ERASMUS DARWIN, HENRY FUSELI, AND *THE TEMPLE OF NATURE:* RELIGION, POETRY, AND ART IN ENLIGHTENMENT NATURAL HISTORY

Samuel Joseph Kessler

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Approved by:

Dr. Randall Styers

Dr. Jonathan A. Boyarin

Dr. Todd R. Ochoa

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ABSTRACT

SAMUEL JOSEPH KESSLER: Erasmus Darwin, Henry Fuseli, and *The Temple of Nature*: Religion, Poetry, and Art in Enlightenment Natural History
(Under the direction of Randall Styers, Jonathan Boyarin, and Todd Ochoa

Using methodologies developed by current practitioners in religion-science studies, this thesis attempts a new reading of Erasmus Darwin's didactic poem *The Temple of Nature* (1803). Through a combined analysis of the volume's four engravings (designed by Henry Fuseli) and written verse, the thesis makes a broad argument for the book's place as an indicator of forgotten Enlightenment epistemologies, specifically as they impact philosophical and scientific speculations on the meaning and origin of human culture and the natural world. The thesis is an attempted reinterpretation of Darwin and Fuseli's Enlightenment positioning, seeing in them an "un-preferred" line of thought concerning both methodologies of natural historical study and theoretic speculations about human social origins.

To HH

רבות בנות עשו חיל ואת עלית על כלנה

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CHAPTER 1

INTRODUCTION

"I have myself met with old men who spoke with a degree of enthusiasm about [my grandfather's] poetry, quite incomprehensible at the present day… Notwithstanding [its] former high estimation…by men of all kinds in England, no one of the present generation reads, as it appears, a single line of it."

Charles Darwin, 1879

In 1803, the London publisher Joseph Johnson of St. Paul's Churchyard brought out a peculiar and beguiling book of poetry in the didactic, Georgic style. Called *The Temple of Nature; or, the Origin of Society*, the volume was written by a well-known philosophical polymath and medical doctor, the recently deceased Erasmus Darwin, M.D. F.R.S. of Breadsall Priory near Derby.[1] Consisting of the printed text in four Cantos (1,928 lines) and four engravings designed by the Swiss-British artist Henry Fuseli, over the course of its pages the narrative of *The Temple of Nature* steadily and confidently unfolded a vision of the history of life on Earth that recast many of the accepted doctrines of the Anglican Church and much of then-contemporary

[1] Erasmus Darwin, Doctor of Medicine (MD) and Fellow of the Royal Society (FRS). The Royal Society was (and remains) the premier natural philosophic (scientific, in later parlance) society in England. It was officially incorporated by the King in London in 1660.

English society.[2] Interweaving Biblical themes, Greek pagan metaphors, and natural historical discoveries and claims, the book was, though far short of revolutionary, not well received upon publication.[3]

Despite the public's misgivings, the poem's remarkable insight of tracing organic life from the primordial seas through to complex human civilization has led to the poem's unlikely fame in a niche of the history of science. Written and illustrated in styles already almost completely dismissed and unused within a decade of its publication, *The Temple of Nature* found new life in scholarship through the retrospective musings of historians of natural history in the late nineteenth and early twentieth centuries, primarily in texts searching for antecedents to Charles Darwin's sweeping new ideas.[4]

The fact that Darwin and Fuseli's type of natural history not only loses its dominance but also loses its respectability helps to inform us about why religion and science interact as they do in the contemporary world. In speaking about "modernized societies" Louis Dupré writes, "Thus far the one-sidedness of [the Enlightenment's] achievements has unduly narrowed the scope of the revolution's [i.e. the Enlightenment's epistemic revolution's] original potential… [T]his change held a richer and more complex potential than its later

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[2] Page numbers and quotation for *The Temple of Nature* throughout this thesis apply exclusively to the first edition: Erasmus Darwin, *The Temple of Nature; or, the Origin of Society* (London: J. Johnson, 1803).

[3] "The climate of opinion had changed so much [in Darwin's final decades]: in the 1780s the questioning of accepted ideas was at least allowed, and sometimes even welcomed; but after 1792 the atmosphere became repressive, because the French Revolution and the Napoleonic war made the ruling classes nervous." Desmond King-Hele, ed., *The Essential Writings of Erasmus Darwin* (London: MacGibbon & Kee Ltd., 1968), 152.

[4] The style of Darwin's poems is called either "didactic" or "Georgic." "Such poets as Darwin…appealed to the popular taste for science and the technical study of nature… But specifically didactic verse fell into critical disrepute during the nineteenth century." Dwight L. Durling, *Georgic Tradition in English Poetry* (Port Washington: Kennikat Press, 1964 [1935]), 106-7.

accomplishments realized. From that perspective the modern program appears not so much obsolete as unfinished."[5] To this "potential" (in Dupré's sense) I submit as evidence Darwin's *The Temple of Nature*, believing that we need not even look beyond the late Enlightenment to see representations of its other, more multifarious, less mechanistic accomplishments. What Dupré is arguing for, and what I attempt to carry out in this thesis, is a reevaluation of all that we have received as "Enlightenment," for a whole realignment toward our Enlightenment heritage, not an abandonment but a re-engagement. Let us set beside the traditional narratives a new set of personages with their insights and cultural contributions.

Why should we seek a productive re-engagement? The answer most interesting to me (and a central motive behind this thesis) is that by looking again at an earlier period of modernity, at a point when the potential existed for multiple modernities, we can perhaps thereby bring some of those alternate insights into conversation and complement with our own sometimes-too-parochial intellectual society. Instead of outright declarations of failure at the Enlightenment project, with their appropriate lamentations and ensuing epistemic chaos, let us look back at the bricks already lain and see if they might not suggest a differently constructed edifice altogether.

With these expressions of hope in mind, my primary approach to reading *The Temple of Nature* is through that of the relationship between religion and science. I will be looking at natural history and the history of natural history through recent literature in that genre, attempting to illuminate parts of this narrative that have been previously underdeveloped. By introducing religious studies and more contemporary religion-science scholarship into this small branch of the history of science, I hope not only to make some interesting observations but to also begin to discover something new in the transformation of natural history between the

[5] Louis Dupré, *Passage to Modernity* (New Haven: Yale University Press, 1993), 250-1.

Enlightenment and the middle nineteenth century. Furthermore, reading *The Temple of Nature* through recent religion-science theory and methodology is one way of attempting to overcome a certain type of scholastic anachronism, of placing back together things that had been subsequently rent apart. During the last century scholars have contributed an untold number of insights into the workings of the recent past; too often, intellectual politics and academic trends have solidified genre boundaries into awkward and unsatisfying conventions. This thesis is following what many have already started: blurring disciplinary trend lines in search of definitions and concepts that more comfortably align with historic patterns of thought.

Despite its utility, recent scholarship in religion and science can also all too often be tediously vague. In Chapter Two I discuss important scholars and their key methodological and philosophical contributions to this contemporary scholarship, highlighting especially the places where their work helps my own to diverge from past historical inquiries. Examined will be two topics most relevant to the present study: complicating narratives about the divergence of religious thought from natural historical inquiry in the Enlightenment West; and introducing previously neglected characters into mainline historical biographies as evidence of a hitherto forgotten complexity. As active issues in historical circles, these ideas and scholars merit address and consideration as valuable attempts to shift the research paradigm away from scientific triumphalism and neo-positivism.

That discussion forms the first bookend to the central portion of the thesis (Chapter Three and its constituent parts), which is a case study using the methodologies of contemporary scholarship to make a re-reading of *The Temple of Nature*'s place in Western science-religion history. The case study sets out to analyze the combination of poem and drawings in *The Temple of Nature* as themselves the primary referent, orienting the discussion not forward toward

Erasmus Darwin's famous grandson but rather outward into the cultural context and historical and intellectual experience of the years around the volume's 1803 publication.

This thesis is not an exhaustive report on every cultural element involved in either the poem or the prints, nor is it an attempt to trace every reference to its Enlightenment or pre-Enlightenment origin. Rather, in this case study I am interested in asking these questions: what if we change the category within the history of natural history in which *The Temple of Nature* is placed, from proto-evolutionary to late Enlightenment? What do we see then? Can a focus on the prints open our perspective on the methods included in the pursuit of natural historical knowledge at the turn of the nineteenth century? And ultimately, what would such a history say about this moment in natural history and the type of modernism we have inherited?

In an attempt to answer these questions, in the case study I analyze the diversity of elements used by Darwin in constructing his poetic narrative about nature and examine how Fuseli adapted them into images. Specifically, I focus on word and subject choice, philosophical presupposition, imagery, and allegory as ways of understanding how Darwin and Fuseli relate natural history, humanity, the pursuit of knowledge, and the divine. I ask questions about the hidden but fundamental teleological apparatus being relied on in the volume as a whole, as well as address issues concerning Darwin's natural history as an extension of larger Enlightenment themes about how history unfolds through time. By using the engravings included in the book as well as Darwin's own words, titles, and narratives as primary source evidence, I argue that we can trace many types of theological and philosophical positions and questions all the way through this poetic volume, most of which would not be accepted by thinkers of our own age as appropriate for works published in the domain of "science." I make the case that Darwin and Fuseli's late eighteenth-century *Weltanschauung* assumed a high degree of intermingling

between empirical pursuits and teleological historicism in the advance of natural historical knowledge.

The final part of the thesis, Chapter Four, is an attempted reinterpretation of Darwin and Fuseli's Enlightenment positioning, seeing in them an "un-preferred" line of thought that nonetheless finds common origin with more famed eighteenth-century insights. *The Temple of Nature* can be seen as an expression of an "other" Enlightenment, one that never so strongly extricated human society from nature. Whereas the nineteenth century seized on the ideas of societal development and urbanization and imposed them on humanity (leading partly to the racialized pseudo-science of the early twentieth century), Darwin and Fuseli continue a line allied much nearer Rousseau, with his calls for human societal humility in the face of an expansive and still-mostly-unknown nature. In the final pages, I ask what it means to see Darwin and Fuseli as personifying an alternate Enlightenment narrative, why it is important that we do so, and how it effects our interpretation of the very radical changes undergone in natural history (and science more generally) during the nineteenth century.

Before beginning Chapter Two, let me make a brief note on some of my word choice and sentence structure in the pages that follow. This thesis is an analysis of the historical context of a poem. It is an intellectual encounter, one predicated on a desire to apply a set of contemporary scholarly methods to the field of religion-science so as to reveal a philosophical world obscured by popular prejudice and mischaracterization.

Yet the idea for the thesis was born from a set of very personal beliefs. To me, *The Temple of Nature* represents *a type* of intellectual pursuit—a particular, unique sort of pursuit, one that finds little sympathy in our bustling electronic world. Without romanticizing a past that was, by all account, far more dangerous, dirty, and mean-spirited than the contemporary middleclass America in which I live, I remain committed to a belief that there is much subtlety

and intellectual perspicacity enfolded within the cultural idiosyncrasies of historical moments. For *The Temple of Nature* these revealing idiosyncrasies arise in particular words, phrasings, and grammatical forms, which can—if allowed—become embodied metaphors of a larger cultural experience and act as gatekeepers for encountering its by-gone era. It is my scholastic and pedagogical faith that through the act of writing itself, of spelling out names and counties, of addresses and titles, one can begin to truly *feel* the contours of a time that is not our own. We begin to sense in our bodies the differences, to experience beyond the cognitive, to be aware through enunciation. Nabokov might say: only with "the tip of the tongue taking a trip of three steps down the palate to tap, at three, on the teeth" is the passion of hearts made manifest in flesh.[6] Speaking of all the history that has passed through the Place des Vosges in Paris, André Aciman writes: "But then, it occurs to me, this is also why one comes [to the Place des Vosges]: *not to forget the present, or to restore the past, but to forget that they are so profoundly different*."[7] Such have I attempted with this thesis—not to parody a vanished world but to apply some of its literary particularities in pursuit of a memory that grasps at the sensorial.

[6] Vladimir Nabokov, *Lolita* (New York: Vintage, 1989 [1959]), 9.

[7] André Aciman, *Alibis* (New York: Farrar, Straus, and Giroux, 2011), 134. Emphasis my own.

CHAPTER 2

RELIGION AND SCIENCE: *THE TEMPLE OF NATURE* WITHIN CONTEMPORARY THEORY AND METHOD

A great deal has been said over the years about the relationship between religion and science. We live at a moment in Western history when the norms, methods, and even manners of something called "science" are ever on the tip of the tongue. Giant institutions like the research university and the National Science Foundation spend billions annually to support many thousands of people, each of whose daily employ has something or other to do with science. We also live at a moment when those institutions and their money are expressly separated—both legally and often ideologically—from places and people who practice something called "religion" with its incumbent theological doctrines and multi-valenced metaphysical explanations. Religion too has its universities and organizations, and though its large sums of money are generally less publicized its reach and pervasiveness are no less profoundly felt.[8]

This thesis has its origins in my observation that Darwin and Fuseli's extensive natural historical *Weltanschauung*—prized in its day—was sundered by many historians of science who'd gone in search of modern biology's "Darwinian lineage." Said differently, I contend that many historians of evolution and natural history have read Erasmus Darwin's poem chiefly through

[8] For one example of the non-overlapping contemporary worldviews that science and religion inhabit in the United States see: <http://www.gallup.com/poll/155003/Hold-Creationist-View-Human-Origins.aspx>.

this lens of Charles Darwin as a way of broadening scholarship on the antecedents of the younger man's famous ideas, and that Henry Fuseli's engravings have been almost completely overlooked in contemporary critical inquiry. In the following pages, I first lay out an argument for the misinterpretation of *The Temple of Nature* in the past century of history of science scholarship. Then, I devote the majority of the section to interrogating and explicating some of the recent scholarly approaches in the fields of history of science/history of natural history. By weaving together an account of early scholarship with an analysis of current trends I hope to present my Darwin-Fuseli case study in the context of its intended intellectual interlocutors.[9]

The two oldest books in the "history of natural history" genre that speak to the relationship between Erasmus and Charles both date to 1879.[10] One, written by Samuel Butler (novelist and grandson of Dr. Samuel Butler, FRS and Bishop of Lichfield), is called *Evolution, Old and New; or, the Theories of Buffon, Dr. Erasmus Darwin, and Lamarck, As Compared With That of Mr. Charles Darwin*.[11] This younger Butler was well known as an iconoclast and satirist, though the book appears to have been respected in scientifically literate circles. The title explains the contents sufficiently, proving a backwards link between the three turn-of-the-nineteenth century naturalists and Charles Darwin's theory of descent through modification (evolution).

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[9] There is an interesting, passing reference to the history of science reading of Erasmus Darwin in Nicole Krauss's *A History of Love* (New York: W.W. Norton, 2005): "The door of [paleontologist] Eldridge's office was open, and the lights were on. Inside, a very old man with white hair was standing next to a filing cabinet under as poster that said: HENCE WITHOUT PARENTS, BY SPONTANEOUS BIRTH, RISE THE FIRST SPECKS OF ANIMATED EARTH—ERASMUS DARWIN."

[10] Throughout this thesis I slide between "history of science" and "history of natural history." There are subtle distinctions to be made here in methodology and purpose, and each time I deploy one or the other term I have those variances in mind. Much of the most recent theoretical scholarship occurs in the broader field of "history of science," but I also take note of developments in the subfield of "history of natural history."

[11] Samuel Butler, *Evolution, Old and New; or, the Theories of Buffon, Dr. Erasmus Darwin, and Lamarck, As Compared With That of Mr. Charles Darwin* (London: Harwicke and Bogue, 1879).

The second book of 1879, published by John Murray of Albemarle Street, is a volume titled *Erasmus Darwin*, translated from a German article originally written by the biologist Ernst Krause (also known under the pen name Carus Sterne) at the behest of none other than Charles Darwin himself. This curious volume includes a 127-page "Preliminary Note" by Charles and the translated German article of Krause. In the book, Krause remarks that, after reading a footnote in the sixth edition of *The Origin of Species* wherein Charles credits his grandfather with anticipating many of Lamarck's views, "I thought immediately that here we ought to read between the lines, and that this ancestor of his [Charles's] must certainly deserve considerable credit in connection with the history of the Darwinian theory."[12]

A more recent example, Desmond King-Hele (the accepted authority on Erasmus Darwin and his work) has a short introduction and a few selections from *The Temple of Nature* in his book *The Essential Writings of Erasmus Darwin* (1968). In his introduction King-Hele writes that while *The Temple of Nature* was not as well received as Darwin's previous books, "that does nothing to detract from this remarkable achievement in versifying evolution so completely, over fifty years before it began to be accepted by scientists."[13] Indeed, Erasmus Darwin's poem has become standard mention in most textbook discussions of early evolutionary thought, placed as a forerunner to Charles Darwin's theory alongside the more famous *Philosophie zoologique* (1809) by Jean-Baptiste Lamarck (1744-1829).

King-Hele's blanket statement about the poem; his deployment of the term "scientist" as both an automatic lineage for Erasmus (as opposed to say, poet) and as retroactive identifier for naturalists in the early nineteenth century; and his assumption of an immediate and direct

[12] Ernst Krause, *Erasmus Darwin*, trans. W. S. Dallas (London: John Murray, 1879), 131. This volume is likewise the source of my title page quotation. In it, the younger Darwin makes clear that his grandfather's ideas had a very limited intellectual influence on his works. (A well-preserved first edition of the Krause volume currently sells for around £1000.)

[13] King-Hele, *Essential Writings*, 152.

intellectual relationship between *The Temple of Nature* and Charles Darwin's later theory—all these assertions (which can be found in each of the 1879 works as well as numerous others) are detrimental to our reading of Erasmus's narrative and our understanding of Fuseli's prints in the overall conception of the volume. By presupposing the end-point (i.e. Charles's theory) on our reading of *The Temple of Nature* we lose the poem as a text capable of teaching us something about natural history in the period of the late Enlightenment.[14]

A broadening of religion-science scholarship seems greatly necessary to me, if only because—for the same reasons that Erasmus Darwin and Henry Fuseli were so quickly forgotten after their deaths—the complexities, subtleties, historical associations, breadth of interest, and sheer explanatory expectation of Enlightenment natural philosophy have been simplified and streamlined by many historians of natural history.[15] The separation of religion and science in modern Western society is one type of relation between those two aspects of human society—certainly the one most prevalent and observable. Yet remarkably, it is a type that is neither particularly old nor particularly stable. Not two hundred years ago the citizens of Western Europe and early republican America lived with a very different view of science and

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[14] Of course, we must acknowledge that historians of science are rarely incorrect at the most factual or analytical basis. Instead, where their and my studies diverge is often on the level of retrospective expectations. Thomas Kuhn remarks on the writing of science textbooks that narratives are created that support present needs and philosophies. Often as not, these extant desiderata are important and well worth being buttressed. What I fear is that they do disservice to all else that can be learned from historical figures; that they obscure and distort in a way that can be detrimental to future epistemological development.

[15] This critique (though aimed more broadly at history of science) has been voiced by many contemporary historians, none so well as Mary Hesse: "The writing of history is a relation between two periods—that written about and that written from. Some elements of inductivism and its consequent evaluations are bound to enter *our* view of past science, since what counts as past *science* is partly determined by what we perceive as its historical continuity with our own [science]." Mary Hesse, *Revolutions and Reconstructions in the Philosophy of Science* (Bloomington: Indiana University Press, 1980), xv. Emphasis in original. The most insightful contemporary scholarship reveals that this anachronistic tendency has obscured much that is interesting and multifarious in the development of natural history and religious ideas in the modern West.

religion, one that defies simple correlation with the terms or experiences of our own moment. Readings of the Bible were used to inform anthropological or zoological surveys. Discoveries in foreign lands came naturally to be understood through Christian paradigms.

