from the strata that preserves other marine life from the oolitic period and removes the shell to a Victorian display case—and also figuratively—an archaeologist extracts a small marble ball from its lava casing at Pompeii, interprets his find, and claims that Roman children played with marbles as Victorian children do. In an essay titled “The System of Collecting,” Jean Baudrillard theorizes the life of objects that are removed from their original contexts and reinvented as items in a collection. He asserts, “Once the object stops being defined by its function, its meaning is entirely up to the subject” (7). Geological and archaeological traces are sometimes defined by their function, but they are always

also interesting because of what they signify about the past and about the passage of time. Thus, these objects are important because of their revised function as temporal signifiers. As the people who physically control the artifacts and, more importantly, who control their interpretation, excavators wield tremendous power in the face of the expanding time scale—they read the signifiers. As the authority of the Bible waned, the authority of the scientists and authors influenced by geology and archaeology grew. Their authorial power allowed them to tell the story of time, and their story depended on the relationship between the object and its discoverer. Indeed, excavation became a powerful epistemological trope for the Victorians: it brings together notions of time as spatial and of a person's ability to stand outside the layers of the past (that is, the physical evidence of time's passage) to plumb the depths and produce narrative accounts of what is uncovered within the rock and dust. Excavation was a way of knowing and conquering the depth of time.

The "trace," as defined in *Time and Narrative* (1985), by Paul Ricoeur, twentieth-century philosopher of science, is the central object of excavation and the focal point of so many narratives of geology and archaeology. Conveying a mutli-temporality, "trace" indicates an object's origin in the past but also its duration into the present. Ricoeur is particularly interested in the relationship between material things and time. Such things offer a measure not only of time's passage but also its peculiar stasis. Emphasizing its duration, Ricoeur connects the trace to what Edmund Husserl calls a *zeitobjekt*, or "tempo-object" (26). Much like Arnold's grating roar, the *zeitobjekt* is a sound that continues. Ricoeur explains that the "tempo-object" indicates "duration, in the sense of the continuation of the same throughout the succession of other phases" (26)—the pebbles cause a roar that begins, ceases, and then begins again. Thus, traces, for all their connection to the past, are emphatically of the present. This concept distinguishes the trace from, say, an artifact: unlike some other material objects, the trace develops its significance from its duration, that is, from its origin in the past yet its presence in the present. In their study of archaeology, Michael Shanks and Christopher Tilley echo Ricoeur:

The past is conceived as completed. It is in grammatical terms "perfect," a present state resulting from an action or event in the past which is over and done. This "perfected" past is opposed to the flow of the ongoing, incomplected, "imperfect" present. Although the past is completed and gone, it is nevertheless physically present with us in its material traces. (9)

Ricoeur might rejoin that the fact of traces means that the past, too, is imperfect: despite the many histories that neatly divide time, no period or epoch is really discrete. Simultaneously making the past legible and eroding temporal boundaries, the trace invites both empirical study and imaginative interpretation. It is this last that is the subject of this study.

Of course, the trace most famously entered the discourse on meaning and interpretation in Jacques Derrida's *Of Grammatology*. Derrida explains that the trace signifies an elusive originary something, perhaps a thought. It signifies the loss of origin yet is at once a sign of origin. Thus, the geological trace is both the sign of the deep past (a past that theoretically stretches back toward beginnings and origin) and a sign that the past is passed. Derrida emphasizes the erasure inherent in signification: that is, the trace may suggest the past, but it is inevitably apart from that past and in its very existence reveals the irretrievability of what is signified. I differ from Derrida in my interpretation of Ricoeur's representation of the trace. I believe that Ricoeur's emphasis on endurance amounts to an emphasis on preservation: while Derrida sees meaning always eroding, Ricoeur sees the possibility that meaning can be sustained, though perhaps in a diminished form. The trace is not the past—this I do not dispute—but it is a material connection to the past, and while it shows erasure, it also preserves. Moreover, it becomes the foundation for the new historiography that aims to present the past through narrative.

Historians like Thomas Carlyle and Thomas Babington Macaulay, along with writers of historical fiction such as Edward Bulwer-Lytton, sought to bring the past to life through the use of essentially literary narratives. In his discussion of nineteenth-century historicism, Michael I. Carignan explains:

The view that history is a branch of literature dominated the Romantic historiography of the 1820s and 1830s, and most of the well-known historians of the period strove to write grand narratives that were appealing as literature. . . . In Macaulay's mind, the historian's talent "bears a considerable affinity to the talent of a great dramatist." (399)

Writing of Jules Michelet, Roland Barthes describes the "historian-as-bone-collector and restorer of human dust" (84). In this sense, the historian works from traces, whether bones or written accounts, and from these traces crafts a narrative that not only makes vivid the events of the past, it also eliminates the pastness from the story, bringing the past back to life in the present. Barthes writes:

At the heart of every resurrectional myth . . . , there is a ritual of assimilation. The resurrection of the past is not a metaphor; it is actually a kind of sacred manducation, a domestication of Death. The life Michelet restores to the dead is assigned a funereal coefficient so heavy that resurrection becomes the original essence, absolutely fresh and virgin of death, as in those dreams where one sees a dead person living, while knowing perfectly well that the person is dead. (84)

This conjunction of history and resurrection runs through much of the literature of excavation: geology brings Victorians into direct (if fictional) contact with dinosaurs, archaeology reanimates Pompeii, and Dickens literally resurrects Rogue

Riderhood and John Harmon in *Our Mutual Friend*. The past is made to live again, figuratively through narrative, and literally through the removal of its trace into the material spaces of the present.

