God’s Scientists:  
The Renovation of Natural Theology in England, 1653-1692

by

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Abstract

“God’s Scientists” contributes to the current understanding of natural theology’s relationship to the so-called scientific revolution. Natural theologies, texts aiming to demonstrate the reasonableness of Christianity, increased rapidly in popularity in England between 1650 and 1700, a curious phenomenon that has often been linked with a wider intellectual shift. In the medieval period, truth was thought to be best acquired by the application of deductive logic to a set of received dicta. During the Renaissance, the objects and phenomena of the natural world came to hold final epistemological authority, and fieldwork and laboratory experimentation replaced the deductive argumentation of earlier generations. Meanwhile, pious Christians adjusted to the new epistemological framework by introducing “physico-theology,” a new kind of natural theology that stipulated that a Designer’s existence could be proven from the great complexity in nature and the cosmos, complexity that neither necessity nor chance could have generated.

Considering five natural theologians writing during the late seventeenth century: Henry More, Richard Baxter, John Wilkins, John Ray and Richard Bentley, the present study challenges intellectual historians’ implicit correlation of the New Science with attempts to “prove” Christianity conclusively. Some of these physico-theologies are indeed rationalistic, subjecting religious doctrines to intellectual scrutiny; others are not. Notably, there is no correlation between a natural theologian’s reliance on reason and his interest in the New Science. In fact, the earliest and most “scholastic” of these natural theologians, Henry More, places the highest value on human reason, while the most “empirical,” John Ray, applies the epistemological humility of the new scientist to the Book of Scripture as well as the Book of Nature. To varying degrees, other physico-theologians evince similar humility.

This study makes two contributions to our understanding of the textual culture of Early Modern England: first, it provides a valuable resource for those studying these natural theologians in other contexts—More the philosopher, Baxter the Puritan, Wilkins the latitudinarian, Ray the natural historian, Bentley the classicist. Second, it brings to the center of the discussion of Early Modern natural theology what I argue was central for the natural theologians themselves: theology.
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for my parents
Introduction

I appeare now in the plaine shape of a meere Naturalist, that I might vanquish Atheisme . . .
For hee that will lend his hand to help another fallen into a ditch, must himself though not fall, yet stoop and incline his body . . . So hee that would gaine upon the more weake and sunk minds of sensuall mortalls, is to accommodate himself to their capacity.  
Henry More, An Antidote against Atheism, 1653

Thus far the Doctor, with whom for the main I do consent. I shall only add, that Natural Philosophers, when they endeavor to give an account of any of the Works of Nature by preconceived Principles of their own, are for the most part grossly mistaken and confuted by Experience.  
John Ray, The Wisdom of God, 1691

At stake in both of these statements is the epistemological authority of nature and the legitimacy of empirical science. Henry More concedes that nature may be useful in educating those who shy away from the better means of Reason; John Ray voices suspicion of anyone whose reason does not start by listening to nature. This difference is evidence of a much-documented shift known as the Scientific Revolution, the displacement of an old, text-based system of learning by the New Science of experimentation. It seems obvious that such a revolution would have exerted a profound influence on the way people saw the interaction between reason and Christian belief: when the very definition of “science” changes to exclude the study of metaphysical things, the question of whether science has anything to say
about Christian doctrine ought to have a different answer. It is the central proposition of the present study that the question does not, in fact, have a different answer. To be sure, the face of natural theology underwent a dramatic reconstruction in England during the latter half of the seventeenth century; but its heart, the enterprise of bringing human reason together with religious faith, remained as it ever was. This is because the “scientific revolution” was just that: a revolution in the kind of human learning, scientia, that held sway. It meant that a different means of human investigation, empiricism, began to vie with religious faith for the role of reigning epistemological authority. But because such faith has always been construed by its adherents as outside the province of scientia, the natural theology of the new scientist shows no more (or less) tension between faith and learning than that of the old.

What is Natural Theology?

No two people give exactly the same answer. A widely accepted definition of natural theology is William P. Alston’s: “the enterprise of providing support for religious beliefs by starting from premises that neither are nor presuppose religious belief” (289). Starting with this definition, Alister McGrath traces naturally theology’s lineage from Anselm through Aquinas to Robert Boyle in the seventeenth century and John Polkinghorne in the twentieth.\(^1\) Citing the same definition in order to challenge this widely accepted genealogy, Peter Harrison argues that no pre-enlightenment philosopher practiced natural theology, that even Aquinas at his most rational was not free from “religious belief” in the way empiricists would be (“Reading” 1-5). Harrison’s argument usefully brings the Scientific Revolution into

\(^{1}\) McGrath points out the difficulty of defining the “notion” of natural theology, setting out Alston’s definition as a an “excellent starting point” for discussion (Scientific Theology 241). See also McGrath, Christian Theology 159-72.
our understanding of natural theology: even if he is wrong and enlightenment natural theologies are part of a preexisting tradition, that tradition certainly underwent a renovation during the seventeenth century in England. The natural theologies considered in the present study begin to reason empirically upwards from observation of the natural world, which is read not as a collection of direct signatures of a creator, but as an ordered whole whose design points to a designer.² It was during this period that the “best of all possible worlds” variety of natural theology was born, the methodical consideration of how well or badly off humans would be if the natural world were otherwise, always leading to the conclusion that things are better or best as they are. Harrison explains how such argumentation is possible only if an intellectual community has been divested of theism to make room for empirical epistemology. (The converse does not necessarily hold, as Taylor will point out: older kinds of natural theology can still exist in a community where atheism is possible.)