Such practices presented no obvious intrinsic challenge or insurmountable irreconcilability for late-Enlightenment Europeans—scholars or the more general public alike. In truth, the differences between their world and ours are so profound that, once noticed, they force us to question the very intellectual theories underlying the division of religion and science altogether. The lives of Europeans two centuries ago must be measured not by our expectations or ideological comforts but rather against the backdrop of their historical and philosophical (including theological) contexts. While we today easily identify with post-Cold War geo-politics and Silicon Valley technological thrills, the people of the West two centuries ago must be remembered in the context of contested biblical hermeneutics, the atheism of French revolutionaries, renewed interest in Greek mythology, and expanding ethnographic expeditions to lands across the globe.[16]

Expressing historical ideas, especially in written form, is the most basic scholarly task; when complicated by culturally contingent definitions and intellectual priorities, it can become arduous. It remains true that for even the most talented scholars the danger of applying current definitions to past phenomena causes innumerable difficulties. Nonetheless, despite its traps and dead-ends, searching for definitions or definitional stand-ins to key terms has often been

[16] Frank M. Turner has an essay about a specific moment early in the formation of institutional science: "The Victorian Conflict between Science and Religion: A Professional Dimension," *Isis* 69, no. 3 (September 1978). Jack Morrell and Arnold Thackray likewise trace a part of the institutional-theology/professional-science divide in *Gentlemen of Science: Early Years of the British Association for the Advancement of Science* (Oxford: Oxford University Press, 1981).

the first task of current religion-science scholarship: how does one say what one wants to say when no one has been saying it before?[17]

In a cornerstone text of recent scholarship, John Hedley Brooke notes "three reasons why the historian might recoil from the demand that 'science' and 'religion' be rigorously defined." First, he cautions that pre-judging sources with our own definitions might mean missing the uniqueness of previous thinker's historical contributions. Second, we must recognize that the boundaries of what counts as logical and intellectually consistent are continually shifting; what appeared sound to one's intellectual peers can seem silly or patently false to later generations. And third, like all human constructs, neither science nor religion is an entity in itself, both rely on "the social contexts in which [their] concerns and endeavors took their distinctive form."[18]

Brooke's insights are full of important new pathways and opportunities for contemporary science and religion scholarship. His first reason for remaining cautious—that contemporary historians will overlook the distinctiveness of earlier scholar's thinking—is a prescient insight. In writing about past peoples and ideas using today's definitions and theoretical boundaries, the tendency arises for historical times to begin to resemble present ones. It also means that subtle but important differences become flattened in a scholar's (often quite genuine) attempt at comprehending the lives of previous peoples. Such problems are not

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[17] For an article in the history of science that confronts this issue see Nick Jardine, "Uses and Abused of Anachronism and the History of the Sciences," *History of Science* 38, part 3, no. 121 (Sept., 2000): 251-270. Not apropos of this topic but in the genre of historical misunderstanding, see an article on left-right politics and non-correlation over time: Mark Lilla, "Republicans for Revolution," *The New York Review of Books*, January 12, 2012.

[18] John Hedley Brooke, *Science and Religion: Some Historical Perspectives* (Cambridge: Cambridge University Press, 1993), 7. Ibid., 8. For an article on shifting notions of "rationalism" see Samuel Joseph Kessler, "Systematization, Theology, and the Baroque *Wunderkammern*: Seeing Nature After Linnaeus," *Heythrop Journal*, in press.

unique to historians of religion and science. But the present cultural vocabulary is so deeply riven by the contours of the religion-science separation that their usage in historical works is inevitably laden with the heavy shadows of their contemporary employ. The work of current scholarship is to re-embed the concepts of religion and science into their appropriate cultural and intellectual milieus. This can only be done, says Brooke, by judging historical characters in the prism of their own languages and peer groups.[19]

Brooke's second caution—the shifting of disciplinary boundaries between the past and the present—compels the discussion in another direction; indeed, it pushes contemporary scholars to make a full-scale review of the materials and sources under analysis. Brooke's admonition necessitates a wide and diverse reevaluation of where recent scholarship locates itself disciplinarily. It even calls into question the appropriateness of History of Science or Religious Studies departments as the primary houses for this sort of scholarship, for, often as not, the intellectual interests and dabbles of historical figures was extraordinarily wide, crisscrossing contemporary departmental boundaries with astonishing rapidity. The expectation that contemporary scholars be as erudite and cerebrally elastic as their subject matter is not essential, of course. But methodological and investigative training in the modern research academy is also rarely conducive for learning the diversity of subjects essential to current scholarship. True, the necessity for such an intellectual realignment poses real difficulties at

[19] In a book on the Early Modern period's notion of history (*historia*), the editors write: "[A] closer look at *historia* brings into sharper focus the peculiar characteristics of the early modern system of the sciences. The versatility of the early modern *historia*, equally applicable to the domain of natural knowledge and to the study of human action, points to a salient feature of early modern encyclopedism: the lack of a clear-cut boundary between the study of nature and the study of culture. The early modern system of knowledge was a far cry from the sharp distinction of nomothetic versus idiographic disciplines envisaged by nineteenth-century historicism… The early modern *historia* seriously challenges our assumptions about nature and culture as separate fields of inquiry." Gianna Pomata and Nancy G. Siraisi, ed., *Historia: Empiricism and Erudition in Early Modern Europe* (Cambridge: The MIT Press, 2005), 5-6. Note that their use of "culture" includes religion.

every level of the theoretical and administrative scale. But the new digital horizon of hyperlinks and RSS feeds may provide clues and vocabulary for re-envisioning academic disciplines and their subsequent scholarly productions. As political and social borders are broken in the physical world the human brain will form new vocabularies of explanation and connection in the cognitive one. Contemporary religion-science scholarship has the opportunity to both follow and lead these movements, capitalizing on its breakthroughs and pushing it beyond its current theoretical limits through deep and innovative scholarship.[20]

Brooke's third caution—that neither religion nor science is an entity in itself—is perhaps the one most easily integrated into an already theory-aware Academy. This is Brooke's nod toward the contributions of Jacques Derrida, Michel Foucault, and their diverse followers, whose attempts to re-create Western intellectual processes in the post-World War Two period have impacted every element of scholarship in the humanities. Brooke is giving but also keeping in these remarks. He wants science embedded in its culturally specific context, with due process accorded to individual actors and the choices they make that set specific elements of science on one course or another. But unlike some of the more intrepid followers of post-structuralism Brooke is invested in retaining something called "science" as a workable object of study. For recent scholarship, his balance demonstrates the quandary of the research field itself: the study of religion and science necessitates an actor to study ("religion," "science") that is different from the mass of, say, "culture," but whose borders are just ill enough defined that

[20] This is echoed by Charles Taylor: "Neither 'science,' as the desire to give a credible account of the undeniable facts, nor 'religion,' as the attempt to hold on at all costs to received orthodoxy, come close to making sense of [historical figures]. We have to take account of how the universe and history figured in their moral and aesthetic imaginations. Certainly they had a belief in (some part of) orthodoxy. But their religious beliefs were not something separated from their moral imagination, rather their very idea of orthodoxy was inflected by this imagination." Charles Taylor, *A Secular Age* (Cambridge: Belknap Press of Harvard University Press, 2007), 333.

one can walk into and out of them without noticing—and that this fluidity is the essence of what it is the scholar's task to show.[21]

Whether Brooke is correct in holding onto science as a unique field of human endeavor is mostly irrelevant at present (since scholars work in the intellectual climate that exists and not the one they desire). What his third caution (against strong definitions) motions toward is a future where these contemporary disciplinary boundaries might be as inappropriate as was the division between chemist and alchemist half a millennium ago. (See Chapter Four for a longer comment in this vein.)

Despite the tremendous importance of his contributions, at heart Brooke is a conservative thinker and his warnings do not always go far enough toward finding a language adequate to historical experience. In a more radical departure from traditional usage, Peter Harrison proposes "to show that what we might regard as medieval science, and natural history in particular, assisted in the elucidation of the meanings of sacred scripture—the central

[21] Michel Foucault writes: "I am not concerned…to describe the progress of knowledge toward an objectivity in which today's science can finally be recognized; what I am attempting to bring to light is the epistemological field, the *episteme* in which knowledge, envisaged apart from all criteria having reference to its rational value or to its objective forms, grounds its positivity and thereby manifests a history which is not that of its growing perfection, but rather that of its conditions of possibility; in this account, what should appear are those configurations within the *space* of knowledge which have given rise to the diverse forms of empirical science. Such an enterprise is not so much a history, in the traditional meaning of the word, as an 'archaeology'." Michel Foucault, *On The Order of Things* (New York: Vintage Books, 1994 [1970]), xxii. Emphasis in original. Following Foucault's lead, Mary Hesse comments: "No reflective scientist is likely to deny that the way science conceives the fundamental nature of things at any given time will be very different in subsequent science (that is to say, if science survives long enough) and that the further theories get from observable facts, the more they are *underdetermined* by the facts, leaving open a multiplicity of theoretical interpretations." Hesse, *Revolutions and Reconstructions*, 239-40. Emphasis in original. Lorraine Daston and Peter Galison in *Objectivity* (Cambridge: Zone Books, 2010) walk this fine line more gracefully than Brooke, but that is partially because they are more willing than he is to excavate the very heart of the enterprise of knowledge production and scientific findings in science. Daston and Galison do not set out to undermine the notion of science or of its unique contributions. They are interested rather in showing how notions of objectivity and scientific finding changes and develops over the centuries, and that one generation's facts are not the same as another's.

theological task of the Middle Ages—and thus is better classified not as a science but as one aspect of biblical hermeneutics… For the historian to strip away morals, emblems, fables, hieroglyphics, things pertaining to divinity, and identify some residue as medieval natural science, is to fail to discern the hidden integrating structures of medieval knowledge, and to trivialize at the same time the revolutionary nature of the contributions of [its many figures]."[22] Though concerned with a time period long before the Enlightenment, Harrison's claim is a model for the type of intellectual reform on a broad scale that is deeply persuasive and manageable within current academic frameworks.

Harrison is not asking questions to which he knows the answers. Neither is he relying on the knowledge or research of one particular discipline in framing and pursuing his questions. Rather, the possibility of subsuming medieval science into biblical hermeneutics demands intellectual mobility, sacrifice, and nerve from multiple disciplines: historians of science (to name just one group) must brave the waters into theology and church historians (to name only one other group) must learn to incorporate their subject's empirical musings into its more appropriate sacred context. Though not breaking or combining departments, Harrison's work is deeply anti-parochial, compelling scholars to acknowledge connections that exist but with which they have hitherto been unwilling (or unable) to fully engage.[23]

As a template for how contemporary scholarship might conceptualize the historic world as a whole (outside the medieval period, of course), Harrison's model accomplishes four major

[22] Peter Harrison, *The Bible, Protestantism, and the Rise of Natural Science* (New York: Cambridge University Press, 2001), 267.

[23] One of the most important examples of an historian of science engaging theology is Amos Funkenstein, *Theology and the Scientific Imagination from the Middle Ages to the Seventeenth Century* (Princeton: Princeton University Press, 1989); examples of Church historians engaging science are Henning Graf Reventlow, *The Authority of the Bible and the Rise of the Modern World*, trans. John Bowden (Philadelphia: Fortress Press, 1985); and Kenneth J. Howell, *God's Two Books: Copernican Cosmology and Biblical Interpretation in Early Modern Science* (Notre Dame: University of Notre Dame Press, 2002).

tasks. The first two map closely onto Brooke's described above; the second two are more fundamental and contain promising seeds for future scholarly work.

First, Harrison specifically lays out the field of study he is working on—in this case, natural history. This narrowing allows his work a degree of specificity and control, generating a pre-established vocabulary and timeline around which he can orient his readers. It likewise sets up faux-borders which he can dissemble and obscure as he works through his material, allowing him to end his project still employing the term "natural history" but by then with a distinctly more subtle and fluid definition pointing in numerous directions all at once. Such discursive continuity keeps his theoretical abstractions focused; it maintains their comprehensibility in the context of related scholarship while continually inclining toward something other than their previously acquired meanings.

Second, Harrison is breaking all assumed borders between religion and science, ending what might be seen as oppositions and reimagining them as sympathetic concepts converging on similar theoretical space. This is very nearly an application of Brooke's third caution. Harrison is suggesting that both terms—religion and science (natural history)—are inadequate for explaining how intellectual and cultural decisions were made in the period under study. He is not necessarily advocating their removal from the scholarly lexicon. Rather, having narrowed his focus and presented the relevant material, he has found that attempting to map medieval knowledge frameworks and conceptualizations onto these contemporary terms does little to advance historical understanding on any front.

The third task Harrison works through is at the heart of recent science-religion scholarship. With his proposal, Harrison attempts to end the unholy dominion of science as the principal intellectual framework for analyzing historical humanity's relations with—and descriptions of—nature and the natural world. Until the last century and a half, science was not

a separate discipline through which one could pursue questions or make observations. Philosophy, literature, art, poetry, theology—these were just a few of the conceptual organizers through which historical thinkers framed their passions. Contemporary notions of factual discrimination based on empiricism and data collection are not easily reconciled with an earlier "science" that maps itself more closely to poetic verse than statistical charts. By removing science as the central cognitive organizer in how scholars evaluate the contributions of historical personages Harrison is envisioning a space in future research for the introduction of alternate narrative realms. In such a place, activities that (with hindsight we know) led to contemporary science are contextualized not as proto-scientific but as reasonable (logical) outgrowths or expressions of other forms of human intellectual activity.

The fourth of Harrison's assertions is the most audacious and the most difficult to apply elsewhere. In his research, Harrison proposes an entirely new theoretical apparatus (biblical hermeneutics) for analyzing and comprehending the medieval scientific worldview. He even goes so far as to return theology to the forefront of the medieval philosophical relationship with nature (where, he argues, his historical protagonists would have placed it). While this re-centering of theology may not hold true from the eighteenth century onward, Harrison's research creates a model for using the vocabulary of disciplines beyond religion and science as markers of theoretical difference and historical discontinuity. Since past peoples did not carry our same conceptual maps— but paradoxically, in order to describe them, we must use the vocabulary of our present day—introducing terms from outside of established disciplines is an artful way of stirring long-sedentary academic waters. For example, when "biblical hermeneutics" can suddenly mean observations of birds or catalogues of plants as well as interpretations of the words of Isaiah, the entirety of the term is put into motion. Multiple disciplines are called on for new research; ideas are generated by a diversity of scholars

previously not in contact; and the past is re-conceptualized in a meaningful and interesting way. By taking a term heretofore comfortable only in one discipline and deploying it into another, Harrison's strategy holds out the possible future potential of a whole new scholarly vocabulary—and perhaps one day the end of the adversarial and exclusivist meanings of "science" and "religion" altogether.

Of course, the Enlightenment and its repercussions are much different than the medieval and early modern periods. Nowhere am I proposing to replace "science" altogether with something similar to the term "biblical hermeneutics:" there simply is no centralizing theoretical paradigm by which to categorize the last three centuries of Western history. But the blurring of broadly accepted linguistic boundaries ("science" as *roughly* this; "religion" as *roughly* that) is a valuable and necessary corrective. Contemporary scholarship is struggling to cut itself loose from such previously restricted sightlines. Though the linguistic and assumptive epistemic changes that have occurred in the past two centuries have been profound in a quite distinctive way, both Brooke's and Harrison's attempts to advance current scholarship are deeply worthy models for evaluating new research in the field of religion and science.

For the case study below, in the absence of a better set of terms than "religion-science," I have mostly allowed them to stand. My minor intervention has been to substitute "natural history" for "science" where I deem it historically appropriate, and to address questions of theology and theological teleology rather than "religion" when I desire such specificity. While I shy away from defining religion or science here, this thesis takes for granted that its readers have some idea about the content of those nebulous categories and that its subject matter is recognizable to religious studies scholars and historians of science alike.

Following from the discussion of definitions, two issues must now be addressed: how we know that previous narratives warrant being complicated, and how scholars have gone

about complicating them. Both these issues are elastic and subjective, embracing ideas in theoretical and practical history, philosophy of science, science studies, and critical theory. My discussion of them is limited to a very small portion of that intellectual terrain: two books that identify and explain problematic elements in the history of science and then themselves posit a method for greater transparency and insight—Thomas Kuhn's *The Structure of Scientific Revolutions* and John Brooke and Geoffrey Cantor's *Reconstructing Nature*.

Thomas Kuhn's landmark book *The Structure of Scientific Revolutions* made an astute observation about one of the most persistent intellectual trends in the history of science. In the discussion entitled "The Invisibility of Revolutions" Kuhn analyzed the ways that scientific practitioners have themselves become ever-greater constructors of their own histories.[24] As his narrative in the book enters the post-World War Two period he argues that the infrastructure and networks around scientific research (textbooks, training courses, etc.) had begun to participate so vigorously in their own self-history that the difference between *science as research into natural phenomena* and *science as autobiographical project about research into natural phenomena* was nearly indistinguishable. Though Kuhn fails (in many of the same ways as Brooke) to escape the inertia of retaining "science" as an isolatable historical subject, Kuhn's observation of this trend in scientific self-history retains its impressive perspicuity for illuminating issues relevant to the present thesis.

In Kuhn's view, the penchant for histories of science—and especially for science textbooks—to rewrite their own narratives occurs in the aftermath of an old paradigm's replacement with a new one. Without beginning an extended discussion of Kuhn's terminology or assumptions, for my purposes here "paradigm" refers to "some accepted examples of actual

[24] Thomas Kuhn, *The Structure of Scientific Revolutions*, Second Edition, Enlarged (Chicago: University of Chicago Press, 1970 [1962]).

scientific practice—examples which include law, theory, application, and instrumentation together—[that] provide models from which spring particular coherent traditions of scientific research."[25] Kuhn complicates and qualifies this definition as the book proceeds, but as an anchor it contains many constructive threads for understanding the way science history develops. As Kuhn points out, the results of these continual rewritings is that the history of science takes on the appearance of a linear progression, amounting to a narrative no more subtle than a chronicle of the addition and refinement of facts based on a centuries-long shared epistemic system. Whereas in the lived experience of history there is diversity and uncertainty, in the retelling there is confirmation and logical progression.[26]

Though Kuhn's research was rarely interested in the religious dimensions of his subjects the impact of his analysis can be seen in many aspects of contemporary science-religion scholarship. Kuhn's effect has been to make scholars aware that historical sources are simultaneously depictions of primary generation (of new ideas) as well as acts of self-definition and intellectual positioning. The result is a proliferation of science-religion research aimed both at further illuminating this linearizing tendency and in adding substance to the new open spaces in our knowledge.[27]

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[25] Ibid., 10. He continues: "Men whose research is based on shared paradigms are committed to the same rules and standards for scientific practice. The commitment and apparent consensus it produces are prerequisites for normal science, i.e., for the genesis and continuation of a particular research tradition." Ibid., 11. Likewise, his use of "science" and its historical projection in the work will go unexamined. The discussion on Brooke above is equally applicable to Kuhn and does not necessitate in-depth repetition here. Ibid., 138-140.

[26] This project, in modified form, became that of Michel Foucault's as well. But where Kuhn is interested in moments of transformation, Foucault focuses on periods of epistemic unity.

[27] Because this thesis is ultimately concerned with issues related to European natural history, a larger-scale overview of research in religion and science is outside its purview. Nevertheless, many of the concerns of historians of natural history and, say, chemistry, are similar, and the complicating of previous scholarly narratives applies equally across all disciplines.

All (or even most) of the credit for this refocusing cannot be given exclusively to Kuhn, of course. His was only one of many post-war voices noticing problems with the histories they received and the epistemologies they were taught. Indeed, the entire 1970s proved a watershed decade for reimaging old intellectual paradigms and questioning academic assumptions—many of whose roots traced back to the heady days of the turn of the century, when Worlds Fairs and Expositions (showcasing the technological prowess of Western nation-states) drew tens of millions and reshaped the maps of cities.[28] But since its publication Kuhn's book has been widely read and oft cited in both the humanities and social and hard sciences, and its lucidity and accessibility make it useful for illustrating this broader trend in the new religion-science scholarship.