In the third volume of *Time and Narrative*, Ricoeur emphasizes the substantive quality of the trace:

Hence the trace indicates “here” (in space) and “now” (in the present), the past passage of living beings. It orients the hunt, the quest, the search, the inquiry. But this is what history is. To say that it is a knowledge by traces is to appeal, in the final analysis, to the significance of a passed past that nevertheless remains preserved in its vestiges. (120)

Central to Ricoeur’s definition of the trace is the pastness of the object that the trace signifies. A footprint offers a classic example:⁹ a person crossed the beach at some time prior to the present; the person is gone, but her footprint remains. The trace records the fact that someone was there and now is not. Thus, the trace at first suggests a linear model of time: then precedes now. Yet, the trace is an object in its own right, not simply an indicator of the current absence of another object, and it exists in the present. In its dual function as a sign of the past and a thing of the present, the trace seems to exist outside time or across all time. Thus, if history is “a knowledge by traces,” as Ricoeur asserts, then history is made from the interpretive exchange between past and present. Carignan connects this temporal exchange with Hegel, whose “philosophy helped organize the idea that the past was organically connected to the present and that its coherence depended on the consciousness of the historian” (399). Barthes makes explicit the historian’s power over time in his description of Michelet’s view: “the historian is the man who has reversed Time” (83).¹⁰

Yet, the multi-temporality of the trace is even more complex than Ricoeur posits or than Barthes acknowledges, for it is not merely a lingering object from an earlier era—it is also a function of time’s passage. To show what I mean I will extend the example of the footprint: the footprint was left at some point in the past by the foot of a particular person who walked over the sand. It signifies that in the past a person with a foot of particular shape and size moved across the site. With the passage of time, the action of water and wind has caused the footprint to erode; its edges become less distinct and its depth diminishes. Thus, the footprint that we observe in the present is a function of the original action and also the passage of time. As a trace, it offers information about the past but also about the time passed between past and present, and even about the present itself: we can perhaps determine how much time has passed, what the weather conditions may have been over that period, and we integrate the presence of the trace into our view of the present landscape. The trace endures and thus assumes a temporal significance that transcends its original function. As it “re-presents” what went before (Ricoeur 34–36), the

trace diminishes the pastness of the past and makes the depth of time visible and comprehensible. Thus, the excavator or historian who writes a history built on a foundation of traces writes about past and present, but also about time itself.

Thomas Huxley (1825–1895) writes in “On the Method of Zadig” (1880) about what he calls “retrospective prophecy,” and he offers a compelling reflection on the authority of the individual who crafts a narrative about the past based on material evidence available in the present. “Retrospective prophecy” seems a particularly apt term to describe the work of excavators in the nineteenth century as it emphasizes not only the past but more precisely looking at the past and crafting a narrative. The materiality of the artifact is a key piece of the puzzle, for the excavator can literally look at a trace of a time past. In reference to Zadig, a naturalist from ancient Babylon described by Voltaire in a philosophical treatise written in 1747, Huxley applies the language of seeing into the future to the science of reading the past: he acknowledges that some thought Zadig had extraordinary powers and thus regarded him as a prophet, yet his powers were simply those of rigorously applied scientific method. Huxley explains that Zadig excelled at meticulous observation of detail and, most importantly, he recognized in the small actions of the present the processes of the past: Huxley explains that examination of a pattern of broken twigs enables Zadig to deduce what sort of party passed by (this is a variation on my example of the footprint). Huxley goes on: “For the rigorous application of Zadig’s logic to the results of accurate and long-continued observation has founded all those sciences which have been termed historical or palaeiological, because they are retrospectively prophetic and strive towards the reconstruction in human imagination of events which have vanished and ceased to be” (9). A skilled observer like Zadig can build from fragments—traces—a narrative of the past, but that narrative is a product of the present and resides in the imagination of living humans.

The perception that excavation provided a direct encounter with the past led easily to the assumption that the excavator conquered the past, and I will turn now to the nexus of imperialism, new historiography, and the materiality of the trace to explore further this important issue of control, or authority. As the British traversed the globe on imperial missions, they colonized foreign lands and took the alien artifacts they found there as trophies to proclaim their moral, cultural, and military victories over “lesser” peoples. Many of these trophies were objects of geological or archaeological interest, so the acquisition of artifacts was in practice often connected to imperial conquest. It is difficult to claim that a fossil fish belongs to any human society, but the accessibility of many geological sites had to do with empire. The situation in archaeology is far more complex: many artifacts were only discovered because of the total disregard for local peoples and customs, were removed from their sites because of assumptions of cultural superiority, and were transported to England where they were reinterpreted in their new context and with little to

no thought of the living heirs of the cultures that crafted the vaunted remains. It is useful to consider two historians of anthropology who offer descriptions of the role of time in encounters with so-called primitive peoples. These theories of encounter can be usefully extended into the realms of archaeology and geology. To put it simply, Victorian observers imagined they were engaging with human traces when they encountered people who they believed to be less civilized than themselves. Anne McClintock describes the space of encounter as “anachronistic space,” and Johannes Fabian argues that anthropology depends on the assumption, contrary to the prejudiced view of the Victorians, that cultures are coeval—that they exist in the same time. I would like to explore both anachronistic space and coeval encounter in application to nineteenth-century geology and archaeology.