More than three decades after Kuhn's ideas initially began to circulate, two scholars in the middle 1990s made a significant contribution to developing methods aimed at uncovering the obscured history of scientific development. For students of the history of natural history it is in their shadow that much subsequent work is conducted. John Hedley Brooke and Geoffrey Cantor, British academics both, delivered the 1995-96 Gifford Lectures in Natural Theology at Glasgow.[29] The lectures lay out a series of methodological practices for investigating the "engagement"—as they called it—of religion and science, intending to identify recent scholarly trends and possibilities for future research.

The motivating objective of Brooke and Cantor's work is to reject the idea that "nature" can ever be experienced "in the raw." They propose that scholars always discuss nature as *engaged with* or *reconstructed*, actions that occur through the endless mediations and

[28] Examples of important Worlds Fair and Exposition neighborhoods that underwent massive reconstruction during this era include the South Shore in Chicago (1893); the Champs des Mars in Paris (1900); and Forest Park in Saint Louis (1904).

[29] John Brooke and Geoffrey Cantor, *Reconstructing Nature* (Edinburgh: T&T Clark, 1998).

epistemic assumptions of human society, which vary across cultures and through time. "Engagement" is a linguistic intervention, conjuring images of betrothal and mutuality, the opting of togetherness over singularity.[30] The subtitle of their book, "The Engagement of Science and Religion," is meant to stand in opposition to previous notions of religion-science conflict. As a rhetorical move it immediately informs the reader of their position (religion and science are more akin to spouses than combatants) but maintains the "conservative" element of linguistic dichotomy. Never do they fully embrace or reject either term, and throughout their work together they propose to maintain "a non-judgmental attitude" toward historical personages and ideas.[31]

"Reconstruction" as Brooke and Cantor define it is the act of putting together a cohesive image of nature, a paradigm that informs the view of every member of a culture. Less is theirs a map of transforming views of Nature defined as a totality than the recognition of nature in its continual variety. Especially in the modern period, about which we have prolific written record, there is never a singular Nature, just as there is never a singular Religion. Therefore, in rejecting the notion of an unmediated experience of nature Brooke and Cantor are equalizing historical experiences, subjecting Enlightenment values like "objectivity" and "rationality" (which are commonly used as baseline assumptions when writing science history) to the same cultural scrutiny given all past interpretations of nature. Their methodology suggests that the scholarly vocabulary in the history of science can begin to develop away from an Enlightenment obsession with definitions and structures and toward something more

[30] Ibid., 6.

[31] Ibid., 58.

plastic, more reflective of the diversity of meanings historically given by societies to actors and agents in the world of nature.[32]

For this thesis, Brooke and Cantor's terminology (engagement, reconstruction) opens the religion-science field in two important directions. First, in recognizing the mediation of nature the focus in the history of natural history can pivot away from Enlightenment and nineteenth century obsessions with systematizing and ordering. No longer do scholars need to assume their historical studies are a search for objective truth about what nature is *an sich*. Rather, historians of natural history become chroniclers of a particular perspective on nature, revealing what personages and cultures believed nature to be, what they sought after, and what they reported it was possible to understand—something of an anthropological turn in the historiography of natural history. As discussed elsewhere, this project counteracts much of the history of science, which has heretofore often been a chronicle of achievements on the way to the present.

Second, Brooke and Cantor open the field to influence by both post-structuralist and deconstructionist thinkers (e.g. Lyotard, Foucault, Derrida, Deleuze). Of course, a detailed theoretical analysis of the influence and usefulness of postmodernism on natural history would

[32] The danger in this equalization is to not overly criticize our own contemporary interpretations of nature in light of historical differences. So much of contemporary theory is founded upon anti-Enlightenment polemic, on the rejection of a failed Western metaphysic. I do not forget the first half of the twentieth century, which heaped such flame atop destruction that even the most hopeful were led to the shadow of gloom. The factories that spawned the middle class produced the bullets that killed its sons. Yet the urge to reject can become a self-blinding curse. The present mediation with nature (i.e., contemporary science), no matter where one stands on global warming or human population growth, illuminates as much as it obscures. Too often we interpret the present based on our politics and the past based on our aspirations. The genetic revolution—credited with feeding billions and prolonging lifespans—is possible only with industrialization and massive energy consumption; the interaction of ancient theologies (messianic and otherwise) with globalization is a fascinating and exciting intellectual melting pot. Truly, we are living at a time of unprecedented philosophical foment, regardless of whether one agrees with its products.

take a monograph. Instead, acknowledging here the field's opening to postmodern theory is meant more modestly to note a particular shift in scholarly focus and a certain modulation of the truth claims being pursued. Postmodernism is not a panacea, but its usefulness lies in this particular historical moment—one of massive and rapid cultural and material transition. The insight of postmodern thinkers is to argue that our cultural upheaval requires the wholesale reevaluation of the basic tenets of historical inquiry. In that pursuit, they say, we must dedicate ourselves to the rediscovery of lost ideas, the reopening of forgotten conversations, and the positing of altogether-new dialogues on such things as class, gender, race, and political power.[33]

The insight of Brooke and Cantor in all this intellectual tumult is to make "nature" one of the new postmodern categories. Instead of allowing politics, gender, or class to be the chief angle of inquiry, *Reconstructing Nature* aims to make nature itself, in all its multiform plasticity, a cultural phenomenon capable of informing us about historical circumstances and alternative theoretical pathways. How societies have looked at nature—how nature interacts with society—is arguably as influential on people's daily lives as economics or politics. Indeed, since nothing in postmodern scholarship advocates for primal cause (i.e., nature does not make politics this way; politics does not make nature that way) the choice of interpretive lens (class, race, or

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[33] Brooke and Cantor address this issue in their second chapter, "Whose Science? Whose Religion?" (43-72). Also: "However much we might regret the passing of the old certainties, one of the advantages of living in a post-modern world is that it gives us a perspective from which to evaluate the previous age… New approaches to texts characteristic of the latter half of the twentieth century serve to remind us of the historically-determined nature of all hermeneutical enterprises." Harrison, *Bible, Protestantism,* 266. Further: "The nineteenth and twentieth centuries have given us as much terror as we can take. We have paid a high price for the nostalgia of the whole and the one, for the reconciliation of the concept and the sensible, of the transparent and the communicable experience. Under the general demand for slackening and for appeasement, we can hear the mutterings of the desire for a return of terror, for the realization of the fantasy to seize reality. The answer is: Let us wage war on totality; let us be witness to the unpresentable; let us activate the differences and save the honor of the name." "Answering the Question: What is Postmodernism", trans. Régis Durand in Jean-François Lyotard, *The Postmodern Condition*, trans. Geoff Bennington and Brian Massumi (Minneapolis: University of Minnesota Press, 1984 [1979]), 81-2.

nature) makes all the difference for insightful scholarship. Important and subtle, Brooke and Cantor's linguistic interjection reveals the myriad conflicting and illustrative meanings that "nature" has always maintained in Western culture. In particular (and most relevant here) they promote the equalization of "nature" and "religion," demonstrating that the one impacts the other in mutually interesting ways.

Following Brooke and Cantor we can now address methodological questions concerning the introduction of previously neglected characters into mainline historical biographies. The individuality of scholars makes any sort of grand statement about how this is accomplished nearly impossible. Instead, this section focuses in two directions: on materiality—how scholars are beginning to interpret the role non-human agents play in culture; and on the introduction of previously neglected (human) historical characters into research. The first issue addresses themes like the materiality of scientific instruments, emotions, forces, trends, and encounters (of scholars, their readership, and a contemporary audience). The second section is more practical. In it, I analyze the attempt to widen the field of natural history in two of the foundational edited compilations of the new religion-science scholarship and how they enact the theories discussed in this thesis.

In writing about two divergent issues—one theoretical, one practical—my aim is to transition away from theory and into practice, but to do so in a way that encapsulates all that recent religion-science scholarship has accomplished. These discussions should, at the end, lead us to begin to consider two questions: what categories will prove appropriate for Darwin and Fuseli? And how can they be interpreted through, and act to modify, the practical aspects of scholarship currently in our employ?

Materiality is a theme that follows closely with Kuhn and Brooke and Cantor in informing how contemporary scholars go about complicating historical narratives. Materiality,

crudely defined, is a focus on the physicality of things, on the *being* of their presence and its interaction with surrounding space. This is an addition (or correction, as some would prefer) to the long-established scholarly method of interpreting objects as signs or symbols for concepts and ideas, which most often means as mere vessels for holding an ethereal, ultimately self-sustainable knowledge, and acting as its ferry between rational minds. Accounting for how objects and things affect the world they exist in, how they mold and alter the knowledge attached to them, is an objective of the newer methodologies in materiality studies.[34]

Theories of materiality most useful in religion-science research often draw on a metaphorical triangle: naturalist/experimenter-nature-publication (about the natural world and the naturalist in it). In these cases, the insights of critical theory, with its interest in non-visible forces (e.g. power, social capital, etc.) have much to teach us. By looking for the forces and impacts that objects exert, scholarship moves away from a belief in the purity of ideas, turning instead toward attempts to interpret and record the way materials and theories are brought together as narrative, explanation, and advocacy—that is, on the way physical text and image are themselves part of the story they seek to tell. Reorienting in this vein opens religion-science scholarship to a multitude of new characters and narratives, not lowering historical esteem for great thinkers but raising objects and interactions to a nearer intellectual equality.[35]

Bruno Latour is one of the most insightful contemporary voices on the way object-human interaction must be centralized in historical narrative. He writes, "Our intellectual life is

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[34] For a new, much lauded contribution to this field see Manuel A. Vásquez, *More Than Belief: A Materialist Theory of Religion* (New York: Oxford University Press, 2011).

[35] "The postmodern would be that which, in the modern, puts forward the unpresentable in presentation itself; that which denies itself the solace of good forms, the consensus of a taste which would make it possible to share collectively the nostalgia for the unattainable; that which searches for new presentations, not in order to enjoy them but in order to impart a stronger sense of the unpresentable." Lyotard, *Postmodern*, 81.

out of kilter. Epistemology, the social sciences, the sciences of texts—all have their privileged vantage points, provided that they remain separate. If the creatures we are pursuing cross all three spaces, we are no longer understood… That a delicate shuttle should have woven together the heavens, industry, texts, souls, and moral law—this remains uncanny, unthinkable, unseemly."[36] Finding that "delicate shuttle" is Latour's goal. Where he reaches in his searches is often to the things that pass most quickly out of sight, that are so common we overlook them, mistaking *our* complacency for *their* inevitability. The natural world and human-made stuff, the bric-a-brac and refuse, the flowers, trees, air, sky, pastures and manure, empty ink pens and city transit busses—these are the textures of human life, the bumps and passageways that make up the immanent bulk of mortal existence. They must be accounted for. Somehow, they must be integrated into our discussion of human knowledge, or our accounts will necessarily be incomplete.[37]

Latour's argument is not that scholars are incapable of making these accounts. Quite obviously, many disciplines are interested in the physical world, from chemistry to art history, and have long produced deep, thoughtful research (their "privileged vantage points"). What Latour dislikes is how poor scholars are at integrating the insights and resources of multiple disciplines. So often, he thinks, especially in philosophy (history being included here) even the small integrations are subjugated beneath the "higher" ideal of knowledge as pure thought. Forcefully, overtly, joyously rejecting that "higher" ideal and accepting the flummoxed looks and deep-seeded reticence received in response are part of what Latour means by the phrase "we are no longer understood."

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[36] Bruno Latour, *We Have Never Been Modern*, trans. Catherine Porter (Cambridge: Harvard University Press, 1993), 5.

[37] See Bruno Latour, *Aramis, or, The Love of Technology*, trans. Catherine Porter (Cambridge: Harvard University Press, 1996).

There are other reasons as well that Latour expresses this desire for a new type of material connectedness, a theory of the world that does not reduce all *things* to mere footstools of a particular form of abstract knowledge. For Latour, the depiction of objects as vessels of transcendental human thought is an unacceptable reduction of an object's truly unique grandeur. Not only a reduction, an affront, wherein a certain brand of human metaphysical philosophy (which believes in thought above all else) is allowed to degrade the world's matter into mere secondary actors. This type of thinking Latour believes to be a detriment both for scholarship and human society generally. He summarizes his opponents' views thusly: their aim is "[t]o put everything into nothing, to deduce everything from almost nothing, to put into hierarchies, to command and to obey, to be profound or superior, to collect objects and force them into a tiny space, whether they be subjects, signifiers, classes, Gods, axioms—to have for companions, like those of my caste, only the Dragon of Nothingness and the Dragon of Totality."[38]

Attempting to find an alternative he begins to dream, looking up at an endless blue sky while driving through the French countryside:

> Tired and weary, suddenly I felt that everything was still left out. Christian, philosopher, intellectual, bourgeois, male, provincial, and French, I decided to make space and allow the things which I spoke about the room that they needed to "stand at arm's length." I knew nothing, then, of what I am writing now but simply repeated to myself: "Nothing can be reduced to anything else, nothing can be deduced from anything else, everything may be allied to everything else." This was like an exorcism that defeated the demons one by one. It was a wintry sky, and a very blue. I no longer needed to prop it up with a cosmology, put it in a picture, render it in writing, measure it in a meteorological article, or place it on a Titan to prevent it falling on my head. I added it to other skies in other places and reduced none of them to it, and it to none of them. It "stood at arm's length," fled, and established itself where it alone defined its place and its aims, neither knowable nor unknowable. It and me, them and us, we mutually defined ourselves. And for the first time in my life I saw things unreduced and set free.[39]

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[38] Bruno Latour, *The Pasteurization of France*, trans. Alan Sheridan and John Law (Cambridge: Harvard University Press, 1988), 163.

[39] Ibid., 163.

Read not "allied" but *engaged*. The image constructed is one of mutually beneficial, mutually supportive complexities, whose own greater existence is defined by as many *alliances* as can be formed between them. No external props (cosmologies, Titans, etc.) are necessary when the *things in themselves* provide so much body, texture, detail. Lack of reduction is not lack of definition. It is rather lack of teleology, of compulsory higher purpose, of imposed responsibility. For Latour, objects (nature included), freed from the weight of human meaning, prove more colorful and desirable than ever during their long, tedious thralldom. And again, even more than their own grandeur they now reveal the true extent of their (long obscured but highly potent) influence over the thoughts and decisions of humanity itself. This reverse power (objects on humans) is what Latour is ultimately searching for and what materiality theory begins to provide.[40]

Latour's explanation of this sort of material philosophy is many leagues distant from those who criticize postmodernism as being a barrel of cultural relativisms. Relativism is about judgment and morality. Latour's materialism is about complexity and interwoven networks. Not only do I look in Chapter Three at Henry Fuseli (rather than only at the more famous poetic text he supplements), but also at his art work, at the emotional content and cultural meaning of the images, at their placement in the text, and about what all that means for the readership of the poetic volume in its historical moment. The study of materiality gives us a language for the

[40] The Nietzschean elements are impossible to overlook. First an echo in ideal: "Let us beware of attributing to [nature] heartlessness and unreason or their opposites: it is neither perfect nor beautiful, nor noble, nor does it wish to become any of these things; it does not by any means strive to imitate man." Friedrich Nietzsche, *The Gay Science*, trans. Walter Kaufmann (New York: Vintage Books, 1974 [1887]), 168. Second in style: "We have left the land and have embarked. We have burned our bridges behind us—indeed, we have gone farther and destroyed the land behind us. Now, little ship, look out! Beside you is the ocean: to be sure, it does not always roar, and at times it lies spread out like silk and gold and reveries of graciousness. But hours will come when you will realize that it is infinite and that there is nothing more awesome than infinity. Oh, the poor bird that felt free and now strikes the walls of this cage! Woe, when you feel homesick for the land as if it had offered more *freedom*—and there is no longer any 'land.'" Ibid., 180-1.

alliances and engagements so potent in history, so meaningful, but too often still silenced by lack of vocabulary. The objective of my case study is not to take each opportunity and point out where these theories are made manifest. It is rather to assimilate the insights of contemporary scholarship and write a small piece of religion-science history under their influence and in their image.

Heretofore, through many pages, we have surveyed the theoretical insights of contemporary religion-science scholarship. In the final part of this whole chapter I briefly examine how a few contemporary scholars have gone about implementing a complication of the classic historical narratives in their writing of religion-science history. Two volumes form the core of my analysis. Edited by David Lindberg and Ronald Numbers, both books must be seen as something like the first case histories of contemporary religion-science scholarship, not an advanced (let alone final) prescription for research but an early incursions into future areas of thought—little cohesion, over-reliance on observation, and everything a great deal interesting.

The type of application in focus here—of theories of historical complexity into science-religion scholarship—is a difficult, unwieldy thing to discuss, made even more so because technical scholarship (in any field) is a highly personal craft, dependent on the skills of the individual thinkers and the vagaries of the historical record. Therefore I do not believe it would be useful to give summaries of particular research projects found in these volumes or to comment on specific case studies. Instead, using these two books as the foundation of an expanding field of inquiry I examine some of Lindberg and Numbers' choices as editors of the volumes, ask questions about their motives, and pivot toward my own work—since it both follows from and diverges with Lindberg and Numbers' decisions.

The first volume, *God and Nature: Historical Essays on the Encounter between Christianity and Science* includes essays spanning roughly fifteen hundred years of Western history: chapters one and two on events before CE 1400; three through eleven on the years between the Renaissance and Enlightenment; and twelve to eighteen on the past two centuries. The second volume, *When Science and Christianity Meet*, is largely limited to the past five hundred years in the West, with emphasis on the period from the late Enlightenment to our contemporary moment. Like some of the books and scholars discussed above Lindberg and Numbers' work covers more than just natural history. Therefore, I will continue to use here the simple dichotomy "religion-science" because that is the way Lindberg and Numbers identify their subject of study.[41]

What are the central motivations of Lindberg and Numbers for editing these books? In the introduction to *God and Nature* the two scholars set their project against histories of science written as explicitly hostile to religion. Perhaps most often cited in the field (and mentioned by the editors) are John William Draper's *History of the Conflict between Religion and Science* (1874) and Andrew Dickson White's *A History of the Warfare of Science with Theology in Christendom* (1896), but also implied (though not named) are works like Sigmund Freud's *The Future of an Illusion* (1927) and Bertrand Russell's *Why I Am Not A Christian* (1927). Such books, so easy to marginalize in scholarly circles, have been highly influential in the broader cultural sphere and thereby (argue Lindberg and Numbers) warrant attention when engaging with this debate anew.

Revealingly, unmentioned by Lindberg and Numbers are the "religious" opponents to Draper et al., the Christian apologists and evangelicals who promoted ideologies rejecting scientific claims to knowledge within the realms of history and nature. Because of the editors' desire that this be a book of scholarship and because the field of history of science is seen as

[41] David Lindberg and Ronald Numbers, *God and Nature: Historical Essays on the Encounter between Christianity and Science* (Berkeley: University of California Press, 1986). David Lindberg and Ronald Numbers, *When Science and Christianity Meet* (Chicago: University of Chicago Press, 2003.)

more scholarly than that of, say, process theology, Lindberg and Numbers' targeted foes are "historians" and not theologians. Such a choice controls the boundaries of their intellectual genre and affects the scope of their linguistic and theoretical debate. It is also peculiar when examined against their preferred historical intervention, which is to bring theology and its practitioners into the record when writing about theories, experiments, or social events. The target audience of their book, I believe, has much to do with this uneven approach to theologians—another marker of the complexity of navigating (and conducting) this research in the face of entrenched historiographies.

The scholars chosen to contribute to both volumes reveal the orientation of this work in the history of science. In Lindberg and Numbers, the scholarly disciplines spread about evenly between departments of history, of the history of science, and of philosophy (where often professors of religious studies are housed). Of the eighteen authors in *God and Nature*, two received their undergraduate degree, and one his advanced degree, from a seminary; two received their advanced degree in a hard science (chemistry and geology); two were educated in France; three were educated in Britain; one is a woman; the rest are American men with advanced degrees from elite research universities. In *When Science and Christianity Meet*, the numbers vary only slightly. Of eleven authors, one is a professor at a seminary (with one advanced degree from another seminary and one from a private university); one was educated in Ireland; one is a woman; and the rest are, again, American men with advanced degrees from elite research universities.

The authorship of the essays both reflects and directs the scope of inquiry found in each books' pages, as well as the historical time periods covered. Of course, I recognize the editorial difficulties of volumes like these—of decisions born from necessity and not preference. But I maintain that, in my observation, these books are an apt metaphor for the

discipline more broadly. Having such "moderate" historians of science as their choice authors reveal that the outright proponents of the "conflict thesis"—as it is usually called—are not Lindberg and Numbers' primary opposition. More problematic to them are the historians who, though they acknowledge the polemicized nature of "conflict thesis" language, still hold to its more or less likely accuracy—i.e., they continue to write histories wherein science and religion are in oppositional roles. In a sense, these could be called "faux-moderate" historians, since they claim separation from the conflict thesis yet continue to subtly promote it. It is their view that Lindberg and Numbers vigorously contest, for as they say, in "the nineteenth century there was more conflict between 'historical study and accepted view of the Bible' than between science and theology, but the public, failing to make such distinctions, labeled any challenge to the Bible as 'science.'"[42] Indeed, Lindberg and Numbers' is a benevolent view of history, one in which humans disagree, most often legitimately, and the historian's task is to see that both sides get their merits discussed.

Unable to explain any grand relationship or to propose any unifying rules Lindberg and Numbers make recourse to the language of complexity. "Almost every chapter [in our book] portrays a complex and diverse interaction that defies reduction to simple 'conflict' and 'harmony.' Although instances of controversy are not hard to find, it cannot be said that scientists and theologians—must less science and Christianity—engaged in protracted

[42] Lindberg and Numbers, *God and Nature*, 7. One does worry that in going so far toward reconciliation ("[t]he separation occurred, by and large, without rancor" [Ibid., 12.]) they discount the voices and social disturbances caused by the "conflict thesis" in the first place. In their rush to see something else, they lose sight of their original opponents, and overlook the now-two centuries worth of voices promoting the expansion of "science" at the expense of "religion"—using, often, those massive terms for simplistic, self-serving ends. How one writes about that, while also subtly demonstrating the theological and metaphysical apparatus underlying Western laboratory experimentation, is quite clearly a great task of the future.

warfare."[43] Through a methodology of cultural contextualization, they (and their authors) begin the task of breaching the walls of "science," of seeing in theories and points of data connections with the broader workings of historical societies. In this language of complexity they attempt to move beyond the search for the origins of specific ideas or principles (e.g. evolution, gravity) and into a more amorphous space they call "encounter" or "interaction." Problematically, they retain the linguistic boundaries of science-religion. But methodologically they open science-religion history to genres beyond Lindberg and Numbers' own knowledge or interests.

The pages above have been an introduction to, and evaluation of, recent science/natural history-religion research. I have hoped to convey the diversity within the scholarship, presenting studies on the varying topics and ideas that most closely inform the present thesis and to argue that there is much more work to be done if we are truly interested in recapturing the *Weltanschauung* of former ages. In essence, the purpose of the above pages has been two fold: to give a framework for religion-science questions, what they ask, how they're interesting, and why they differ from other types of questions (e.g. political, literary, psychological); and to give context to the case study below, which attempts to commandeer many of the newest insights in an act of historical reevaluation. In expounding on the motivations and accomplishments of the new scholarship, I hope to more firmly place this thesis in the mainstream of religion-science scholastic production.

The following case study begins with a brief discussion of Erasmus Darwin's life, transitioning into an analysis of *The Temple of Nature: or, the Origin of Society* as a title in itself, with all the various implications and meanings of those words in that order. It then turns to Henry

[43] Ibid., 12.

Fuseli's life and career, tracing the various connections between him and Darwin that led Fuseli to being hired to design the poem's plates.

These early pages are more than biography. They identify some of the key themes and ideas that inform the work as a whole: poetry as genre, metaphor and analogy as epistemology, history as teleology, engraving as narrative device, and the rural as alternative to the urban. None of these is a particularly new field of research; it is the bringing them together in the context of religion-science/religion-natural history that is of importance. In moving away from purer forms of intellectual history, causal or motivational connections that appeared strong in one context suddenly break apart and enlighten parallel historical forces hitherto unnoticed or under examined.

The final four sections of the case study are each an examination of one of Fuseli's plates. Each section provides a detailed description of the image, followed by an exposition of its content and context in relation to the poetic narrative. The argument undergirding these pages is that the prints themselves are a central component of the book's intellectual and narrative grounding, urging a particular reading of the text (and therefore of its purpose) that is not otherwise directly apparent in Darwin's prose and that no prior analysis of the poem has seriously considered. Through a discussion of the prints a diversity of intellectual frameworks is revealed in Darwin and Fuseli's thinking. This section demonstrates that a mixture of Greek and Biblical themes, Enlightenment historicisms, didactic elucidations, and romantic longings are all not simply literary techniques meant to forward a grand vision of evolution but rather foundational, structural blocks for the overall view of nature and natural history—a view strikingly dissimilar to our own.

CHAPTER 3

ERASMUS DARWIN, HENRY FUSELI, AND *THE TEMPLE OF NATURE*

Erasmus Darwin and the Title of His Poem

In the second half of the eighteenth century, Erasmus Darwin (12 December 1731 - 18 April 1802) was one of Europe's most respected scholars and medical practitioners. Widely acknowledged as a brilliant intellect, Darwin was an outspoken critic of Anglicanism and the belief in a loving, personal, active God. Donald Hassler calls him a *philosophe*, a term that allows a flexing and blurring of intellectual genealogies. Darwin was a doctor, a gardener, a man of letters, a politician, and a Fellow of the Royal Society. Yet hour-to-hour he was devoted primarily to his rounds as a country physician in Lichfield and, later, at Derby. A poet, essayist, and letter writer for much of his life, we have extant publications from as far back as his mid-twenties. He attended St. John's College, Cambridge and later medical school at Edinburgh before settling into small town life in central England just north of Birmingham. In his seventy years he had two wives and fourteen children and was once asked to be the King's own doctor, but he demurred. Though after his death his fame rapidly declined and has been eclipsed almost completely by his grandson's, Erasmus Darwin's epitomizes a life that scarcely a half-century later was nearly unimaginable: a master in philosophy and medicine, a dedicated country doctor

and founder of learned societies, and a contributor to knowledge of natural history without a laboratory, a museum, or even frequent trips to London or the Continent.[44]

A starting point for understanding the broader themes involved in the relationship between Darwin's poem and Fuseli's prints is the poem's full title: *The Temple of Nature; or, the Origin of Society: A Poem, with Philosophical Notes*. In the original 1803 printing by J. Johnson, atop each left-hand page (the even page numbers), where one would expect the title of the work, the heading reads (from left to right): [page number] ORIGIN OF SOCIETY. CANTO [number.]. Atop the right-hand page (the odd page numbers) the heading reads: CANTO [number]. [CANTO TITLE.] [page number]. The discrepancy here is fascinating. Darwin, the sources suggest, equivocated for years on titling the work, eventually close to his death settling on *The Origin of Society: A Poem, with Philosophical Notes*. His final letter does mention the work, but calls it *The Temple of Nature*. King-Hele argues that this title was added when the letter was transcribed after Darwin's death. In an attempt to understand just how unsure Darwin was we can note in one final observation how each Canto begins with a title page saying only "Origin of Society," followed below by "CANTO [number]" and below that by that canto's unique title.[45]

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[44] A number of volumes have been published concerning Darwin's influence on medicine and English poetry. See Desmond King-Hele, *Erasmus Darwin and the Romantic Poets* (New York: St. Martin's Press, 1986); Donald M. Hassler, *The Comedian as the Letter D: Erasmus Darwin's Comic Materialism* (The Hague: Martinus Nijhoff, 1973) and *Erasmus Darwin* (New York: Twayne, 1973); and Maureen McNeil, *Under the banner of science: Erasmus Darwin and his age* (Manchester, UK: Manchester University Press, 1987). After stopping at Darwin's house in Derby in 1796, Samuel Taylor Coleridge wrote of the elder scholar: "Dr. Darwin possesses, perhaps, a greater range of knowledge than any other man in Europe, and is the most inventive of philosophical men." Samuel Taylor Coleridge, *Letters of Samuel Taylor Coleridge*, ed. Ernest Hartley Coleridge, 2 vols. (Cambridge: The Riverside Press, 1895), vol. 1, 152. The most widely respected scholarly biography of Darwin is Desmond King-Hele, *Erasmus Darwin* (London: Macmillan & Company, 1963). For a brief introduction to Darwin's varied writing, see King-Hele, *Essential Writings*.

[45] I have attempted to emulate here the differing sizes and typefaces. The three sets of headings are of course evenly divided across the page. Martin Priestman has noted that Darwin's papers at the Cambridge University Library (DAR 227) contain manuscripts for *The Temple of Nature* that alternate in their titles between *The Progress of Society* and *The Temple of Nature*. Available at

What is interesting about this discrepancy in titles is the implication it carries for the meaning of the work as a literary whole. Titles are a peculiar phenomenon, intimately tied to the author yet subject to the whim of editorial fancy and post-mortem exigency. In this case, both the incongruity and resulting variation suggest something profound: that Darwin meant for the poem as whole be seen as a progressive unit, a teleology of sorts, a philosophy of nature's progress toward human civilization. If this is so, then it reframes our entire discussion of the cantos, whose theme is the development and history of nature. Instead of being independent (as "Temple of Nature" might suggest) they rather make nature but a prelude to the emergence of humanity. And not only humanity in the primeval state, but civilized, advanced humanity: "[the] use of iron tools, of the bow and arrow, of earthen vessels to boil water in, of wheels for carriages, and the arts of cultivating wheat, of coagulating milk for cheese, and of spinning vegetable fibres [sic] for clothing."[46]

Here is a first key insight into the interior structure of the poem itself. Unlike what modern scholarship has supposed—that Erasmus Darwin put forth a theory of evolution—instead what he has done is to apply a theological belief in the progress of time toward

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http://www.rc.umd.edu/editions/darwin_temple/intro.html. "Darwin's last poem, published under the title *The Temple of Nature* in April 1803, was intended by him to be entitled *The Origin of Society*: its publication under this title was (prematurely) announced in *The Monthly Magazine* for December 1802. So Darwin probably wrote 'Origin of Society' rather than 'Temple of Nature' [in his last letter]; Maria [Edgeworth (1768-1849, daughter of Darwin's good friend Richard Lovell Edgeworth (1744-1817)] probably changed it to avoid confusion [when transcribing the letter for publication in her father's memoir]." Desmond King-Hele, ed., *The Collected Letters of Erasmus Darwin* (New York: Cambridge University Press, 2007), 581.

[46]Darwin, *Temple*, 5. These particulars are what Darwin identifies as the gifts to civilization from the Fertile Crescent, which he places as the likely origin of "Europe and a part of Asia and of Africa." He incorrectly assumes that peoples not in the Indo-European language family arose independently. There are many likely reasons for this, one being a European-centered chauvinism. Another could be his desire to escape complete mimicry of the Genesis narrative, which spreads all humanity out from a single family. The scholarship of his day was unsure of human origins; he interestingly chooses uncertainty over dogma.

humanity onto the history of nature. By giving nature a history and a teleology he has in essence transposed the New Testament theology of supersessionism onto the face of nature. Nature remains beholden and subservient to her human masters, not freed to go her own way (as Charles Darwin's later evolutionary theory would hold) but intrinsically, definitionally moving forward toward humanity.

Such an interpretation is not inconsistent with eighteenth century readings of history and the Bible, especially with the then-new trend of seeing the Bible as a pedagogical document; of the Hebrew Bible/Old Testament as *intellectual* (as opposed to only theological) prelude to the New Testament; and of early human society as the youthful testing ground of the present "civilized" age. In application to Darwin, these are not our modern notion of natural history being put into play with this title. Rather, it is Enlightenment politics and changing readings of history, heralding broad implications for contemporary European life.[47]

When placed into relation with Darwin's earlier work of didactic poetry, the two-volume *The Botanic Garden*, a glimmer of this larger instructive potential of nature takes shape. *The Botanic Garden* (1791) is concerned with the ways of nature's development and the origin of plants. It is also a compendium of the vast amount of new botanical knowledge being accumulated in late eighteenth century Europe. Setting *The Temple of Nature* after *The Botanic Garden* (as Joseph Johnson did in his 1806 printing of the three-volume *Poetical Works of Erasmus Darwin*), we now have a teleological-like encompassment of the origin and progressive development of natural life, a roadmap of sorts leading up to human civilization. Whether

[47] G. E. Lessing illustrates this eighteenth-century trend with incomparable finesse: "But every Primer is only for a certain age. To continue using it for longer than intended with a child [the ancient Hebrews] who has outgrown it is harmful… A better instructor must come and snatch the exhausted primer from the child's grasp. Christ came!" Gotthold Ephraim Lessing, *The Education of the Human Race* [1780], in H. B. Nisbet, ed., *Lessing, Philosophical and Theological Writings* (Cambridge: Cambridge University Press, 2005), 230-231. Christ for Lessing was not a religious figure but a teacher of morals, whose lessons had been lost in the Catholic centuries before the Reformation.

Darwin had *The Temple of Nature* in mind when writing *The Botanic Garden* remains unclear, but the progression makes a fascinating statement nonetheless.

In this light, "The Origin of Society" seems a much more appropriate title. Why then would Darwin even take up consideration of calling it "The Temple of Nature"? The letters give no help in answering this question; but recourse to the text of Canto I is informative.[48] "Here, high in-air, unconscious of the storm,/Thy temple, NATURE, rears it's [sic] mystic form;/From earth to heav'n, unwrought by mortal toil,"[49] whereupon Darwin describes a vast and fabulous temple. In this Temple of Nature reside the most important gods, Time (also called Proteus) chief among the lesser, and Nature herself in the center, extending "o'er earth and sea her hundred hands."[50] Around the temple are the Elysian fields, upon which "in purple pomp the breezy dawn,/And crimson dew-drops trembled on the lawn."[51] And there, too, a procession is occurring, an eternal revelation of the Mysteries led by the priestess of the temple herself.

In Darwin's poem the Temple is the place of Nature's residence, the new seat of providential wisdom—physical incarnations of Time, Chaos, Silence, and a myriad more who represent the unseen but strongly felt passions and ecstasies of life on Earth. Remarkably, a poem entitled *The Temple of Nature* becomes a different sort of book altogether from one called *The Progress of Society*. Writing "Temple" invokes all the intricacies of the revival of pagan mythology and classical scholarship in eighteenth-century philosophical life. It urges the reader

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[48] No extant letter discusses the title of *The Temple of Nature*, and we have nothing written between Darwin and Joseph Johnson, his publisher, from the final years of Darwin's life.

[49] Darwin, *Temple*, 7.

[50] Ibid., 12.

[51] Ibid., 14.

to conceptualize the forces and strengths of Nature herself and not humanity's place in the poem's overall narrative scheme.

The final title, *The Temple of Nature*, is rampant anthropomorphism, certainly, but it also pushes the center of focus away from humanity, placing humans somewhere in the blurred middle ground between natural rhythm and the inexorable march toward civilization. As will become clear below, such an overt obscuring of humanity's place at the center of history is something of a dominant theme of the poem. Indeed, Darwin makes no careful effort to separate his descriptions of natural development from his language about human maturity and values. The title suggests something about the historical moment of 1803. There is a vague, almost undetectable hint here of the change in natural history that is on the way. As historians have come to note, this first decade of the new century was a crucial moment, very much a transition from Enlightenment natural history (with a focus on human society) to something like "Victorian natural history" (with a focus on detecting principles intrinsic to nature itself). It seems unlikely that Darwin had any deep sense of this impending shift. Yet precisely because his poem exists directly in that blurring moment of rapid intellectual change does it hold great potential for scholars as a site of myriad influences, associations, and as-yet-unknown relationships.[52]

Henry Fuseli and His Relationship to Darwin

Henry Fuseli was born Johann Heinrich Füssli in Zürich, Switzerland on February 6, 1741. His father was a city clerk and minor artist and his mother remained at home to oversee Henry's education through age twelve. Never properly trained in the fine arts Fuseli

[52] For an example of this transition in geology, see Martin J. S. Rudwick, *Bursting the Limits of Time: The Reconstruction of Geohistory in the Age of Revolution* (Chicago: University of Chicago Press, 2005); for an example among naturalists, see Richard Holmes, *The Age of Wonder: How the Romantic Generation Discovered the Beauty and Terror of Science* (New York: Pantheon, 2008).

nonetheless excelled as draughtsman and artistic autodidact. At age twenty he was ordained a Zwinglian minister (at his father's urging), and though five years later he would disavow himself of all ministerial beliefs and doctrines he retained into his old age a keen interest in things religious and spiritual. In 1763 he traveled to Berlin, where within the year he met the city's British chargé d'affaires who brought him to London. He Anglicized his Swiss name on arrival and remained a resident in England until his death on April 16, 1825.

After his move and a brief time in Cranbourn Alley, Fuseli took up residence with Joseph Johnson, the well-known London bookseller and publisher. Fuseli continued in that residence through the late 1760s, during which time Johnson was friend and exclusive publisher to the natural philosopher and theologian Joseph Priestley, with whom Erasmus Darwin also had close intellectual ties. By the 1780s and 1790s Johnson's publishing house was the primary printer of Unitarian and dissenting theology, as well as of Jacobin and other pro-Revolutionary writings. Johnson's association with the likes of Priestley, Godwin, Wollstonecraft, Paine, and others of similar bent was likely an attraction for the restless and religiously dissatisfied Fuseli, though he rarely seems to have contributed political writings himself.[53]

Surrounded by such political activity, in the London society where he made the rest of his life Fuseli was known both for his masterful talent and his loud theological iconoclasm. An irreverent, profanity-laced but brilliant artist, his interests and subject matter ranged broadly across time and genre. His drawings were widely distributed in England and the Continent, and

[53] Darwin and Priestley were members of the Lunar Society, a club that was a "powerhouse of invention…made up [not] of aristocrats or statesmen or scholars but of provincial manufacturers, professional men and gifted amateurs…" Darwin, Priestley, James Watt, and Josiah Wedgwood—this "quintet forms the core," each of whom found pleasure in experiments and in exchanging ideas, many which later found their way into contemporary technology and medicine. Jenny Uglow, *The Lunar Men* (New York: Farrar, Straus and Giroux, 2002), xiii-xiv. Josiah Wedgewood's granddaughter Emma married Charles Darwin. This history is broadly covered in Carol Hall, "Johnson, Joseph (1738–1809)," *Oxford Dictionary of National Biography* [book on-line] (Oxford University Press, 2004, accessed 30 October 2011); available from http://www.oxford dnb.com/view/article/14904; Internet.

his relationship with William Blake and a wide circle of British artistic contemporaries led to noticeable affinities and overlapping influences. In 1801 he published a highly successful volume of essays on painting and in 1804 was elected Keeper of the Royal Academy. Though now mostly forgotten, for the last two decades of his life he was one of England's most important artists.[54]

Allegory abounds in Fuseli, as does male and female nudity. Greece remained a source of inspiration and fascination for Fuseli all his life. At age twenty-four he translated into English Johann Joachim Winckelmann's *Reflections of the Painting and Sculptures of the Greeks*, and his lectures at the Royal Academy four decades later focused almost exclusively on Italian art and the world of the ancients. In his own works he depicted countless scenes from Greek mythology, though rarely seems to have found the individuality of a given character of particular interest. His figures are generally thick, with defined muscles and long strides; many soar along the top of the page, looking back and downward at the characters below. Peter Tomory notes Fuseli's attraction to "Poetic Painting," by which he means a reaching toward the sublime and the beautiful.[55] Frederick Antal calls Fuseli an early English Classicist, destined to be remembered not as heir to the age before (Baroque, Mannerist, Rococo) but rather

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[54] Fuseli's contemporaries included James Barry, John Brown, John Flaxman, James Jefferys, John Hamilton Mortimer, George Romney, and Alexander Runciman. See Peter Tomory, *The Poetic Circle: Fuseli and the British* (Florence: Centro Di, 1979). Note how Fuseli's "The Creation of Eve" in *The Temple of Nature* seems to have been influential on three paintings by Blake: "Satan Watching the Endearments of Adam and Eve" (1807); "Adam and Eve Asleep" (1808); and "The Creation of Eve" (1807)—which features a standing, nude Eve and a sleeping, nude Adam with genitals visible (though Adam is not in the "Venus" position; see discussion below). Fuseli was forgotten probably because, like Darwin, his style looked backward, reflecting a set of artistic beliefs quickly swept away by the rapid changes of the nineteenth century. This history is broadly covered in D. H. Weinglass, "Fuseli, Henry (1741–1825)", *Oxford Dictionary of National Biography*, [book on-line] (Oxford University Press, 2004, accessed 30 October 2011); available from http://www.ox forddnb.com/view/article/10254.