In *Imperial Leather*, McClintock considers temporality a central element of colonial encounter, as she examines the racism and sexism inherent in imperial conquest.¹¹ She introduces anachronistic space to describe the supposed existence of primitive peoples outside the linear time of the conquering empire. McClintock explains:

The colonial journey into the virgin interior reveals a contradiction, for the journey is figured as proceeding forward in geographical space but backward in historical time, to what is figured as a prehistoric zone of racial and gender difference. One witnesses here a recurrent feature of colonial discourse. Since indigenous peoples are not supposed to be spatially there—for the lands are “empty”—they are symbolically displaced onto what I call anachronistic space. . . . According to this trope, colonized people . . . do not inhabit history proper but exist in a permanently anterior time within the geographic space of the modern empire as anachronistic humans. . . .(30)

Geological and archaeological encounters were less complicated than anthropological ones. Sites of excavation unequivocally exposed a “permanently anterior time.” Geological expeditions seemed to transport the observer to a distant epoch, and writers sometimes deployed the discourse of empire to make sense of the experience. For example, Lyell attempts to explain the expanse of time by likening the conquest of Egyptian tombs to the conquest of geological strata. When Victorians visited Pompeii, they insisted they had journeyed to the past, and, in London, the city’s past asserts its presence and makes even the modern, forward-moving city a site of anachronism as imperial Rome rises to the surface of imperial Britain.

McClintock goes on to consider the deliberate construction of anachronistic spaces of display, notably at the Great Exhibition of 1851, and observes, “in the compulsion to collect and reproduce history whole, time—just when it appears most historical—stops in its tracks. In images of panoptical time, history appears static, fixed, covered in dust” (40). In *The Birth of the Museum*,

Tony Bennett offers a richer reading of the museum's relation to time than that suggested by McClintock. Bennett argues that museums served the vital interpretive function of reverting time back into space: "If the essential methodological innovations in nineteenth-century geology, biology and anthropology consisted in their temporalization of spatial differences, the museum's accomplishment was to convert this temporalization into a spatial arrangement" (186). He goes on to emphasize the accessibility of time in museums: "In fact, the museum, rather than annihilating time, compresses it so as [to] make it both visible and performable" (186). Bennett would take issue, I believe, with McClintock's assertion that time on display is static. Rather, exhibition provides a space for presenting an expanse of time in miniature. Baudrillard addresses such a notion of reining in time when he writes of "the time of the collection as diverging from real time." He explains, "*the setting up of a collection itself displaces real time*. Doubtless this is the fundamental project of all collecting—to translate real time into the dimensions of a system" (Baudrillard's emphasis; 16). The system of collection, whether private or public, becomes a way of manipulating chronology. And collecting is not the only metaphoric vehicle for the management of time: Beer writes of narrative, "The narrative time of the *Origin [of Species]* is not one that begins at the beginning but rather in the moment of observation" (1983, 59). Like collection, text offers a space where time is miniaturized into a controllable system. Thus, I'd like to complicate McClintock's anachronistic space: it is not the place where time stops; instead, it is where the larger, temporal narrative is condensed into a pseudochronism—man-made and made for men to observe, narrate, and, above all, control.

Johannes Fabian recommends "coevalness" as the appropriate temporal model for encounters with the human other, and I will expand this term to describe the nature of relationships across time. In *Time and the Other*, Fabian, like McClintock, explores the function of time in an imperial context. He notes that in the nineteenth century time shifted from being "the vehicle of a continuous, meaningful story" to instead being "a way to order an essentially discontinuous and fragmentary geological and paleontological record" (14), a system like Bennett's and Baudrillard's. With this new ordering function of time arises what Fabian calls an "allochronic discourse" in which the subject observer exists in a different time than his object. Fabian here echoes McClintock, and both of them quote Joseph-Marie Degérando, who wrote in 1800: "The philosophical traveler, sailing to the ends of the Earth, is in fact traveling in time; he is exploring the past; every step he makes is the passage of an age" (qtd. in Fabian 7).¹² Like McClintock, Fabian challenges this imperial prejudice against people who not only inhabit different places but seem to inhabit different times as well. He argues that an anthropologist can only perform field work successfully if he assumes that he and his object are coeval, that they exist in the same time. He explains that many anthropologists deny coevalness: they "place the referent of anthropology in a Time other than the present of the producer of anthropological discourse" (31).

I want to complicate Fabian's definition of coevalness. At an excavatory site where the culture or epoch under examination is, in fact, from the past, it would seem there is no place for a coeval approach; the encounter is by definition allochronic. While it is racist for a Victorian traveler to consider that he has journeyed to the past when he visits an African village, it is simply accurate for that same traveler to claim he faces the past when he stands at Pompeii. Like Degérando passing through ages, the archaeologist or geologist literally explores the past as a physical space. Thus, I want to extend Fabian's coevalness of cultures to time: in the literature of nineteenth-century science, there is a modified sense of coevalness of distinct time periods—assorted pasts, the present, and the future coexist at the single point of an excavation. Yet, already I must qualify this claim. The archaeological or geological site is a trace or a collection of traces, and the trace signifies not only the past but also the passage of time. Past and present are, of course, not coexistent, and the trace reveals the temporal gap. Yet, examining a trace, the observer brings her present into direct contact with the past, and in so doing she diminishes the expanse of time or, at least, conquers it by standing outside it. The trace insists that the past is passed, yet it endures. Perhaps the Victorians longed for a coeval relationship to the past, most of all because such a relationship would implicitly require a coeval relationship also to the future. The object from the past that exists in the present and implies the future is the key to the effort to control time: the object might be a trace and thus embodies the passage of time yet it itself exists across time and paradoxically becomes a vehicle for asserting a coeval view of time. At the site of the artifact or the excavation—anachronistic space—all time is laid out together, and the depth of time collapses beneath the observer's gaze.¹³