[55] Tomory, 11.

anachronistically against Jacque Louis David and the French, whose purer Classicism had no direct English equivalent.[56] Paul Ganz writes of Fuseli's "continual striving to go beyond mere realism in depicting nature and to infuse nature with human emotions which transcend appearance." The plates Fuseli drew for Darwin, coming near the middle of his productive life, strikingly attest to this interweaving of indefinable Baroque and Classical elements. As Ganz notes, "his ambition was…to be a grand-scale romantic."[57]

While Darwin's direct mention of Fuseli is limited in the extant letters, we do know that after 1784 Fuseli ran in one of the same circles as Darwin—an intellectual milieu centered on the publisher Joseph Johnson. King-Hele suggests that Brooke Boothby (1744-1824), a mutual friend of Darwin and Fuseli, instigated their friendship. It is important to establish Darwin's relationship to Fuseli and his work, for *The Temple of Nature* was only officially published posthumously, thus allowing a degree of slippage between Darwin and his finished manuscript that would have been lessened had he been alive to critique the final proofs or respond (in an essay or letter) to the published product. Without direct links with the final book we must rely on all available evidence of contact and affiliation.

By the time of Fuseli's contributions for *The Temple of Nature*, Fuseli had already contributed four drawings for Darwin's earlier work: a Frontispiece ("Flora Attired by the Elements") and a plate ("The Fertilization of Egypt") for the 1791 edition of *The Botanic Garden*; a second plate ("Zeus Battling Typhon") for the 1795 edition of *The Botanic Garden*; and a third plate ("Nightmare") for the 1799 edition of *The Botanic Garden*. Considering the myriad overlapping friends and acquaintances and the fact that in 1784 Fuseli appears to have acted as a literary go-between for Darwin and Johnson, it is quite likely that Darwin was acquainted with

[56] Frederick Antal, *Fuseli Studies* (London: Routledge & Kegan Paul, 1956), 1.

[57] Paul Ganz, *The Drawings of Henry Fuseli* (New York: Chanticleer Press, 1949), 12. Ibid., 7.

Fuseli's draughtsmanship for some time before Fuseli's commission for *The Botanic Garden*. It therefore seems reasonable to assume that by the time of the publication of *The Temple of Nature* Darwin and Fuseli's intellectual relationship was more than two decades old.[58]

In the final two decades of the eighteenth century, when Europe was politically aroused and the various nations at war, and despite his intimacy with the Johnson circle, Fuseli does not appear to have associated much with English radicalism or the politics surrounding *la Révolution*. Rather, both Fuseli and Darwin seem to have turned their spiritual and philosophical inspirations into expansive works of art. While it is true that Darwin's poems are highly

[58] Out of 457 letters sent, I could find Fuseli mentioned only twice, in 1784 and 1785. There is no extant letter of which Fuseli is the direct recipient. The volume of Darwin's letters edited by Desmond King-Hele (2007) is the authoritative edition, containing all the *known* letters *sent* by Darwin. Letters *to* Darwin have not been published and remained inaccessible to me during the writing of this essay. (The Cambridge University Libraries hold most of Darwin's collected papers, although specific letters retained by his correspondents are not centralized.) David Weinglass's edited collection of Fuseli's English letters is likewise the standard: David H. Weinglass, ed. *The Collected English Letters of Henry Fuseli* (Millwood, NY: Krause International, 1982). After 1784 Johnson was Darwin's sole publisher, bringing out numerous editions of *The Botanic Garden* and *The Temple of Nature*, as well as a posthumous three-volume collected set of Darwin's philosophical poems. See Sjaak Zonneveld, *Sir Brooke Boothby* (Den Haag: Die Nieuwe Haagsche, 2003). King-Hele, *Collected Letters*, 236. "Flora Attired by the Elements" was designed by Fuseli and engraved by Anker Smith (1759-1819); "The Fertilization of Egypt" was based on a pencil drawing by Fuseli and engraved by William Blake (1757-1827); "Zeus Battling Typhon" was based on a drawing by Fuseli and engraved by William Blake; and "Nightmare" was based on a painting by Henry Fuseli though the engraver remains anonymous. Publication specifics are taken from David H. Weinglass, *Prints and Engraved Illustrations By and After Henry Fuseli* (Hants, England: Scolar Press, 1994), 123-128. The earliest extant mention by Darwin of Fuseli's artistic talents and usefulness is dated 1784, in a letter Darwin wrote Johnson. (A possible set of earlier letters by Fuseli to Darwin could be lost.) About the proposed work *The Botanic Garden*, Darwin commented to Johnson (this apparently being their first working engagement): "I have the favour of your note in a letter from Mr Fuseli, and from the ingenuous manner of your proposal to me [i.e., *The Botanic Garden*], and the character from Mr Fuseli and others… If you accept of these proposals, you will please to acquaint Mr. Fuseli, who is so kind as to promise some ornament for the work…" King-Hele, *Collected Letters*, 235. At this time, Fuseli "was serving as an intermediary between Darwin and [Johnson]", (Weinglass, *English Letters*, 23) and Darwin's letter demonstrates quite clearly that the two men had a prior social acquaintanceship. The following year, 1785, Darwin wrote to his friend Josiah Wedgewood, "I have seen two of Fuseli's paintings. He is certainly great in subjects of imagination—fairies, witches, daemons, etc are all his own. Pray see his pictures." King-Hele, *Collected Letters*, 237.

conservative in style and allegorical construct and that their indirect and pedagogical method does not lend itself to an easy incitement of the passions, this does not keep them from attempting to soar (even magisterially so) above their particular moment, to be, as it is said, awe-inspiring. The poems endeavor to make the mythic incarnate, to mould the truth of nature from word and deed and image. In a fascinating and probably not accidental way, Darwin's poems venture to realize some of the same desires as Fuseli's artistry. Though their subjects (creation, mythology, romance) were as old as the West, both men's yearnings were intrinsically contemporary to the Enlightenment ideal from which they came: to gaze upon nature and thereby understand the human soul.[59]

The inclusion of engravings (inked plates) in works of literature and poetry was a common practice in eighteenth century publishing. *The Temple of Nature* includes four engravings, all based on drawings by Henry Fuseli: a Frontispiece (labeled as such) titled "The Temple of Nature;" "The Creation of Eve" (in Canto II, "The Reproduction of Life"); "Eros and Dione" (in Canto III, "The Progress of Mind"); and "The Power of Fancy in Dreams" (in Canto IV, "Of Good and Evil"). Canto I, "Production of Life," does not include a plate. As we shall see below, the provenance of the images and Darwin's relationship with their artist opens a connection between Fuseli's depictions and the subject matter of the poem, thereby providing

[59] For Fuseli's lack of revolutionary commitments see Antal, *Fuseli*, 78. "On the one hand [eighteenth century didactic poetry] promotes awareness of the instability of civilized values, and on the other the ethic of work, and of the need to build patiently by mastering the fundamental resources of life. Both ideas were of profound importance for the English Augustan age." John Chalker, *The English Georgic* (Baltimore: The Johns Hopkins University Press, 1969), 15. The poem professes strong motive toward a fluctuating, vibrant natural world; yet the society it depicts is fundamentally stable, pastoral—very much like the towns Darwin himself resided in.

an important avenue of interpretation that a purely literary analysis of the book may fail to notice.[60]

Plate One: The Frontispiece[61]

On first appearance, the Frontispiece to *The Temple of Nature* looks to be a standard eighteenth century allegorical scene. The drawing is built on the triangle of three women, with two in various positions of subjectivity as regards the presence of a third central figure, all constructed as a shallow Trinitarian reflection. One woman is fully lighted just to the left of center; the second, central woman is half hidden in shadow, exposed from her breasts downward, her face partially obscured; the third anchors the right-hand corner, her back to us

[60] We must remember that in an age before so many images readers would have taken a keen interest in the plates that accompanied text. Whereas we have now become lazy observers, owing to the glut of visual stimuli in our contemporary world, the same was not the case two centuries ago."The Temple of Nature" was engraved by Moses Haughton (1772/3/4-1848) after a drawing by Fuseli (titled "The Priestess Unveiling the Statue of the Goddess of Nature"). "The Creation of Eve" was engraved by Moses Haughton after a drawing by Fuseli. "Eros and Dione" was engraved by Moses Haughton after a drawing by Fuseli. "The Power of Fancy in Dreams" was engraved by Moses Haughton after a drawing by Fuseli. All publication specifics are taken from Weinglass, *Prints*, 213-216. The narrative of Canto I revolves, first, around the introduction of the structuring allegory and the emotional and historic importance of the tale; and second, around the movement from primordial swamp to land-conquering beasts. The Frontispiece, being a depiction of the bestowal of knowledge, might plausibly be argued to render these themes within it, so a separate plate was unnecessary. There may also have been financial or other reasons for keeping the plates at four. I can find no comment on this in the extant sources.

[61] Neither the Frontispiece nor the three other drawings receive any comment in the central scholarly work on Darwin, King-Hele's *Erasmus Darwin*. King-Hele's chapter on *The Temple of Nature* (pp. 120-132) is an extended recapitulation of the poem's themes, with quotations of verse and some historical commentary. Henry Fuseli receives only one mention (pp. 99), as an illustrator (along with William Blake) of some of the many plates in Darwin's *The Botanic Garden* (published Part I, 1789; Part II, 1791/2). A more extended commentary on the poem, published online by University of Maryland and written by Martin Priestman, notes the connection between the prints and the poem: "The four engravings for *Temple* represent a fascinating intersection of the demands of the poem with Fuseli's longstanding preoccupation with erotically-charged dreams and visionary apparitions." Available at http://www.rc.umd.edu/editions/darwin_temple/frontis piece.html.

and all in darkness, holding her head with her right arm and apparently waving the left (which becomes partially illuminated near the forearm and hand) as if excited or disturbed by what she sees. A direct hierarchical relationship between the three is made clear through the presence of a raised dais; the central woman standing flat-footed on the second step—its highest platform. The woman on the left is drawn in motion on the first step, and the woman on the right kneels energetically on the ground.

To the far left, just down from the center of the page, are at least three male figures, perhaps wigged, with implications of a fourth shown by a bodiless arm with its hand pointing up toward the dais. This is possibly a group of *savants*, meant to represent the learned men who would read Darwin's poem. The front-most of these figures looks very young, with delicate almost feminine features and no beard. The two behind are clearly older, with facial hair and larger sculls. One is looking back at the invisible figure to whom the bodiless arm belongs, while the other glances upward at the scene unfolding before him.

What the arm is pointing toward and what he and the younger figure see is an eighteenth-century imaginary version of a classical Grecian ceremony. There are fantasy elements to it, and the long white gowns and braided golden hair stand in sharp contrast with the corsets and wigs then worn by high-class ladies in London and Paris.[62] The center-left figure is an image of female beauty itself, suggesting the statue of a goddess like those that decorate the hallways at the country residences of the English upper class. Yet there are resonances as well of the High Gothic, with the flowing gown that defines the human form, almost like a female saint in the archway at Chartres. As an eighteenth century version of a classical figure she points toward the Greek and Roman goddesses of old. Recalling the previous discussion of Fuseli, she is far more similar to one of Michelangelo's figures than David's. Fuseli is looking

[62] See Margarete Braun-Ronsdorf, *Mirror of Fashion: A History of European Costume 1789-1929* (New York: McGraw-Hill, 1964).

backward for his imaginings of the Classical Period, toward the Renaissance and the High Middle Ages and not to French neoclassicism.

For the meaning of the scene the poem provides clues. Darwin is suggesting that our knowledge of natural history in the eighteenth century originated in Greece and Rome—that the way we can move forward and the springs of wisdom we must drink from lie amongst the remembrances of the classical world, with its focus on reason, empirical observation, and fascination with the natural world. Whereas Darwin believed that Christianity perhaps recedes too far into the circular world of the soul of man, the Greeks remind us to turn our gaze outward, to learn from nature how we are to live as humans. Though we now trace the pursuit of empiricism and reason from Greece through Muslim and Arab culture and into the Renaissance, the eighteenth century expressed its philosophical aspirations through the prism of the classical world.

Fuseli's image leads us out again as it led us in—through the relationship of the three central figures. Each represent one of the grounds in visual imagery: fore, middle, and back. Their bodily positioning is likewise structured: the lowest woman has her back to the viewer; the woman to the left is half-pivoting; and the central woman behind the curtain faces us full-frontally. The position of the women's arms from the lower right to the middle left to the center channels the energy of the image, creating an almost vortex-like visual centrality toward the breasts of the central character. Further, the fact of these figures being female, and probably all of the onlookers assumed to be male, creates an overt gender dichotomy: men, *savants*, investigating female mysteries. The heavy drapery, as well as the feeling of a veil caused by the

curtain along either side of the central woman's face, add shadowing, recalling the visual tradition of female oracles and seers in medieval art.[63]

We can come to understand more clearly whom these women are meant to represent by introducing and comparing specific passages from the text of Canto I, "Production of Life." The figure just slightly left of center is a young-looking maiden, with strong arms and a beautiful figure, the garment she wears clinging to her right leg and exposing the curvature of her thigh as it is bent forward at the knee. Her lower body is (almost) facing us, but her head is arched backward over her right shoulder, toward what we see is a crowd of on-lookers. She wears a headband and her gown flows out around her, the fabric she wears still wafting from the strength of her movement—as if she has just quickly come up to the dais to pull back the revealing curtain. In Canto I, Darwin writes:

> HER snow-white arm, indulgent to my song,
> Waves the fair Hierophant, and moves along.—
> High plumes, that bending shade her amber hair,
> Nod, as she steps, their silver leaves in air;
> Bright chains of pearl, with golden buckles brac'd,
> Clasp her white neck, and zone her slender waist;
> Thin folds of silk in soft meanders wind
> Down her fine form, and undulate behind;
> The purple border, on the pavement roll'd,
> Swells in the gale, and spreads its fringe of gold.[64]

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[63] This veiling and unveiling in visions of natural history calls for further inquiry; one is provoked to engage with the work of Eliot Wolfson on this account.

[64] Darwin, *Temple*, 18. This is not dissimilar to a passage wherein he writes: "As beauty consists of lines flowing in easy curves according to the analysis of [William] Hogarth [English painter/printmaker]; those parts of dress, which are composed of such lines, are always agreeable. Thus a sash descending from one shoulder to the opposite hip, or a grecian [sic] veil thrown back and winding carelessly down behind, are always beautiful; but a few white ostrich feathers rising on the head before, and a train of silk sweeping on the ground behind, add so much grace to a moving female figure, as to attract all eyes with unceasing admiration." Erasmus Darwin, "A Plan For The Conduct of Female Education In Boarding Schools, Private Families, And Public Seminaries" (Philadelphia: John Ormrod, 1798 [1797]), 119.

A hierophant was "an official expounder of sacred mysteries or religious ceremonies, esp. in ancient Greece; an initiating or presiding priest."[65] And indeed, this woman seems capable of playing both those rolls: expounder and initiator. While the central woman appears perpetually still and silent, the graceful movements and calm face of the Hierophant suggest a potential for speech. Her pulling back of the curtain, exposing the bare-breasted woman atop the dais, is not unlike the act of revealing an oft-shrouded mystery. This Hierophant is balancing tasks: her body is facing us (one set of viewers), she glances backward confident and serene (at another set of viewers), all the while acting as interpreter and servant to the central woman.

Darwin is lush in his language, extolling her virtues in full adjectival fashion: "snow-white," "fair," "high," "silver," "bright," "golden," "white," "slender," "thin," "soft," "undulate," "purple," "swells," "spreads." There is no quiver in his voice, nothing to betray any hint of doubt in her abilities or virtues. Who better, the scene suggests, than a young woman to lead the eighteenth-century (primarily male) reader toward knowledge? This question invokes the highly gendered structure of the scene, with the quasi-angelic appearance of the Hierophant. The entire moment is of female-coded interpreters and intercessors, standing between the male *savants* and the powerful central woman.

With a strong movement of her hand the Hierophant points us all toward the ultimate purpose of the room: the woman who is Nature herself. Nature, half-hidden behind a curtain coming down from the lost height of the room, looks far older than the Hierophant. Darwin writes:

> SHRIN'D in the midst majestic NATURE stands,
> Extends o'er earth and sea her hundred hands;
> Tower upon tower her beamy forehead crests,
> And births unnumber'd milk her hundred breasts;
> Drawn round her brows a lucid veil depends,
> O'er her fine waist the purfled woof descends;

[65] Oxford English Dictionary, Second Edition, 1989.

Her stately limbs the gather'd folds surround,
And spread their golden selvage on the ground.[66]

The identification is clear. Not only is the central woman in Fuseli's scene veiled, but he has depicted her with three breasts—a number significant in itself, and clearly a metaphor for the (non-illustratable) "hundred breasts" of Darwin's poem. Darwin conveys Nature with an outpouring of physical metaphors, invocations of cities and battlements: "shrin'd," "earth," "sea," "tower upon tower." Then he transitions to her physique and the visible strength she represents: "births," "breast," "brows," "fine waist," "stately limbs," "purfled woof." Whereas the Hierophant's dress "undulate[s] behind," Nature is like a castle, driven deep into the bedrock—beautiful, yes, but also imposing, finely tapered and bedecked but strikingly solid. She is perhaps an invocation of Hera, wife of Zeus and goddess of reproduction, who is often portrayed enthroned in the center of a temple. Darwin's Nature is an unmoving, unshakable omnipotence, giving strength of life to the Being of the Earth.[67]

Yet with Darwin's words as description, Fuseli's female anatomy is strange indeed. The woman Nature has no nipples—a fact that does not seem to me an accident. I have examined scores of Fuseli's drawings and on every woman with exposed breasts he has drawn nipples. Despite Darwin's words about "births unnumber'd milk" this depiction of the life that female Nature has to give is not corporeal, or it is not a consequence of sexuality. The carnal truths of

[66] Darwin, *Temple*, 12.

[67] Wineglass comments: "The Goddess is represented in Fuseli's illustration without the hyperbolic physical attributes Darwin ascribed to her. Fuseli…reduc[es] her hundred breasts to three and omit[s] the 'unnumber'd births' suckling upon them." Wineglass, *Prints*, 214. Martin Priestman writes: "Fuseli's fascination with female breasts in odd states of exposure is also exemplified in the figure of [Nature], her 'hundred breasts' somewhat improbably implied by the three on show." Available at http://www.rc.umd.edu/editions/darwin_temple/frontispiece.html. Irwin Primer made a connection between this print and the Frontispiece to François Peyrard's *De La Nature et de ses Lois* (1793), which depicts a man unclothing a goddess with six breasts. Irwin Primer, "Erasmus Darwin's *Temple of Nature*: Progress, Evolution, and the Eleusinian Mysteries," *Journal of the History of Ideas*, vol. 25, no. 1 (Jan.–Mar., 1964): 58-76.

nature are found in the later prints, but for their origin we have the holding back of sexuality—three, of course, being the number of the Trinity, whose subtle and pervading influence no amount of pagan lore can erase. There is also a discrepancy here: one needs a nipple to nurse. But the picture seems to depict a stern and uncaring goddess, not a compassionate nursing mother.

What exactly Fuseli had in mind is unclear but the dramatic presence of Nature certainly reflects a particular vision of femininity and motherhood that existed at the turn of the nineteenth century. To explain that vision, we must return to the dynamics of gender in the print. Nancy Cott uses the term "passionlessness" to convey "a cluster of ideas about the comparative weight of woman's carnal nature and her moral nature…" and describes a notion that "women who embodied God's grace were more spiritual, hence less susceptible to carnal passion, than men."[68] In Darwin we observe that, compared with the young female figure on the left, the woman Nature is certainly depicted with an absence of carnality. Though her (truly sexless) breasts are exposed, the lower part of her body is strongly contrastive with that of the Hierophant: the younger woman's belly button shows through her loose white gown and there is the suggestion of a curve down between her thighs. For Nature, only her toes exist in the expanse between her breasts and the floor, the wide girth of her midsection more closely reminiscent of a caricatured housewife's post-pregnant maturity than of a youthful Venus. Motherhood here is about matriarchy not infant care. One senses an overt connection between post-sexuality and motherhood: the young are allowed their flirtations but carnality is incompatible with a purer morality and must therefore be denied to Nature herself.

[68] Nancy Cott, "Passionlessness: An Interpretation of Victorian Sexual Ideology, 1790-1850," *Signs*, vol. 4, no. 2 (Winter, 1978): 220. I am grateful to Megan Goodwin for this reference.

Taking a step back, what we see when we look at Darwin's other writings is a notion of femininity as complicated as this print. Cott writes, "Most of what is known about sexual ideology before the twentieth century comes from 'prescriptive' sources—those manuals, essays, and books that tried to establish norms of behavior."[69] In fact, in 1797 Darwin published just such a manual: "A Plan For The Conduct of Female Education In Boarding Schools, Private Families, And Public Seminaries." While he was in no way a true conservative on the issue (he advocated a detailed and extensive education for girls; the 1798 American printing runs to 308 pages), he maintains the opinion that women are the slower and more graceful sex, whose instruction in proper etiquette is complementary to their inborn traits. "The female character should possess the mild and retiring virtues rather then the bold and dazzling ones; great eminence in almost any thing is sometimes injurious to a young lady; whose temper and disposition should appear to be pliant rather than robust."[70] He writes further, "Hence if to softness of manners, complacency of countenance, gentle unhurried motion, with a voice clear and yet tender, the charms which enchant all hearts! can [sic] be superadded internal strength and activity of mind, capable to transact the business or combat the evils of life; with a due sense of moral and religious obligation; all is obtained, which education can supply; the female character becomes complete, excites our love, and commands our admiration."[71]

Still, the central figure continues to pose an interpretive challenge. In his "Preface" Darwin attempts to explain how Nature and the Hierophant are to interact: "In the Eleusinian mysteries the philosophy of the works of Nature, with the origin and progress of society, are

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[69] Ibid., 221.

[70] Darwin, *Female Education*, 10.

[71] Ibid., 11-12. I could find no direct reference to "motherhood" specifically in this publication, though it seems clear here and in the poem that sexuality is more male than female.

believed to have been taught by allegoric scenery explained by the Hierophant to the initiated, which gave rise to the machinery of the following Poem."[72] As noted above, the Hierophant stands priest-like between the knowledge-seekers and Nature, the only potential speaker in the scene.[73] The Hierophant has one hand on the curtain, a female figure between the *savants* and Mother Nature, suggesting the necessity of an in-between and the power and danger of femininity and motherhood. Only a young maiden can go into the place of births; the men stand back, behind a curtain, awaiting delivery and preserving social propriety. The Hierophant, the maiden entering the birthing chamber, is the woman who brings knowledge to those who cannot access it themselves. She is essential to the hierarchy of divine power, the priestly figure who connects our world to the something beyond.

Frank Manuel has noted how the intellectuals of the eighteenth century were obsessed with discovering a new explanation for the origins of the world. He wrote: "It is extraordinarily difficult for a high civilization to live without a set of genesis myths, and when the Judaic ones had become shaky the men of the new age put their mythopoetic [*sic*] minds to work."[74] In that regard, Darwin is here playing a fascinating and subtle game: he is invoking allegory to lead toward fact (as he understands it). The Hierophant acts like a Virgil, the being of in-betweens, leading away from myth and toward natural historical truth, pointing the way toward a rational conception of life (a purer enlightening) while relying on the premise that ancient philosophical

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[72] Darwin, *Temple*, "Preface." These words are dated January 1, 1802, three and a half months before Darwin's death.

[73] In the following prints the Hierophant disappears, replaced by a strong source of light that emanates from the top of each image in a left-to-right downward slope. Likely, this is an invocation of the connection between light and enlightenment, of optimism and rationalism.

[74] Frank Manuel, *The Eighteenth Century Confronts the Gods* (Cambridge: Harvard University Press, 1959), 133.

principles are trustworthy guides. Darwin appears to be both poking fun at allegory and fundamentally reliant upon it as the narrative device that speaks closest to revealing natural knowledge.

Amidst all this high import, the third woman is something like an expectant and thankful student of wisdom—as well as an appropriate third leg in Fuseli's visual tripod. Perhaps she is one of the gods, come inside the temple to learn from Nature. Martin Priestman interprets her as Darwin's own poetic muse ("thy votary"), invoking lines 167-172: "PRIESTESS OF NATURE! while with pious awe/Thy votary bends, the mystic veil withdraw;/Charm after charm, succession bright, display,/And give the GODDESS to adoring day!/So kneeling realms shall own the Power divine,/And heaven and earth pour incense on her shrine."[75] She could also be a stylized depiction of one of the poem's intended readers, a person who, like a participant at one of the new natural philosophical clubs then being established, wishes to exult in the presence of so powerful a productive force: to feast on milk from Nature's "hundred breasts."

As the scene is obviously designed for three female figures, and Darwin presents a stunning array of characters to choose from in the narrative, it seems most likely that, while the lines quotes above were probably the one Fuseli was looking at when depicting this third woman, Fuseli also preferred the tripartite staging and cared less about the actual identity of this character, whose back is to us anyway. With her body straining toward the light and almost entering it the suggestion is of a mind moving toward (and possibly achieving) Enlightenment. Truth lies not out in the darkness, the image exhorts us, but here, inward.[76]

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[75] Darwin, *Temple*, 15.

[76] Martin Priestman, notes on the Frontispiece, <http://www.rc.umd.edu/editions/darwin_temple /frontispiece.html.

Here is the wonder of Darwin's poem: Greek myths provide the nearness to nature and a ready set of allegorical symbols, and Christian theology provides the underlying structure of cosmological omnipotence and teleological development—and the eventual arc from simple life forms to advanced European civilization.[77]

Plate Two: "The Creation of Eve"

The second plate, entitled "The Creation of Eve," appears in Canto II, "Reproduction of Life." It is a far less complex image than the Frontispiece, depicting the moment after the appearance of Eve upon the Earth. Adam is drawn still asleep along the bottom of the page (put there by the Lord so he could take a rib and form Eve), Eve being the center of the print's focus: a tall nude female fully extended, her hands reaching up toward the sky. She is standing on the balls of her feet leaning slightly backward into an arch, her long hair (made up into small curls around her forehead) falls onto a large bolder just below her behind. She is facing about two-thirds away from us, her left side pointed off to the viewer's left. Interestingly, though naked, she is not a sexualized figure; her body is not in ecstasy or passion but rather in a sort of thanksgiving. She is glad to be alive, and in reaching for the light she is seemingly acknowledging a force greater than herself who made her thus. Darwin writes:

> So erst in Paradise creation's LORD,
> As the first leaves of holy writ record,
> From Adam's rib, who press'd the flowery grove,
> And dreamt delight of untasted love,
> To cheer and charm his solitary mind
> Form'd a new sex, the MOTHER OF MANKIND.

[77] Erasmus Darwin did not have a mechanism for complexity in this poem, and Charles struggled with it as well. Importantly (and in juxtaposition to Erasmus's poem), contemporary evolutionary theory makes no case whatsoever for the development of complexity, arguing only for change over time, neither toward nor away from complexity. See Ernst Myer, *What is Evolution* (New York: Basic Books, 2002); Richard Dawkins, *The Blind Watchmaker* (New York: W.W. Norton, 1996).

—Buoy'd on light step the Beauty seem'd to swim,
And stretch'd alternate every pliant limb.[78]

The image is of the moment just after her creation, when Eve is stretching her new-formed arms and legs and Adam has not yet awoken from his dreams of "untasted love." There is no subtlety in how Darwin imagines Eve—she must be beautiful and sexually desirable to Adam, and in calling her "MOTHER OF MANKIND" Darwin's contrast of *Eve as Mother* with *Mother Nature* is startling. This human mother, while not overtly depicted or described herself as hyper-sexualized, is certainly not afflicted with maternal "passionlessness." Here, even as her appearance is not complete, creation and sexuality are thoroughly interwoven: Adam's foreknowledge is only that a "help meet" is being made for him, but Darwin's narrative implication is that Adam's own sexuality has arisen sometime earlier ("dreamt delight of untasted love" before he even meets Eve). Eve is open, the supplicant to something on high, but neither the viewer nor Adam are denied (by the positioning of her body) her future sexuality either. Here humanity, and indeed all natural life itself, is sexual from its origin.

Adam lies spread out asleep at the bottom of the print, unaware (at least in the conscious world) of the miracle that is taking place beside him. In contrast to Eve, whose body is turned away from us with only the hint of her left breast revealed, Adam is depicted as a full frontal nude. His left leg is curled back and his right leg is almost entirely extended into the light; his right arm is invisible and a shadowed right hand rests on his chest; his left arm is up over his head and wrapped around it to the right—all in shadows; and his bare lower chest and midsection are illuminated by the heavenly light that Eve is reaching towards. His right index finger points, most probably, toward the place where God has taken his rib to create Eve. Adam's hair is curled blond, much like the figures in the Frontispiece, invoking not the Middle East or Central Europe but Greece and its Mediterranean world. In all its intricacy, Adam's

[78] Darwin, *Temple*, 55.

pose is distinctly feminine; it is in fact one usually reserved for a resting Venus, implying frank sexuality. The posture of both figures is a clear reference to Adam and Eve's "pre-shame" state, before they come to know good and evil and be embarrassed by their nakedness.[79]

In using such a sexualized pose it seems possible that Fuseli was attempting to prefigure the carnal appetite of Adam's that Darwin describes. Almost immediately upon waking to see Eve, Adam "Felt the new thrill of young Desire" and initiates their first sexual encounter.[80] Though Eve's nudity is a reflection of the natural state of birth, her appearance as a full-grown woman follows logically both from the Biblical source text and from the moment in the narrative of Darwin's poem itself in which this section occurs. Immediately before the introduction of Adam and Eve are a set of verses about sex and matrimony in the botanical world; Adam's near-immediate sexuality toward Eve propels the poem quickly into the next section about offspring.

Note that these early humans do not participate in any sort of marriage ceremony, or even a ritualistic gesture of any sort. Rather, what hints at their humanity is Darwin's description of Eve's momentary response to her sexual initiation: Adam sees her, wants her, pulls her into him, and "The conscious Fair betrays her soft alarms,/Sinks with warm blush

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[79] In the course of writing I have looked through hundreds of Fuseli drawings and as best as I can tell such full-frontal male nudes are a very rare occurrence. I have found it twice in drawings made for an edition of *Paradise Lost*, a few times in depictions of allegorical young boys, and in a small number of prints late in Fuseli's life. Otherwise, male frontal genitalia is nearly always covered. For similarities to Adam's depiction see Titian's "Venus of Urbino" (1538), though Fuseli's drawing bears a slightly closer resemblance to Poussin's "Sleeping Venus and Cupid" (1630) and "Venus and Adonis" (1624). Veccio, Carraci, Corregio, and others all have similarly resting Venus's.

[80] Darwin, *Temple*, 56. Taking *Paradise Lost* as one of Darwin's poetic predecessors in discussing Adam and Eve, John Milton similarly sexualizes the couple's early moments far beyond the Biblical source. But Milton couches it in language of matrimony and connubial bliss. See *Paradise Lost* Book VIII, especially verses 452-560.

into his closing arms,/Yields to his fond caress with wanton play."[81] "Soft alarms" and a "warm blush" are distinctly human. But through Adam's desires and actions, Eve is sexualized from the moment she is created. Humanity's origins and first action, in Darwin's poem, is not meant to begin a grand narrative but rather to demonstrate how much we mimic the ways of the natural world in which we live, and how seamlessly those actions fit a schema designed to explain all of nature's actions. Darwin has not yet taken the step to say that we *arose naturally* from this nature, but he does seem to argue that we act a great deal like the rest of the organic world around us.[82]

This narrative of Darwin's is predicated upon the reader's familiarity with the Biblical tale that is its source text. In the King James Version (1611) the story of Eve's creation reads:

> 20 And Adam gaue names to all cattell, and to the foule of the aire, and to euery beast of the fielde: but for Adam there was not found an helpe meete for him. 21 And the LORD God caused a deepe sleepe to fall vpon Adam, and hee slept; and he tooke one of his ribs, and closed vp the flesh in stead thereof. 22 And the rib which the LORD God had taken from man, made hee a woman, & brought her vnto the man. 23 And Adam said, This is now bone of my bones, and flesh of my flesh: she shalbe called woman, because shee was taken out of man. 24 Therefore shall a man leaue his father

[81] Darwin, *Temple*, 56. In 1803, the word "wanton" had the same range of connotations, meanings, and usages that it does today. In Samuel Johnson's *Dictionary, Eleventh Edition* (London: J. Johnson et al, 1799), *wanton* as an adjective (as it is used here) is defined as: "1. Lascivious; libidinous; lecherous; lustful. 2. Licentious; dissolute. 3. Frolicksome [sic]; gay; sportive; airy. 4. Loose, unrestrained. 5. Quick and irregular of motion. 6. Luxuriant, superfluous. 7. Not regular; turned fortuitously." (Definitions 1, 5, 6, and 7 are all from Milton.)

[82] My interpretation seems to be confirmed in a footnote for the previous section, where Darwin writes: "Perhaps all the productions of nature are in their progress to greater perfection! an [sic] idea countenanced by modern discoveries and deductions concerning the progressive formation of the solid parts of the terraqueous [sic] globe, and consonant to the dignity of the Creator of all things." Darwin, *Temple*, 54. The nod here toward the Creator seems more likely to be a political gesture than one of personal commitment. Darwin does, however, directly address the possibility that humans developed out of primates in a footnote to the section before, but puts the ideas into the mouths of well-respected natural historians. Darwin writes, "It has been supposed by some, that mankind were formerly quadrupeds…; and that some parts of the body are not yet so convenient to an erect attitude as to a horizontal one…: these philosophers, with Buffon [Georges-Louis Leclerc, Comte de Buffon, French, 1707-1788] and Helvetius [Claude Adrien Helvétius, French, 1715-1771] seem to imagine, that mankind arose from one family of monkeys on the banks of the Mediterranean…" Darwin, *Temple*, 54.

> and his mother, and shall cleaue vnto his wife: and they shalbe one flesh. 25 And they were both naked, the man & his wife, and were not ashamed.

In Darwin, Adam does not speak, does not name the animals, does not feel loneliness, does not express a wish to marry Eve, and in the narrative flow of Canto II does not even symbolize the focal point of a *more important* creation. Yet in order to understand why Adam is sleeping and why the LORD has taken his rib, or even why Darwin has mentioned these two humans at all, the reader must be familiar with the Biblical story (no doubt, would have had a Bible nearby to consult if this precise passage was forgotten). The assumption of some knowledge thus implies the assumption of some interpretation. Darwin is presupposing that the reader already conceives of the importance of Adam and Eve in history; Darwin does not need narrative hints or overtures to make his point.

This sort of Biblical literacy on the part of Darwin's readership may explain why Fuseli chose to portray Adam and Eve as the print for the Canto. Though the text gives no hint that these two humans will play any lasting role in nature's unfolding development, and this scene is not dominant in the poetic narrative, the reader's cultural context (Anglican, late eighteenth-century Britain) is supposed and therefore incorporated into the poem's narrative mechanism. Darwin may be subtle about their import initially but he can be confident that his readers know that humanity will become the jewel in nature's crown.

If this sort of mutual cultural understanding between Darwin and his readers can be assumed, then the differences in emphasis between Darwin and the Bible are what are ultimately interesting. Darwin is making a broader point: though human society is itself the highest achievement of life on Earth, the path to society's present formation was naturalistic and progressive. In Darwin's view humanity began with thoughts as low as the animals (sex and reproduction) and developed through time toward the highest fruits of learned wisdom and philosophical speculation. Similar notions of progress and advancement were familiar themes

for eighteenth-century thinkers. What separates Darwin and what makes him interesting for study is his application of these ideas to the whole course of natural historical time.

Darwin, therefore, has no literary or philosophical use for the matrimonial ceremony in regards to the formation of the human race. The act of sex is the all-important physiological reasoning behind the two genders. Whereas the Bible seems to exercise a certain cultural vision (monogamous matrimony between humanity's first parents), Darwin's poem asks something else entirely. We learn this not only through a reading of the direct passage about Eve's creation but also through Darwin's placement of that scene in the narrative flow of Canto II. Immediately following Adam and Eve's first sexual act Darwin spends nearly thirty verses on the trials and pains of "hereditary ills" for unborn or weak-born offspring. This is fascinating, and it is one of the sections hinting at an early vision of what Charles Darwin later called "natural selection." But whereas Charles confined himself to the animal kingdom until his book *The Descent of Man* (1871), Erasmus anthropomorphizes all childhood death that is caused by weak breeding, whether it be plant or animal, into a deeply-felt tragedy. In Darwin's narrative, Eve's creation becomes less about connubial felicity than like a dark portent for the tribulations of reproduction in a harsh natural world.[83]

Observe how quickly Darwin transitions from felicity to death, and note the narrative and poetic uses of this placement. In Canto II, lines 152-158 (part of section III), Adam and

[83] In *The Origin of Species*, Charles Darwin also comments on the dangers of inbreeding: "I have collected so large a body of facts, and made so many experiments, showing, in accordance with the almost universal belief of breeders, that with animals and plants a cross between different varieties, or between individuals of the same variety but of another strain, gives vigour [sic] and fertility to the offspring; and on the other hand, that *close* interbreeding diminishes vigour and fertility; that these facts alone incline me to believe that it is a general law of nature that no organic being fertilises [sic] itself for a perpetuity of generations; but that a cross with another individual is occasionally—perhaps at long intervals of time—indispensable." Charles Darwin, *On the Origin of Species By Means of Natural Selection, or the Preservation of Favored Races in the Struggle for Life* (New York: Modern Library, 1998 [1859]), 128. Emphasis in original.