Returning to Ricoeur, it is important to stress that the trace is a function in the mathematical sense. It is never a static object, but rather an artifact from the past, altered by time, and defined in the context of the present. It embodies multi-temporality as well as inter-temporality and becomes a foundation for the construction of anachronistic spaces and for the assumption of coevalness vis-à-vis periods of time. The trace also functions as a signifier of the imperial ideology I have been discussing. As an object from the past, it enables the nineteenth-century collector to possess, define, and subdue past time (recall Barthes describing Michelet's domestication of Death), and as an object in the present, it forces the observer to redefine himself in relation to the ever-expanding time scale and to imagine his own end as a similar artifact. The imperial context that underlies the theoretical contributions of McClintock and Fabian is more complex than I have thus far allowed.¹⁴ The dark side of imperial arrogance is the fear that degeneration and imperial collapse lay ahead for Britain.¹⁵ As he proudly distanced himself from supposed primitives, the nineteenth-century imperialist, however much he may have asserted his own superiority, suspected that the so-called savage was his kin. Fears of degeneration arose out of racist anxieties about contamination from already degener-

ate people (at home and abroad), and these fears were confirmed and deepened by Darwin's writings at mid-century. However, I want to argue that degeneration was at issue early in the century, long before Darwin, because of the interest in ruins and the recognition that they may picture the future as well as the past. Michael S. Roth, writing in *Irresistible Decay: Ruins Reclaimed*, states the case clearly: "The disappearance, the threat of loss, is key to the attraction of ruins—and to their essential ambiguity. . . . Their decay is irresistible to us because it allows us to perceive the passage of time as irresistible. Yet ruins do resist because they persist, but not too well" (2). Faced with geological and archaeological ruin, nineteenth-century observers felt they witnessed at once the decay of the past and a preview of their own eventual ruin, yet paradoxically they also saw the persistence of the past, and therein lay hope for the future. Such is the powerful multivalence of the trace.

The Eye of the Trilobite

Among the many traces that captured the nineteenth-century imagination, none collapsed the distance between past and present so adamantly as the trilobite. A small crustacean, the trilobite thrived in the Paleozoic era, and its fossilized remains were found in abundance during the early years of geology. Figure 1.1 shows a sketch of a trilobite from Gideon Mantell's *Pictorial Atlas of Fossil Remains* (1850). A relic from such a distant period, the trilobite challenged its excavators to peer into the abyss of time stretching back beyond the scope of imagination. It evoked the breadth of Earth history, as contemporary science writer Richard Fortey muses in his enthusiastically titled *Trilobite!:* during the 300 million years they inhabited the seas, trilobites witnessed "continents move, mountain chains elevated and eroded to their granite cores, they have survived ice ages and massive volcanic eruptions" (24). Fortey is delighted by the trilobites' longevity, but the presence of this fossilized crustacean was more complicated for the Victorians. In anachronistic encounters, they expressed awe in the face of such a resilient creature, but the trilobite also inspired an anxiety—if this armored, long-lived species ultimately succumbed to the passage of time and mortality, then what of the people who examine the trilobite in the present? Tennyson articulated the concern clearly in *In Memoriam*, when he asked "shall [man] / . . . / be blown about the desert dust, / or sealed within the iron hills?" He goes on to despair, articulating the fear of his generation that "life [is] as futile, then, as frail" (56: 8, 19–20, 25). The trilobite and all its fossilized kin brought individual mortality and, worse, extinction before the Victorian public, who found itself unable to look away from these alarming traces.

In her comic poem "The Lay of the Trilobite" (1887), May Kendall (1861–1931) imagines a conversation between a poet wandering about "a mountain's giddy height" (1) and "A native of Silurian seas, / An ancient

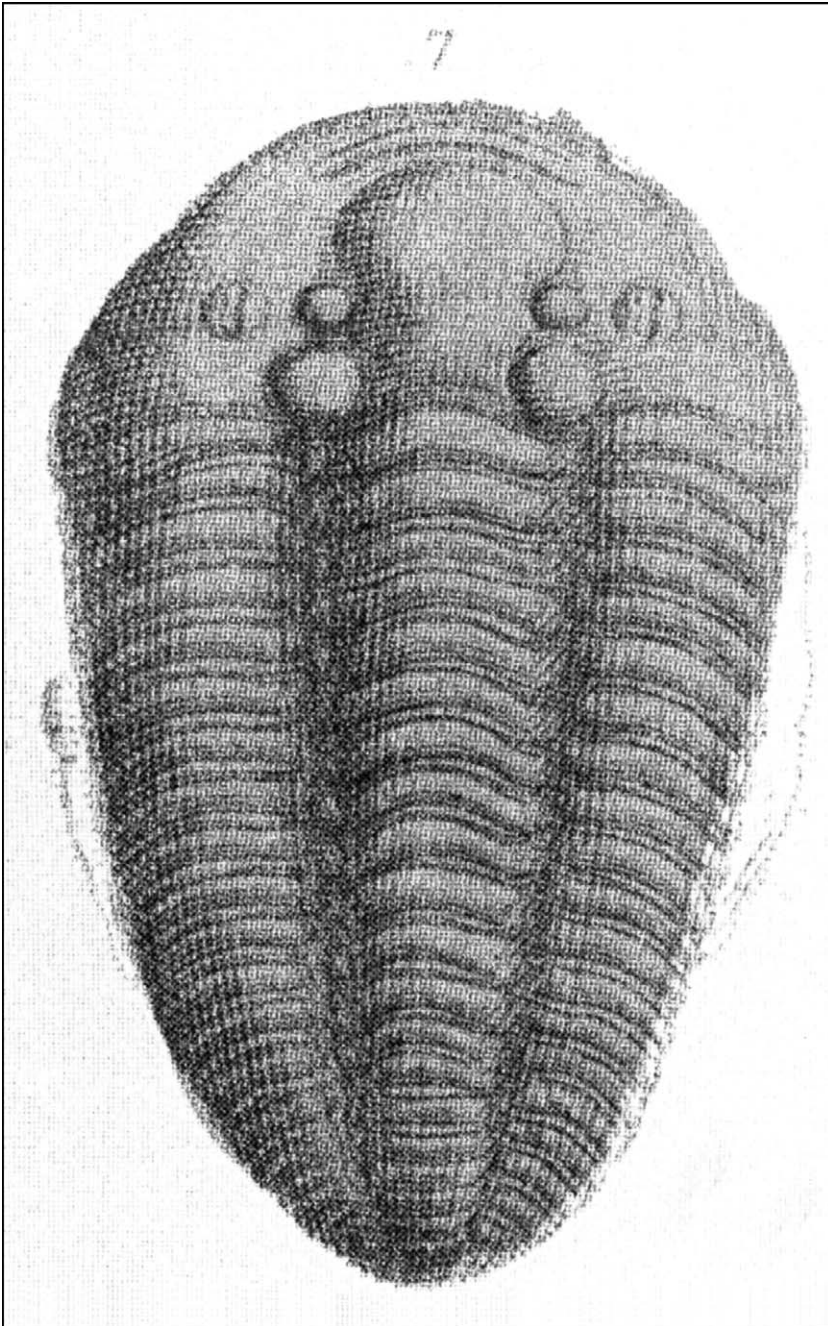


Fig. 1.1 Figure of a trilobite, Gideon Mantell's *Pictorial Atlas of Fossil Remains* (1850).

Trilobite” (7–8). The trilobite, who seems remarkably well-read,¹⁶ references Huxley and with parallel structure makes explicit the connection between science and the loss of faith that so shook the nineteenth century. He observes, “How all your faiths are ghosts and dreams / How in the silent sea / Your ancestors were Mono-tremes” (24–26). The trilobite expresses an ignorance-is-bliss philosophy and distinguishes himself from humans in having been quite content with his simple life as a crustacean. The poet is persuaded and regrets that human life is so uncomfortably complex. Kendall concludes with the poet’s lament:

I wish our brains were not so good,
 I wish our skulls were thicker,
 I wish that Evolution could
 Have stopped a little quicker;
 For oh, it was a happy plight,
 Of liberty and ease,
 To be a simple Trilobite
 In the Silurian seas!

(65–72)

“The Lay of the Trilobite” reflects the popularity of this particular fossil type, but, despite its comic tone, it also expresses humans’ regrettable ability to understand the fossil evidence before them and recognize that long-held narratives of Earth and human history are but “ghosts and dreams.” With the loss of these comforting histories, the degeneration the poet longs for in line 67—“I wish Evolution had stopped a little quicker”—becomes itself a reality rather than a dream. The trilobite reveals at once how far humanity has advanced but also the ruin that likely lies ahead. In his coeval meeting with the trilobite, Kendall’s poet has the opportunity to glimpse both past and future. Many surely shared the view expressed here: we would be far more content if we had remained ignorant of the geological record and all that it signifies. Kendall’s poet learns this lesson, literally and figuratively, from a trilobite.

Thomas Hardy (1840–1928), always attracted to the intrusion of relics into present life and moments of contact between past and present,¹⁷ confronts the imperiled Henry Knight with the cold stare of a trilobite in *A Pair of Blue Eyes* (1872–1873), and discards the notion of past and present separated by so many millennia stretched out in a line. Awaiting either rescue or death, Henry clings to a cliff, faced with the inevitability of his own mortality and the prospect of the mortality of an entire species:

By one of those familiar conjunctions of things wherewith the inanimate world baits the mind of man when he pauses in moments of suspense, opposite Knight’s eyes was an imbedded fossil, standing forth in low relief from the rock. It was a creature with eyes. The eyes, dead and turned to stone, were even now regarding him. It was one of the

early crustaceans called Trilobites. Separated by millions of years in their lives, Knight and this underling seemed to have met in their place of death. (209)

Hardy creates a moment in which time, like Henry, is suspended, but such close scrutiny of the fossil reveals that the present, again, like Henry, does not wait alone: "Time closed up like a fan before him. He saw himself at one extremity of the years, face to face with the beginning and all the intermediate centuries simultaneously" (209). Henry and the trilobite are not alone in their coeval encounter: when one looks into the eye of the trilobite, all of time collapses together. Hardy thus expresses the conflicting views of time the trilobite and other traces inspired: the individual recognizes his own insignificance in the evident mortality of the fossilized creature, yet, in his ability to perceive the trace and transcend the expanse of time to find common ground with the fossil,¹⁸ the individual makes himself temporally significant. In a similar scene in Tennyson's *The Princess*, the subject of chapter 3, Ida faces women's bleak future as she excavates a fossilized beast from the distant past.