Eve consummate their sexual feelings. Lines 159-160 begin section IV, and tell of the beginning of life in the womb. Lines 161-166 read as follows:

> No Mother's care their early steps direct,
> Warms in her bosom, with her wings protects;
> The clime unkind, or noxious food instills
> To embryon nerves hereditary ills;
> The feeble births acquired diseases chase,
> Till Death extinguish the degenerate race.[84]

Darwin uses overt maternal language to describe a thoroughly natural and (ostensibly) amoral process. What we also see is Darwin's confusion about the actual cause of hereditary disease and infant mortality. Darwin posits two opinions, both of which seem likely to have come from his medical observations. First, the "clime unkind, or noxious food instills" can bring about the death of a fetus. But immediately following is a line speaking of "hereditary ills," which we know Darwin understood to be the product of poor parental sexual mixing, because lines 174-176 describe the rejuvenation of a sickly line: "A waning lineage, verging to decay;/Or till, amended by connubial powers,/Rise seedlings progenies from sexual flowers." And here, again, is the back and forth play between plants and humans (as in the verses surrounding the Adam and Eve passage), an anthropomorphism of all life to react and feel like a common human mother. In his words on the dangers of inbreeding he describes the sickly child as like a diseased leaf, curling and crumbling soon after it opens.

In the twenty following verses, Darwin describes the night when the weak-born child dies, his language almost foreshadowing the Gothic novels that would become popular in the early decades of the nineteenth century: "night's refulgent noon," "the shade of some religious tower," the "slow bell counting," "O'er gaping tombs," "mouldering [sic] bones," "moondrawn specters," "sobs of infantine Sorrow." Now, having stepped back from the print and into the narrative, the unfolding rhetorical pattern of the Canto becomes clear: the creation of Eve; the

[84] Darwin, *Temple*, 56.

sickly child as crumbling leaf; the darkly gothic death; and finally the mourning of a mother. Darwin's poetic structure is clarified: in nature's cycles we can observe a parallel to human life.

Some of this overarching structure is foreshadowed in Fuseli's drawing, but what is more interesting is how oddly positive the image of Eve's creation is when placed in its full poetic context. Yes, Adam seems to enjoy his first act of sex (and perhaps Eve, who blushes and accepts his pull, does also), but what comes from sex in the poem is harsh and painful. Darwin specifically chooses to speak about the pain of sickly offspring rather than the joys and possibilities of new life. Why would he do this?

I believe the answer must lie with how these sets of verses give us insight into the thrust of the poem more generally. Darwin is almost making a polemical point, adding to the existing meanings of the Genesis story by pointing out a particular aspect that suits his narrative and literary pursuits—Adam's sexual longing for Eve. This would suggest that the Canto as a whole is looking to naturalize human procreation, to place our "higher" emotions of love and romance back into the context of animal carnality. Whereas biblical commentators have long left unquestioned the fullness of Adam and Eve's humanity, Darwin is actively blurring the line between humans and the nature out of which they arose. He is embodying the role of Enlightenment naturalist, searching for the natural within the human but still obscuring the autonomy of nature itself.

Plate Three: "Eros and Dione"

Henry Fuseli's third print for *The Temple of Nature* takes us away from the world of the Bible and across the Mediterranean to ancient Greece. The print, called "Eros and Dione" and appearing in Canto III, "Progress of the Mind," is probably Fuseli's least creative contribution to Darwin's volume. It is the print that most closely resembles a vast quantity of Fuseli's other

works, and though it does correspond to specific lines in the poem it would not be out of place in a more staid edition of classical verse. The central theme is of two Greek gods, Eros and Dione, male and female, in romantic embrace. The figures are equal in height, with Eros on the left clad only in a thin ribbon wrapping around his upper torso, covering little except the space between his legs. He has long golden hair held back from his eyes with a band, and of his two wings the right one is seen in full view, its feathery exterior curving majestically into the air. The left wing is hidden mostly behind Dione, forming a sort of heart-shaped embrace for her to be enfolded within. Eros's case of arrows lies abandoned beside his sandal-less left foot, the right foot curving invisibly back around behind him. His entire body looks to be stepping toward us, but then suddenly pivoting to the left for his embrace with Dione, into whose eyes he stares lovingly. His right hand curves around in front of the couple, holding Dione at the lower point of her back, his left hand visible only when it comes around her right side to rest on Dione's left shoulder. The whole positioning feels momentary, almost uncomfortable, as if Dione has come upon Eros unexpectedly, startling him in mid-stride and prompting an awkward embrace.

Dione is on the right of the image, clad in the same flowing white, vaguely translucent robe as the Hierophant in the Frontispiece. The folds of the gown itself are almost identical, with the shape of her thighs made definite. But here a train of fabric falls down from her waist between her legs, obscuring hints toward the explicit. A strap of the gown winds down her left shoulder, but the true texture and weight begin only beneath her breasts, which are exposed toward Eros. Dione is standing almost in ballet pose, her right leg swung around in front of the left, her left foot fully on the ground but her right balancing on its toes. She is wearing sandals, perhaps having just arrived from further inland, from out of the plants and vegetation that hint at a world beyond the frame. Her left hand is under Eros's right, gently grasping him around the waist, her right arm behind his head, her right hand fingers visibly holding the back of his

head, pulling it toward her own. Her expression is of devoted, rapt attention; it is obvious that neither figure notices anything taking place around them.[85]

The drawing straddles that porous border between the romantic and platonic. On the one hand Fuseli seems to depict the male as younger than the female, perhaps slightly shorter, possibly expressing a relationship of comfortable and affable friendship; on the other hand, Dione's exposed breasts and the couple's romantic gaze suggest something more deeply intimate. Darwin writes:

> Warm as the sun-beam, pure as driven snows,
> The enamor'd GOD for young DIONE glows;
> Drops the still tear, with sweet attention sighs,
> And woos the Goddess with adoring eyes;
> Marks her white neck beneath the gauze's fold,
> Her ivory shoulders, and her locks of gold;
> Drinks with mute ecstacy the transient glow,
> Which warms and tints her bosom's rising snow.
> With holy kisses wanders o'er her charms,
> And clasps the Beauty in Platonic arms[.][86]

Like Fuseli's image, the poem too plays with our understanding of the gods' relationship. Darwin opens with romantic and lush language, leading the reader deeper into the folds of their embrace, only to pull back into "Platonic arms" at the end. On the whole, the picture feels a great deal more sexual than that of Adam and Eve. In a way the scene in both narrative and image is of a non-licentious love, one un-disturbing to the moral tastes and fashions of contemporary polite society.

Note again Darwin's tone and use of adjective. Considering that two attractive, semi-naked gods are described for the reader, the scene is remarkably *appropriate*. This is certainly Darwin's purpose, which Fuseli understands, and so in the print the viewer's eyes are drawn to

[85] Fuseli's model for the two appears to have been the sculpture "Eros and Psyche" housed then as now at the Capitoline Museum in Rome, where he likely saw it during one of his Italian journeys. Tomory, *Life*, figure 187.

[86] Darwin, *Temple*, 99.

the lover's heads, to their warm embraces and adoring glance, and not toward Dione's exposed breasts. Even the gods' crossed arms in the center shield their naked torsos as if to say: nothing inappropriate here between us. Shadow falls where their midsections meet. This is not a springtime tryst, the image and poem say together, but a meeting of some greater import. The viewer is led to sense that something must be happening nearby that the image does not reveal.

In the background of the engraving is a little naked putto, a pudgy boy-child with wings often seen in Renaissance art and usually holding up a banner or playing a trumpet. Here, the putto is wrangling a grotesque looking fish, his curly blond air askew, an eye of the aquatic beast glancing up at its unexpected rider. This print features the highest number of nature elements amongst the four: a seashore landscape; a grove of bushes; a fish; and a butterfly with wings extended. And again, the light shines down from just left of the top-center, finding its resting place at the juncture of the figures' heads.[87]

As suggested above, the viewer is right to suspect that this momentary scene is embedded in a narrative of larger significance. There is no classical story Hesiod or Ovid of Eros and Dione; Darwin has brought them together on his own, at this specific moment in his poetic arc, in order to put forward a particular vision of the first moments in human life.[88] The full canto is concerned with the growth of the infant human child from birth (and the early moments of cognition) to the child's accumulation of all its sensorial faculties. Darwin employs Eros and Dione to overtly mark which of those senses is fundamental to structuring proper human development. The infant is born only seconds before the two gods arrive at its bedside.

[87] Including a butterfly may be a nod to Fuseli's life-long devotion to entomology. Insects, especially moths and butterflies, feature in many of his paintings. See Weinglass, "Fuseli, Henry."

[88] Dione is Aphrodite's mother, and Aphrodite is Eros's mother; so in fact, Darwin is being inter-generationally incestuous. But, on the other hand, who hasn't thought about how beautiful his grandmother might have been when she was a young woman?

It "[f]eels the cold chill of Life's aerial morn;/Seeks with spread hands the bosom of velvet orbs," and in those first drops of milk "learns erelong, the perfect form confess'd/IDEAL BEAUTY from its Mother's breast."[89]

And then, after the infant has taken its first taste of milk and learned Ideal Beauty, Eros arrives:

> Now on swift wheels descending like a star
> Alights young EROS from his radiant car;
> On angel-wings attendant Graces move,
> And hail the God of SENTIMENTAL LOVE.
> Earth at his feet extends her flowery bed,
> And bends her silver blossoms round his head;
> Dark clouds dissolve, the warring winds subside,
> And smiling ocean calms his tossing tide,
> O'er the bright morn meridian lustres [sic] play,
> And Heaven salutes him with a flood of day.[90]

Reading this paragraph and looking at the print it should be quite obvious that Fusili has drawn the entire scene almost exactly as Darwin wrote it. It is here explained why Eros looks to be walking when he comes upon Dione: he has just alighted from his car. And we can see the dark clouds breaking to flood the image with the light of day. The calm ocean is the background; hints at silver blossoms are seen in Eros's headband.

But why would Fusili be so rigorous in his representation? What is so important about these lines in Darwin that they warrant such visual exactitude? An explanation comes from the value that Darwin places on Eros and Dione as the (metaphorical) foundational structures for the human mind. "Beauty" and "Taste" are how Darwin identify the higher faculties. In the footnotes Darwin writes: "Sentimental Love…consists in the desire or sensation of beholding, embracing, and saluting a beautiful object./The characteristic of beauty therefore is that it is the

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[89] Darwin, *Temple*, 97.

[90] Ibid., 98-99.

object of love[.][91] What he means is that the love that is bestowed upon an infant must be of a type that wants to touch, to feel, to look around and investigate—to find the beautiful. Other types of love (e.g. a house or music) are not attached to *beauty* because we do not wish to embrace their object (i.e., the walls or the music score). Eros, whom Darwin identifies as the god of Sentimental Love, must necessarily be the first god to reach the infant because a humans' tactile sense of its mother's breast is its first experience of the world outside the womb. (This might also explain why the two are embracing—platonically—in Fuseli's depiction.)

We see here that, in a fascinating, almost proto-psychological turn, Darwin identifies the maternal breast as humanity's first instructor of what tactile beauty (sentimental love) is in the world. He writes:

> All these various kinds of pleasures [warmth, smell, taste, possession, touch] become associated with the form of the mother's breast… And hence at our maturer [sic] years, when any object of vision is presented to us, which by its waving or spiral lines bears any similitude to the form of the female bosom, whether it be found in a landscape with soft gradations of rising and descending surface, or in the forms of some antique vases, or in the other works of the pencil or chisel, we feel a general glow of delight, which seems to influence all our senses; and if the object be not too large, we experience an attraction to embrace it with our arms, and to salute it with our lips, as we did in our early infancy the bosom of our mother.[92]

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[91] Ibid., 97-98.

[92] Darwin, *Temple*, 100-101. Such sentiments (about women, breasts, beauty, and taste) have a much earlier corollary in Darwin's poetic oeuvre. In 1778, Darwin wrote a long poem to his friend and future wife Elizabeth Pole (who was said to be very beautiful) wherein we hear echoes of numerous phrases and ideas that later appear in *The Temple of Nature*. He wrote: "Then, as Simplicity! thy virgin care/Decks her light limbs, and wreaths her shadowy hair;/Calls out the rising group with pencil chaste,/And gives to Beauty all the aid of taste;/Each charm illumined beams celestial powers:/She moves a Goddess, and the World adores!" King-Hele, *Letters*, 160. Darwin seems to be saying that Simplicity is making a sketch of the young woman, and since King-Hele interprets the words "group" and "charm" to mean "breasts" in this context, then the sketch is of her naked breasts, which, aided by "taste," grants him (Simplicity; i.e., Darwin the writer) a clearer insight into the world. Darwin continues and clarifies: it is not "the bloom of youth, nor beauty's blaze" that he desires, but "Ray'd through those eyes the sunshine of the mind." King-Hele, *Letters*, 160. Here, just as in the story of Eros and Diane, breasts, taste, and knowledge are all bound up together. And amazingly, as if Darwin really were

Sentimentality notwithstanding, Darwin's imagery is profound and subtle. His repetition of maternal elements, with the recurring theme of breasts as metaphor of potential, promise, and a certain kind of enlightened life, speaks deeply to the underlying structural mechanism at work in the poem. King-Hele calls these allegorical elements in Darwin a "burden," and it is not uncommon for later commentators to disparage his reliance on such fanciful imaginings as mere window dressing to (what they consider) the larger and more important underlying themes in the book (i.e., the evolution of the natural world).[93] But that must be wrong. The narrative that emerges from Eros and Dione is quite different from mere poetic expediency. For Darwin, Eros and Dione *actually are* how we construct society itself. They are the unifying and civilizing impulses that literally create Darwin's vision of our world: "O'er female hearts with chaste seduction reigns,/And binds SOCIETY in silken chains."[94]

Plate Four: "The Power of Fancy in Dreams"

The final plate, "The Power of Fancy in Dreams" from Canto IV, is a fascinating artistic rendering of a common nightly experience. But unlike the engravings discussed above, the scene seems on first gloss to have little immediate connection with the text surrounding it. The following description and analysis are meant to counter this view, identifying how it represents critical themes in Darwin's final canto.

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foreshadowing his later self, these echoes in the 1778 letter (of the intermingling of beauty and femininity) appear in the context of young children—not this time being born, but of recovering from a very serious illness—as if reborn. (Darwin and Pole married in 1781.)

[93] King-Hele, *Erasmus Darwin*, 121. In his introduction to a facsimile edition of *The Temple of Nature*, Donald H. Reiman notes: "Darwin's partiality toward Venus [love, and Eros's mother] holds interest as it may have influenced both his scientific theories and the imagery of his poetry." Donald H. Reiman, "Introduction," in *The Golden Age; The Temple of Nature or, The Origin of Society* (New York: Garland Publishing, 1978), viii.

[94] Darwin, *Temple*, 100.

Four women fill the frame of "The Power of Fancy in Dreams," each with a different pose and expression, playing a role in a momentarily unfolding drama whose purpose or exact content is never specifically revealed. The element in the center of the engraving is an uplifted left arm, bathed in white light, palm oriented toward the top of the frame as if in supplication or metaphorical request. Its owner is a woman leaning backward onto what looks to be a cushioned bed, her right arm held up bent at the elbow to her right, oriented so that her (clothed) chest and lower abdomen are facing the viewer. The figure's white gown is strapless, exposing her shoulders and a long pale neck. We can only see the right side of her face as she is looking up her left arm, not so much admiring as expecting something from the woman who stands above her. As the figure leans back, a blanket or cloth of some sort has been draped over her head, hiding all but a few front and side curls. Her legs are bent at the knee and we cannot see her feet. Her position seems to be one of movement: where previously she had been comfortably resting she is now startled by the appearance of the figures above her and, recognizing something, reaches out toward them. Interestingly, a cross is affixed to the front of the reclining woman's gown between her breasts.

The figure toward whom the reclining woman opens her palm is tall and majestic, in some way clearly spiritual or miraculous. Her head is arched downward and to the right, with her right arm raised toward the sky, the hand buried in the cloud/curtains above. Of her left arm, only the hand is visible, with index finger extended in a gesture indicating "toward the heavens." She has a very large bundle of hair atop her head, arranged into three knots with curls hanging down the back of her neck. She is wearing a type of dress that cuts across below her bosom and is held up by a strap around the back of her neck, but she is also wearing a light shirt beneath it which covers her breasts and forms sleeves over her shoulders and down her upper arms. Her lower body is in an almost identical pose as the Hierophant—right knee bent

slightly forward, bringing her thigh into a stronger light, though not in a way that identifies an inward curvature. It is unclear on what she is standing—perhaps some sort of step, but she could as easily be floating freely in the air. Her demeanor invokes a staid respect, revealing in her not so much charisma as a sort of penitential benevolence. The way the curtains and clouds are drawn recalls the depiction of Mother Nature, only now the Hierophant has successfully pulled back the curtains to reveal a beautiful and dynamic celestial figure. Still, the resemblance remains: this woman is also older than those around her, sterner looking, perhaps already "enlightened." She feels more like an answerer of questions than a journey-maker.

A third woman peaks out from behind this tall central female, gently playing a harpsichord and looking back over her right shoulder toward the reclining figure. The third woman is dressed similarly to the figure in front of her, even depicted with a set of bobbed hair on her head. She is slightly stooped, leaning downward toward a piano-like instrument at which she is not looking but to which her hands reach out to play. It is unclear what she is standing on as well, and this wonder is reinforced by the realization that she is not simply a dream-like human form: a pair of wings rise up from her back and frame her head with their white feathers.

Peter Tomory identifies the piano-like instrument as a harpsichord, a symbol usually accompanying depictions of Saint Cecilia, the patron saint of the Fine Arts.

> When rapp'd CECILIA breathes her matin vow,
> And lifts to Heaven her fair adoring brow;
> From her sweet lips, and rising bosom part
> Impassion'd notes, that thrill the melting heart;
> Tuned by thy hand the dulcet harp she rings,
> And sounds responsive echo from the strings;
> Bright scenes of bliss in trains suggested move,
> And charm the world with melody and love.[95]

[95] "Here are contrasted the sleeper and the dreamer, a young woman being awakened to the power of celestial love via the imagery of Saint Cecilia and her harpsichord as a symbol of virginity." Tomory, *Life*, 182. Darwin, *Temple*, 155-6.

Prominent aspects of St. Cecilia's story do intersect with key themes in Darwin's poem. The association of music with her life, moral development, and death is a reminder that in Darwin's mind society reaches its highest point only when measured by these finer artistic sensitivities. Canto IV is titled "Of Good and Evil," creating the expectation of some type of post-Edenic clash—which indeed occurs throughout the chapter. In a canto focused heavily on darkness and death pulling forward these lines about a saint who died for the more refined virtues of society is potentially a way of having the reader relate to Darwin's dense poetic material. Creating moral exemplars out of historical figures is an age-old genre; adapting the technique to natural processes and their relationship to human society is an innovation for this context.