While the trilobite and other fossils invited writers like Hardy and Tennyson to reimagine time, at a more concrete level, they secured acceptance of uniformitarianism. The trace of impressive geological change, the trilobite recalls the past but also becomes an object of significance in the present. The creature's body with its armor-like shell is easily spotted, but it's the eye of the trilobite that entranced those with a proclivity to think on time. The often well-preserved intricacy of this fossil-eye offers a rare glimpse of the prehistoric world, and many observers were struck by the apparent likeness of that world to their own. With a variety of lenses, the eye of the trilobite is identical in construction to the eyes of contemporary crustaceans and insects. This kinship across millions of years moved many observers who looked into the eye of an extinct Paleozoic beast and saw not distance, but, despite the eons separating them, a profound closeness. In the *Ninth Bridgewater Treatise*, William Buckland uses the trilobite to defend the uniformitarian position.¹⁹ The eye of the trilobite suggests that processes in the past are no different from those of the present. Buckland explains that as the shape and configuration of the many lenses of the trilobite's eye are identical to those of contemporary crustaceans, "The mutual relations of light to the eye, and of the eye to light, were, therefore, the same at the time when crustaceans first existed in the bottom of the Silurian seas, as at the present moment" (qtd. in Mantell 1848, 794). Like Henry Knight, Buckland looked into the eye of the trilobite and saw the present.

The trilobite and the insight it offered into uniformity of processes was one of the most important traces forming the foundation of the science of geology. Indeed, in the eye of the trilobite, uniformity glared out at the nineteenth century, and on the stony platform of its telling gaze a paradigm shifted. In *The Structure of Scientific Revolutions*, Thomas Kuhn describes a process by which a culture comes to recognize that its way of understanding the world

cannot account for certain data. When first confronting this anomaly, most people endeavor to make sense of the problem through creative application of existing principles. Eventually, some scientists break with tradition and assert the falsity of the old paradigm. Then begins the lengthy process of discovering a new paradigm, a process that involves debate at increasingly minute levels of detail. In due course, the old paradigm fades away and no longer challenges the new; at this point, conflict exists only within the new paradigm as its parameters are established. Finally, scientists and students accept the new paradigm as the norm, asserted not by specialists and theorists but by the voice of the educated mainstream. Kuhn offers several examples of such scientific revolutions; one is the transition to uniformitarian geology (47–48).

I place so much emphasis on the shift to uniformitarianism because this geological principle became a foundational strategy of asserting individual significance. It is also a scientific theory that relies not only on evidence but most impressively on imagination. In her analysis of Darwin's use of metaphor and analogy, Beer writes: he "must give primacy to imagination, to the perception of analogies, and must extend the study of forms fixed in the present moment into a study of their mutability and transience as well as their powers of transformation and of generation" (1983, 91). More simply, the observer imagines the past through the vehicle of present objects. Uniformitarianism enabled the broad interpretation of fossils and rocks that took them out of the static realm of the artifact and into the dynamic interpretive realm of the trace. It was uniformitarianism that made the trilobite's gaze, to such as Kendall and Hardy, familiar rather than utterly alien. An assumption of temporal coevalness, uniformity insists that past and present coexist, and it takes as proof the material objects uncovered and studied through excavation. Nineteenth-century excavators are both observers of small actions and actors themselves; individuals, thus, asserted their own significance by emphasizing their empowered vantage point and by insisting on the impact of minute actions. When applied to human experience, uniformitarianism offered an implied significance that became a great balm in the face of Tennyson's "Time, a maniac scattering dust" (1850, 50: 7). If the minute actions of a water drop could carve a canyon, then the seemingly insignificant actions of a man or woman might also have great effect. Uniformitarianism insists on an expanded time scale which inevitably made humans feel very small, yet it also empowers people to imagine the tremendous potency of the small.

"All Relics Here Together"

Geological excavation inevitably involved incidental archaeology. As day-geologists dig in search of a trilobite, they might uncover instead shards of roman pottery. In fact, incidental archaeology posed one of the great challenges to the traditional sense of human history: the discovery of human remains

alongside the bones of prehistoric beasts like mammoths asserted the depth of human time. Some theologians countenanced geology only by believing that the geological narrative predated the appearance of humans and thus did not necessarily contradict the creation story as presented in Genesis, but the undeniable presence of human bones in the midst of geological relics made such a reconciliation of Genesis and geology difficult to uphold. Furthermore, the integration of human remains into the geological landscape made the application of geological principles to human experience impossible to ignore. If the mammoth died and his kin are extinct, then the human lying by his side and his descendents seem destined to the same fate. Thus, archaeology took up the concerns of geology: traces of past life simultaneously reveal the distance and closeness of the past to contemporary experience, and in this temporal flexibility, archaeological traces empower observers to assert the significance of not just human life, but also culture and nation and even particular, individual experience.

For example, a Roman bracelet discovered in the mudflats of the Thames poignantly suggests the mortality of the woman who once wore the jewel; it notably encircles emptiness where it once encircled flesh. Yet, at the same time, it offers a contemporary observer the opportunity to reanimate the woman as her life is rediscovered and revalued through its remains. The bracelet functions as a trace: it is an object from the past, and it signifies absence yet it asserts its presence as it becomes an object of study and interest, both scientific and aesthetic. This particular trace has an additional symbolic resonance as it inevitably directs the observer to consider the bracelet on her own wrist. As a nineteenth-century woman admires a collection of Roman remains displayed in a private museum, she cannot help but imagine the future life of her own jewels: they will signify her absence and evident mortality but they will also secure her an immortality by association.

In “The Burden of Nineveh,” Dante Gabriel Rossetti explores the cultural, rather than individual, implications of archaeology.²⁰ Like “Lay of the Trilobite,” this poem examines the moment of contact between an individual and a relic from a distant time. In both instances, the relic overwhelms the individual and reminds him of his insignificance. Rossetti’s poem, first published in 1856, describes the poet’s experience of exiting the British Museum and happening to witness the arrival of the great winged bull, excavated from Nimroud and shipped back to London by Austen Henry Layard.²¹ From the first moment Rossetti’s speaker lays eyes on the statue, he conflates the English present with the Assyrian past. He leaves the gallery that houses the Elgin marbles:

Sighing I turned at last to win
 Once more the London dirt and din;
 And as I made the swing-door spin
 And issued, they were hoisting in
 A winged beast from Nineveh.

(6–10)

The London setting is clear, and the trappings of mid-century, modern life are inescapable; the speaker pushes open the revolving door and finds himself immediately amidst London's "dirt and din," the miasmatic environment that then also becomes the new setting for the Assyrian bull god. Rossetti uses the particular image of the revolving door to locate the statue in the immediate present but also to represent the movement of the past into the present and even the interchange of times. He pursues the same conflation when he marvels, "On London stones our sun anew / The beast's recovered shadow threw" (41–42). There is at once something peculiar and exciting about the shadow cast on London pavement by this beast from a distant time and place.

Indeed, the bull's shadow becomes, for Rossetti, a sort of Ricoeurian trace. He muses on the aspirations of the long-dead priests who worshipped the bull god: ". . . could all the priests have shown / Such proof to make thy godhead known? / From their dead Past thou liv'st alone; And still thy shadow is thine own" (46–49). Rossetti contrasts the "dead Past" with the living statue, its shadow being one sign of life. Moreover, while the statue was created long ago, the shadow is a thing of the present, and this continued life interests Rossetti above all else. He extends his attention to the shadow in the following stanzas as he imagines the original worshippers of the bull-god—"Within thy shadow . . . Sennacherib has knelt" (61–62)—and then, a few lines later, the Christian worshippers who also prayed in the bull's shadow: ". . . till 'neath thy shade / Within his trenches newly made / Last year the Christian knelt and pray'd" (67–69).²² He goes on to imagine the subdued shadow that the bull will cast once installed in the museum gallery, where "blank windows blind the wall" (72): shadows are cast not by the sun but by artificial light, and worshippers are replaced by school children. Rossetti uses the shadow to imagine the bull's history and its immediate fate, but he also uses the shadow to reflect the bull's continued life outside its original historical moment. Like a fossil, the bull is a material object crafted long ago, yet it has a life in the present, a life of renewed interpretation and significance in the pseudochronic space of a museum.

Rossetti emphasizes the significance of the winged bull for the faith of his Victorian contemporaries. Anticipating Baudrillard, he reflects on the museum's power to annihilate historical process as it blends together the relics of different ages. Andrew Stauffer describes Rossetti's response to the museum in "Dante Gabriel Rossetti and the Burdens of Nineveh": "In a very literal sense, then, Rossetti's response to the colossal Assyrian bull grows out of the basic contradiction of the museum itself, which offers each appropriated relic to be understood even as it confounds them all in a physical proximity that occludes temporal and geographical distances" (389). Rossetti mentions the mummies housed a floor above the bull (101–2) and remarks, ". . . Nay, but were not some / Of these thine own 'antiquity'? / And now,—they and their gods and thou / All relics here together" (104–7).²³ The significance of each god is diminished as it is displayed alongside other gods, and the extension to the relics of contemporary Christian religion is implied: if the sacred objects of ancient

cultures have lost their religious value and have become merely artifacts, then are not the signs of contemporary religion doomed to the same fate? Rossetti imagines a future time when the bull's origins have grown obscure and "some may question which was first, / Of London or of Nineveh" (169–70). His fantastic future archaeologists will not be able to discern whence the statue originated and will interpret it as "a relic now / Of London, not of Nineveh!" (179–80). He extends the speculation into a direct challenge to history:

Who, finding in this desert place
 This form, shall hold us from some race
 That walked not in Christ's lowly ways,
 But bowed its pride and vowed its praise
 Unto the god of Nineveh.

(186–90)

He calls into question the archaeologist's power to accurately interpret his or her finds, but he also marvels at the object's power to transcend time and context and take on a significance of its own. As a trace from the past but with a life in the present and presumably also the future, the winged bull became for Rossetti a sign of the power of the material artifact. It recalls history, but, more, it insists upon reinterpretation of the present. "The Burden of Nineveh" describes the burden of London as it struggles to assimilate the past into its aggressively progress-minded present. Stauffer asserts that Rossetti "appropriates the alien artifact as a figure for imperial hubris" (379). What will be the future of London? Rossetti emphasizes the point: those who observe the bull-god in the British Museum will suffer the same fate of the god's worshippers. We, too, will be forgotten. Yet, even Rossetti does not offer such an unrelentingly bleak view of the human future. Remember the revolving door with which Rossetti began: that statue and the Victorian observer spin round, entering and exiting the museum in turns. The distance between them is diminished and, like the Egyptian and the Assyrian relics, they are "all relics here together." Thus, the school child studying the bull is doomed to extinction but she may yet cast her shadow on some future city. With the ravages of time's passage comes also lasting preservation.

Excavating Victorians

Excavating Victorians contributes to the fast-growing body of work in Victorian cultural studies with its use of a methodology employed also by the Victorians and thus uniquely suited to the study of their literature. A term that I use both as literal descriptor and metaphor, "excavation" also names a particularly Victorian hermeneutic: it demands the simultaneous interpretation of an object and of its situation, and it focuses on the recovery of the past while

insisting on the primary act of interpretation in the present. Progress and decay, both compelling tropes for the Victorians and us who study them, meet in the act of excavation. Indeed, digging down into the layers of the past inevitably reveals narratives that press into the future. To negotiate the complexities of this temporal instability, I follow the model of excavation, considering the context in which I find my text-objects but keeping my attention closely focused on the objects themselves.