Apropos the presence of music in the image, in verses only a few pages before the print Darwin describes a series of auditory sensations, and devotes a footnote to explaining the workings of the ear (i.e. vibrating membranes, etc.). He then writes:

> So when by HANDEL tuned to measured sounds
> The trumpet vibrates, or the drum rebounds;
> Alarm'd we listen with ecstatic wonder
> To mimic battles, or imagined thunder.
> When the soft lute in sweet impassion'd strains
> Of cruel nymphs or broken vows complains;
> As on the breeze the fine vibration floats,
> We drink delighted the melodious notes.
> But when young Beauty on the realms above
> Bends her bright eye, and trills the tones of love;
> Seraphic sounds enchant this nether sphere;
> And listening angels lean from Heaven to hear.[96]

The mention of George Frideric Handel (1685-1759) is interesting, and his later career in England overlapped with Darwin younger years. But more importantly is the way that youth ("young beauty") enters the musical fray, bringing forth romantic whisperings—the "trills of love." We know that Darwin was a major influence on Britain's later Romantic poets and it is

[96] Ibid., 144-145.

no surprise that Beauty returns yet again. But as is explained below, "beauty," music," and the diversity of other lovely accoutrements in Fuseli's print and the accompanying passages play a larger role than simple narrative delight. Through them, Darwin redefines the notion of "Good" and thereby what it means for human society to be successful in the world.[97] These three women and their surroundings all appear to be the dream of the seated and bent figure asleep at the bottom left of the frame. This sleeping (likewise female) figure is dressed in long sleeves and a sort of bonnet, with a ribbon around her neck and a dress of very different style, suggesting a woman more contemporary to the poem's writing. She has her head bent down in front, her arms hanging heavily with one resting in her lap: the position of a person who has recently fallen asleep while reading (the pages of her book lie open at her slippered feet).

An epigraph, taken from lines 201-204 in Canto IV, appears below the engraving: "So holy transports in the cloister's shade/Play round thy toilet, visionary maid!/Charm'd o'er thy bed celestial voiced sing,/And Seraphs hover on enamour'd wing." The words explain why Fuseli designed the scene in a landscape of crossed borders and overlapping genres. In the image we are taken from a private domestic room to a music room to a horizon where clouds meld seamlessly with curtains, creating an opening in the sky for the heavenly rays to shine down upon all. This is not a cloister scene, not a *toillette* scene, not a celestial scene—it is all of them in one. Though one scholar has explained the print as Fuseli's indulgence of sexualized femininity, and certainly we have seen that sexuality and eroticism are not foreign concepts to either Darwin or Fuseli, by placing all the emphasis on Fuseli's print as an independent

[97] See Durling, *Georgic Tradition*, 207-218.

creation, I believe one overlooks the subtler integrations of the image and Canto IV as expressed in the epigraph and surrounding verses.[98]

But what do dreams have to do with Good and Evil? A great deal, if we bring to mind the peculiarities of Darwin's philosophic discourse. To begin, note that Darwin's definitions of Good and Evil are not predicated strictly on moral precepts. Instead, he redefines the words as types of natural processes that invoke happiness (Good) or sadness (Evil), beauty and ugliness. The entirety of Canto IV (except for a few paragraphs at the very end) is a conversation between a Muse and a Nymph on just how the world breaks down between these extremes. Through their dialogue Darwin lays out a vision of the world wherein human society is an intimate part of the entirety of the world's natural processes.

The Muse, speaking first, spends slightly less than half the canto laying out all the evil in the world—the death, darkness, pain, and suffering found in nature. Then it is the Nymph's turn, and through all the wonders and majesties of the natural world she describes are also included the passages about dreams, music, and Saint Cecelia. In redefining the words Good and Evil in this way Darwin is taking them out of their biblical context and reintroducing them as almost pseudo-rationalistic, appropriate for use in conversations about the natural world. He is seizing them in an act of intellectual piracy as brazen as it is fascinating. In fact, "Good" hereupon becomes for Darwin both "natural history" and "enlightenment"—the latter in the form of something tangible: his intellectual peers. Through the voice of the Nymph Darwin gives examples of the men he holds in highest esteem: Newton; Herschel; Archimedes; Savery; and Arkwright. He likewise extols the printing press, and the oak tree, and the snail and worm

[98] Martin Priestman, from his notes to the engraving. See http://www.rc.umd.edu/editions/darwin _temple/frontispiece.html.

and frost and flood. For Darwin, natural wonders and human inventions, organic beauty and cognitive genius, are together the wellsprings of social progress and technological possibility.[99]

So, it seems, the Nymph in Canto IV is the voice of the Enlightenment, of the potentiality for greatness that Darwin and his peers imagined to be intimately embedded in the fabric of Western society. And this is precisely where dreams re-enter the discussion. The vision of society constructed in Darwin's poet narrative is one not just of observation but also of latent possibility. It is the endless creation of human ideas and all the discoveries that entails. Fuseli's image neatly depicts the levels of creative insight and the ways of accessing them: first books; then questions; perhaps then music and poetry; and finally heavenly assistance (the moment of genius). Woven into his engraving are the elements of Darwin's fully developed intellectual society. "The Power of Fancy in Dreams" is the imaginative ideal, the creation of a space for the "Eureka!" moment that Darwin so clearly believed was—from Archimedes to Herschel and beyond—the driving force behind the origin and success of human society. Fuseli's drawing, with Darwin's poetry around it, reveals a moment in natural history still fully steeped in Enlightenment humanism, beginning an awareness of nature's importance *exterior* to human experience, but remaining engaged in the intellectual projects of defining culture and society, and of discovering what kind of worlds were still waiting to be built.

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[99] Isaac Newton (1642 - 1727). "By thee instructed, NEWTON's eye sublime/Mark'd the bright periods of revolving time;/Explored in Nature's scenes the effect and cause,/And, charm'd, unravell'd all her latent laws." Darwin, *Temple*, 148. William Herschel (1738 -1822). "Delighted HERSCHEL with reflected light/Pursues his radiant journey through the night;/Detects new guards, that roll their orbs afar/In lucid ringlets round the Georgian star." Ibid. Archimedes. (c. 287 - c. 212). "Pleased ARCHIMEDES mark'd the figured sand;/Siezed [sic] with mechanic grasp the approaching decks,/And shook the assailants from the inverted wrecks/…'Give where to stand, and I will move the earth.' " Ibid., 149. Thomas Savery (1650 - 1715). "So SAVERY guided his explosive steam/In iron cells to raise the balanced beam;/The Giant-form its ponderous mass uprears,/Descending nods and seems to shake the spheres." Ibid. Richard Arkwright (1732 - 1792). "So ARKWRIGHT taught from Cotton-pods to cull,/And stretched in lines the vegetable wool;/With teeth of steel its fibre-knots unfurl'd,/And with the silver tissue clothed the world." Ibid., 150.

CHAPTER 4

AN ALTERNATIVE ENLIGHTENMENT NATURAL HISTORY

There is an archaeological formation found in the Middle East called a "tel" which represents a place of human settlement that has been built up layer upon layer over many centuries. Though not surprising that one group of humans chose to live on or near a site previously inhabited, what is unique to the tel is the high degree of preservation of each period of settlement—almost as if those who came later simply built upon what was useful from before and pushed the rest (figuratively) under the rug.

In a way more than metaphorical, the natural history of Darwin's *The Temple of Nature* is an epistemic and sociological tel. Unlike late nineteenth and twentieth century natural history, which is exclusionary and particular, continually culling its methodologies and data fields in search of ever more specificity, *The Temple of Nature* builds its intellectual edifice quite unashamedly on what came before. In many ways, Darwin and Fuseli's collaboration makes for interesting study *exactly because* it so transparently reveals the scope and organization of natural historical inquiry as it was carried out during the late Enlightenment. Theirs was a culture deeply informed by religious imagery, mythology, and biblical exegesis, but one likewise struggling against doctrinal orthodoxy and theological pedantry. *The Temple of Nature* is not part of a modern "scientific" culture that comprehends truth through the implementation of exacting homogeneous standards. Instead, it is part of a different conception of Enlightenment,

a site of intellectual activity whose descendants are most often found on shelves of poetry or in commonplace books.

Fortunately for historians, *The Temple of Nature*'s preservation over two centuries allows for a reintroduction and reexamination of this "other" Enlightenment, one whose developments and epistemic expectations at first informed, then were dismissed from, the study of natural history in the West. By "other" Enlightenment I mean to refer to a set of ideas and methodologies that emerged within the distinct cultural and social milieu (i.e., the philosophical musings and technological innovations) of the eighteenth century Enlightenment as traditionally conceived. These "other" concepts include a variety of projects and beliefs deeply representative of (and at the time broadly accepted in) their time and place, but whose memory or underlying rationalizations have been displaced (either forgotten or dismissed) by later philosophical and scientific movements. My use of the term "other" refers not to something beyond the standard era of European Enlightenment but rather to a teeming mass of idea-threads excluded from our memory of that important century.

For the specific instance of *The Temple of Nature*, I am here arguing that that book depicts an alternate potential path for what became modern natural history, a path more readily embracing of an inherited religious past and of the value of poetry and art for empirical research. As an attempt to capture something "other" within the already established epochal moment of the Enlightenment, the case study is akin to an exercise in historical imagination. By looking closely at text and image we can—as in a dream—jump the borders of our logician's heritage, of the rational and the existent as approachable only within ever smaller, more elite circles of esoteric knowledge. By looking at Darwin and Fuseli's project, beautiful and strange as it is in contemporary hands, and by forcing our thoughts toward a re-evaluation of our

remembrance of the Enlightenment and its goals, we suddenly become aware of an intellectual landscape abounding in alternate questions and expectant of multiple, dissonant answers.

Darwin and Fuseli encapsulate the "before" of an historical shift in religion-science relations in the decades after the turn of the nineteenth century, a period in which we see a sudden forwarding of a particular interaction (negative, oppositional) between religion and science that was neither obvious nor dominant at the time of *The Temple of Nature*'s first publication. In my recounting, Darwin and Fuseli stand as near-final exemplars of a strand of natural historical study, one with long roots in Western history that was both subsumed within and excluded from so-called modern science, with Darwin and Fuseli being a strand far-less antagonistic (epistemologically) toward the West's religious heritage. The story of how they saw nature I am here interpreting as among the many heretofore forgotten insights of the Enlightenment, as one of the many ways modern Western science history *could have* unfolded as it re-negotiated the place of religion and natural history within (what felt to be and was interpreted as) a time of rapid social and empirical development.

Here it seems appropriate to note some rather striking changes in the relation of religion and science on the near side of 1800, which may help to explain why Darwin and Fuseli present such a fascinating and important case study for alternate modernities. At risk of being a bit beyond the pale of what counts as academic scholarship, I quote below some lines by Oswald Spengler. For my purposes, the precise accuracy of what he says is unimportant; rather, what is attractive is his *psyche*, his grandeur, his insistence that the world is big enough for two ideas at a time but that humans often are not, and so one replaces the other and we are all the poorer for it.

> Culture and Civilization—the living body of a soul and the mummy of it. For Western existence the distinction lies at about the year 1800—on the one side of that frontier life in fullness and sureness of itself, formed by growth from within, in one great uninterrupted evolution from Gothic childhood to Goethe and Napoleon, and on the

> other the autumnal, artificial, rootless life of our great cities, under forms fashioned by the intellect. Culture and Civilization—the organism born of Mother Earth, and the mechanism proceeding from hardened fabric. Culture-man lives inward, Civilization-man outwards in space and amongst bodies and "facts". That which the one feels as Destiny the other understands as linkages of causes and effects, and thenceforward he is a materialist—in the sense of the word valid for, and only valid for, Civilization—whether he wills it or no…[100]

For all that many have said against this rhetorical melodrama, Darwin and Fuseli fall into Spengler's dichotomy quite comfortably. On this point, what is fascinating is how rapidly after 1803 Darwin and Fuseli's methodology became unacceptable in natural history, labeled as quaint, anachronistic, boring. A new generation arose, intimately reliant on these Enlightenment books and ideas for their educations. But those young men and women also ultimately went on to forge a truly distinct scholarly paradigm—a *science* interested in different questions and addressed to different needs than Darwin's stately poems or Fuseli's classical prints. The natural history of Victorian England, with its centers in museums and universities, retained a great deal of the reverence for nature found in Darwin and Fuseli, but almost nothing of their methodology. Measurement and categorization were the focus. Scientific language became precise, shod of adjective and exhortation. Though dragged into the nineteenth and twentieth centuries by a famous heir, Darwin and Fuseli are adamantly eighteenth century gentlemen, reflected nowhere in the shiny laboratories of modern research universities.

Still, Spengler teaches more than the usefulness of certain moments to act as rhetorical bell-weathers. More profoundly, we sense in Spengler a loss, the feeling of something breaking, of an unrequited possibility that needn't have been but was because "Civilization-man," as he calls him (and whom we call "modern" or "scientific"), somehow couldn't keep, or didn't wish to keep, all the balls in the air and so let fall away those related to "frontier fullness," what I'll more contemporarily designate as "a sense of nature's *beingness*." The loss is that from Medieval

[100] Oswald Spengler, *The Decline of the West*, trans. Charles Francis Atkinson (New York: Alfred A. Knopf, 1926), 353.

times to Goethe there is a pairing between man and nature, an intrinsic, fundamental, *structural* connection between the workings of human society and its environment, one that somehow "modern" civilization fails to embody or disregards as inessential to its notion of human life.

If such a feeling of loss as this can be rightfully attributed to Spengler, it is thereby pertinent to my discussion above of Darwin's title and the entire corpus of Darwin's poem and its relationship to history and nature. What is so interesting about Darwin and Fuseli is that together they managed to create a book that reaches out from the side of "culture" to touch that of "civilization;" not any sort overt program of study, of course, but enough of a trail for the interested historian to see an outline in the dark mists of an alternate pathway toward the scientific future. Darwin's titles and footnotes; Fuseli's embodiment of contemporary "men of science" in the first print; the poem's situating human society as developing out of nature but perhaps, ultimately, being something new—these are just a few of the examples discussed above that look something like a bridge between Spengler's worlds of "Culture and Civilization." Even Spengler's use of the phrase "organism born of Mother Earth" captures the essence of Darwin's Mother Nature; she is surrounded by natural philosophers, signifying the creator and wisdom-giver not to nature but to human society.

That *The Temple of Nature* has no meaningful "scientific" heir causes no alarm today, yet such an outcome could not have been predicted at the height of Darwin or Fuseli's fame. Pamela Young Lee, writing on the institutional separation of art museums and natural history museums in turn-of-the-nineteenth century France, touches on this loss of unity between nature, human society, and the fine arts, doing so in a way that provokingly questions the assumed scholarly model. She writes, "By now, this [nature/human culture] separation is a familiar story. Yet the full import of this systematic separation of 'rare works of nature' from 'masterpieces of the Arts,' a move that fractured an ideal and abstract historical whole into

practical and ahistorical working parts, has largely escaped scrutiny for its own sake. This is partly because today, as museums continue to become more and more specialized in their collections, it seems such a self-explanatory trend."[101] This movement toward the specialized, she writes, "signaled a deeper epistemological shift concerning man's relationship to nature and the natural order."[102] And finally, she notes how academically "it has become difficult to situate museums of science and museums of art within the same historical frame. Indeed, they have generated entirely separate literatures that largely ignore one another."[103]

What remains mostly implicit in Lee's discussion is that such a separation, even at the time it was being made, makes almost no practical or epistemological sense if one's goal is an interpretation of the human experience. In other words, to separate art and natural history is to sever the city from its geography, to pretend, as one example, that battles won and lost were purely flesh-against-flesh affairs, not contingent on land, air, and water. Or, we can ask, does it not seem more appropriate to have landscape paintings housed in museums of natural history, surrounded by dioramas and artifacts from the very ground upon which they were conceived and of which they depict? To think that it does not, Lee and Spengler and Dupré all seem to say, is to be fooled by a singular interpretation of Enlightenment that is neither particularly universal nor (upon further inquiry and with historical hindsight) all that particularly compelling.

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[101] Pamela Young Lee, "The Museum of Alexandria and the Formation of the Muséum in Eighteenth-Century France," *The Art Bulletin*, vol. 79, no. 3 (Sep., 1997): 403.

[102] Ibid.

[103] Ibid., 404. Even as late at the turn of the twentieth century, the Smithsonian Institution housed art and natural history. And what is today the National Museum of Natural History in Washington DC was original called, simply, the National Museum, and house the national art collection until another building was built. See Ellis L. Yochelson, *The National Museum of Natural History: 75 Years in the Natural History Building* (Washington: Smithsonian, 1991).

I do not know if Lee ever read Spengler; I would guess not, since his academic profile had fallen rather low by the late 1990s when her article was written. But what she captures is the divergence of *expectation*, of what nature and art were supposed to do for a society, and for what purpose they would be kept together or separated. It is this same separation that sheers off religion as well, placing it into one category as something to be preserved in specially dedicated museums, libraries, and laws. If I were to posit an answer to Lee's (probably mock-) perplexity at why this separation has received so little scholarly scrutiny, I would point again toward Kuhn and the fables that modern society (especially its scientific quarters) constructs to advance its claims and goals. We need not tinge this pointed finger with scolding or assume any malevolence or subterfuge on the part of "modernity" to see the overwhelming dominance of such fables as wholly problematical. Really, like Dupré, it might leave us only somewhat disappointed, seeing that upon deeper inquiry history (and most assuredly the Enlightenment) provides many more threads of fascinating and useful discourse than our contemporary society even knows how to be interested in.

Natural history, poetry, art, politics, religion, mythology, historicism, philosophy, theology, bible—we moderns are like the Wicked Son at the Passover table, asking: what does all this mean to you? *To you*, we say, and not *to us*, thereby separating ourselves from a world wherein these categories all run hopelessly together. In *The Temple of Nature* we see a nature beginning to emerge with a history and substance separate from that of humanity, but one that nonetheless ultimately remains defined by human references. The origin of society really is Darwin's greatest concern. By personifying nature and its myriad attributes, by treating the acquisition of knowledge (enlightenment) like an ancient pagan ritual, Darwin clings to an anthropocentric notion of history and of empirical "research"—one not so dissimilar from that of the Genesis story he so roundly rejects. When we look at *The Temple of Nature* in context

forward *to* 1803 and not backwards *from* 1859 (the year of the publication of *The Origin of Species*) what we notice is how blurred the lines remain between "rational/empirical natural history" and "theological assumption." Neither Darwin nor Fuseli demonstrates any qualm in mixing biblical, classical, and anthropological sources. The language of the maturing individual human weaves seamlessly with that of nature's own historical development.

As if Darwin's words were not evidence enough, Fuseli's engravings halt any notion of nature's sovereignty beyond the realm of humanity. In his choices of passages to portray and then his careful selection of detail, Fuseli engages with a world where natural history functions very much as a branch of the human philosophies. There is actually little engagement by Fuseli with the natural elements in Darwin's poem, which Darwin surely would have known would be the case when he enlisted Fuseli as artist. In Fuseli's drawings, one comes to know nature through the emotions and ideas of humanity, not as something to be studied in their own right. And importantly, Darwin was not looking for someone to paint broad landscapes, primordial swamps, and intricate scenes of animal life. Those types of engravings only began to appear commonly in books of natural history in the second and third decades of the nineteenth century. Instead, *The Temple of Nature* and its prints are very distinctly products of Enlightenment natural history, interested in reorienting the geological timescale and in moving away from a strict reliance on Genesis for causal explanations of historical change. But they are not "naturalistically" exclusionary, meaning they do not exist in a world where the tropes and imagery of natural history can be (or should be) disengaged from the broader (Western) intellectual and cultural experience.

That broad experience is overwhelmingly religious, both theologically (exegetically) and culturally; words, symbols, pictures, stories, all are infused with the millennia-old interaction of European cultures and the interpreted heavenly realm. Whether it is the historical imaginary of

Adam and Eve or the mythology of Greece, the interaction of society, nature, and the heavens prove central to the epistemological axis upon which *The Temple of Nature* must (and can only rightly) be understood. *The Temple of Nature* is ethnographically advanced for its moment, assuming an audience interested in the up-to-date *facts* of nature as much as in an interpretation for their overall meaning in history. That such a book can both convey facts and embed them with a nuanced and imaginative retelling of classic Western stories, and that it can further do it as an *outcome* of Enlightenment and not as reaction against it, suggests an interaction between science and religion worthy of our attentions. The great scientific task of our age need not always be found in the minutia of tightly regulated empirical spaces; often as not, such facts explain less about the world than a drawing of two bird-winged gods in love.

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