In my application of literary analysis to the excavatory sciences and the works of poetry and fiction written with those sciences in mind, I have determined that the nineteenth century did far more than discover time; pivoting on the potency of the trace, science and art shaped a path for the individual through time's roar. Though slowed "by the eternal note of sadness," the nineteenth century figured out how to "begin again," how to discern the rattle from the "Ah!" and comprehend their harmony. Examination of traces positions the observer at a distance from time: he inhabits an anachronistic space where the oppression of the vast temporal narrative is held at bay, and he is empowered to comprehend all of time and to narrate its history. Central to my study is the notion of text. The scientist explicitly reads artifacts, and then translates that text into a narrative of his or her own. It is not my aim to report the history of geology and archaeology or to philosophize science. Rather, I aim to excavate Victorian culture through close analysis of the literature and the literary themes of excavation. As the Victorians traced time through its vestiges, so do I trace their efforts to survive time's expansion through their narrative assertions of individual worth.

The first section of the book focuses on geology, the new science of fossil traces. Examining trilobites and "rude bones," as Tennyson's *Ida* labels geological evidence in *The Princess*, led Victorians to reconsider their own position in the world. They felt at once diminished by the vastness of the time scale and empowered by their ability to interpret it in its traces. Writers and scientists assembled medleys of fossil remains and human artifacts to make sense of the past, the present, and of time itself. Chapter 2 analyzes writings by early geologists Charles Lyell and Gideon Mantell that emphasize the authority of the geologist not only as a scientist but also as a writer. Historians of science have discussed the contributions of these men to the advance of geology in the nineteenth century; I attend instead to their narrative strategies and to their rhetoric, and I argue that the observer and the interpreter are central to the stories Lyell and Mantell tell. This analysis complements other studies that stress the doubt induced by science in the nineteenth century by showing that these geologists maintained faith in the significance of the individual.

In my discussion of geology, I emphasize the act of interpretation and the narrative product that results from geological excavation. Closing the gap between past and present at the site of the trace and in the interpretive text lends authority to the writer, who thus seems to control time. In chapter 3, I extend my consideration of efforts to maintain control in the face of the expanded

time scale with an analysis of Tennyson's *The Princess* (1847–1850) as a fairy tale wherein “nature red in tooth and claw” is domesticated. *The Princess* is subtitled “a medley” and can be read as a collection of discrete literary objects: the narrative poem broken by the interpolated songs, the tale of the past vying with voices of the present. This form reflects the new way of reading the past through so many fossils, bones, and artifacts laid out in collections and texts. The form also connects the poem to comedy and to music, and I argue that its generic confusion reflects the struggle to achieve narrative authority at a time when agency has been replaced by process. The heroine Ida voices the despair of her generation: she strives to revolutionize the role of women but is frustrated in her attempt as she imagines a future as nothing more than “rude bones.” Yet, in *Excavating Victorians* I read the poem's comic resolution as an affirmation of the value of human life and love despite the abyss of time.

The second section of the book turns to archaeology and the human dimension of a history derived from material remains. Chapter 4 explores the literature describing excavations at Pompeii and London. Of interest for both its tragic ruin and its extraordinary preservation, Pompeii was at once “The City of the Dead” and a city still living. Writers recognized London in Pompeii and imagined a future London similarly preserved. Past and present were most directly conflated when Londoners saw Pompeii in contemporary London, where work to improve the urban landscape often made the city appear as a site of archaeological excavation. Archaeology, like geology, reveals worrying evidence of the loss of life and civilization, yet it also offers the possibility of evading total annihilation by leaving behind lasting traces. The peculiar conjunction of preservation and destruction along with the power of the writer to craft a narrative whole out of archaeological traces offered hope to readers worried about the prospect of life and civilization in ruins.

Chapter 5 considers Dickens's broad use of archaeology and excavation in *Little Dorrit* (1855) and *Our Mutual Friend* (1864). Archaeological imagery underscores Dickens's persistent interest in urban progress and decay. In this, he follows his contemporaries, discussed in chapter 4, who make connections between works to improve the city and its being rendered an archaeological ruin. He joins with geologists and archaeologists to extol the power of the reader and writer to manipulate the traces of the past and thus to move steadfastly into the future. Like Tennyson, he also echoes Michelet with his attention to collectors and to those who assemble fragments. In such articulation lies the possibility of coherence when the scientific evidence suggests only fragmentation and purposelessness. Though Dickens certainly offers a bleak view of life in Victorian England, he ultimately sees hope for those who read and interpret traces and who attend to making sense.

As I move throughout the book and within chapters from nonfiction prose to fiction and from science writing to poetry, my reader will see that this body of literature shares the common aim of facing the past, a past newly understood to be vast beyond imagining, and rescuing the individual from being

lost in the abyss. The texts considered here also share an emphasis on the authority of the writer, who is inevitably also an interpreter, and on the temporal conflation that occurs and empowers when objects (whether voices, fossils, or quotidian debris) are assembled into a narrative whole. Tennyson's medley, Dickens's mystery, Lyell's attention to the observer, Mantell's emphasis on the collector, and the many who played at reanimating the past and controlling the future in Pompeii and London together form a medley, a collection of my own. In excavating the traces assembled here, my reader will discover a Victorian period fraught with anxiety yet hopeful, a people keenly aware of the remoteness of the past yet striving to "close up time like a fan," and, above all, a body of literature that celebrates the individual life and the power of the individual, despite the depth of time and, in some cases, because of it, to affect great and lasting change.