Harrison therefore focuses on where natural theology begins, on its “raw materials,” as it were: if theistic presuppositions exist at the outset, he argues, the undertaking is not natural theology, but something else. Curiously, natural theologians themselves are less concerned with where natural theology begins than with how it proceeds and—yet more important—where it ends. John Ray and John Polkinghorne, natural theologians of an empirical persuasion living three hundred years apart, unapologetically challenge nature’s claim to epistemological authority. Ray begins and ends his consideration of the wisdom of God with extensive quotation of the Psalms as justification for his undertaking, asking his audience in his preface to consider his text an extension of the Psalmist’s project of praising

² Harrison makes this argument in far greater detail in The Bible, Protestantism, and the Rise of Natural Science, in which he extends and qualifies the assertion that empiricism finds its roots in Protestantism.
God by consideration of His works. Polkinghorne, asking in the twenty-first century the question “Where is natural theology today?” answers that it is “alive and well, having learned from past experience to lay claim to insight rather than to coercive logical necessity” (169).

The bad past experience to which Polkinghorne alludes includes the work of eighteenth-century latitudinarians such as John Tillotson, Samuel Clarke and William Derham and culminates in William Paley, all of whom claim to have proven the truth of Christianity conclusively. The roots of this line of thought can be found in some seventeenth-century natural theologies, such as Henry More’s and Ralph Cudworth’s. Other seventeenth-century natural theologians, however, gave reason less latitude. There is in this respect a family resemblance between Richard Baxter and John Ray, who stood on opposite sides of the scientific divide, because they too avoided what Polkinghorne calls a “claim to coercive logical necessity.”

Given the profound differences in the theology underpinning various “natural theologies,” it is understandable that, while Polkinghorne believes natural theology is alive and well today, others assert that it is dead. One of the main aims of the present study is to counter the claim that this new wave of natural theology was destined for destruction, relying from the start on epistemological and theological assumptions that posterity would discover to be false. This requires clearer terminology so that we can see what it was that “died” and what has remained of natural theology (if anything), because the coercive, proof-giving

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3 Exactly when natural theology died is a subject of disagreement among those who think it is now dead: Leslie Stephen argued in 1876 that Hume effectively ended the movement, while Peter Harrison says that it enjoyed its “last hurrah” in the Bridgewater Treatises of 1833-40 (171), and Keith Thompson identifies Darwinism as dealing the final blow (279). Others take a different view: both Polkinghorne and Alister McGrath believe that natural theology is not only alive, but enjoying a “third period of intense activity,” the first two of which were exemplified in Anselm and Paley. (Polkinghorne 170-71; See also McGrath, “Towards” *passim.*
variety Polkinghorne mentions did indeed disappear before the twentieth century. One reason for its death is the death of certainty itself as science began to favor probability. Another reason is the tendency of a number of Renaissance natural theologies to rely on evidence of spirits and apparitions, wondrous phenomena that ensuing centuries would either render less wondrous or less believable.

Despite these weakening factors, however, many persist in claiming that natural theology survived the Enlightenment (and others claim it had been practiced long before the Scientific Revolution). They claim, moreover, to be practicing it today, a problem that highlights the need for careful definition of “natural theology” before the present study can proceed. My solution is to return to older terminology. Rather than using Alston’s definition, which implies a forceful apologetic if not a claim to absolute certainty, I adopt Francis Bacon’s 1605 definition of “natural theology,” laid out below. The proof-giving kind of natural theology I will call “rational theology,” the name John Tulloch and others have ascribed to Henry More’s project. Finally, I will use “physico-theology” to describe the newer kind of natural theology that appeals primarily to empirical evidence rather than scholastic deduction, which might or might not purport to compel acceptance:

**natural theology** (as defined by Bacon): the enterprise of applying human reason

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4 See Shapiro, *Probability and Certainty*. While modern scientist-theologians therefore shy away from claiming absolute certainty for their theological positions, they still follow the seventeenth century natural theologian John Wilkins in claiming “indubitable certainty,” which is the only certainty one can claim outside of mathematical propositions. The most notable example is Richard Dawkins, who makes this claim for his natural atheology, with his opposition making similar claims for, for example, intelligent design.

5 Scott Mandelbrote divides late seventeenth-century natural theologies into those emphasizing God’s power and wisdom as evinced in order and design, and those emphasizing the wondrousness of nature. The second group, Mandelbrote argues, proved short-lived. While my taxonomy of natural theologies differs from Mandelbrote’s, this study gains much from his incisive and careful work on these texts.
rational theology: a subcategory of natural theology: the enterprise of arguing for the veracity of Christian doctrine by starting from premises outside of Scripture.

physico-theology: natural theology that proceeds empirically by observing order and beauty in nature.

So defined, natural theology is broad enough to encompass both empirical and deductive arguments, as well as texts that are more and less ambitious about providing proof for Christianity. These boundaries are blurred: just as empirical reasoning will appear alongside a more deductive approach within one work, an author might give varying degrees of authority to revelation within a single work (John Wilkins’s posthumously published *Principles and Duties* is a good example). It is thus impossible to theorize a great divide separating the proof-giving from the epistemologically humble natural theology, but one can easily theorize a spectrum along which these works fall as they assign greater authority to revelation or to reason. The following section outlines my contention that there is little or no historical correlation between this spectrum and the deductive/empirical spectrum, despite the fact that this correlation is an implicit or explicit feature of a number of twentieth- and twenty-first-century intellectual histories.

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6 “And as concerning DIVINE PHILOSOPHIE. Or NATVRALL THEOLOGIE, It is that knowledge or Rudiment of knowledge concerning GOD, which may be obtained by the contemplation of his Creatures which knowledge may bee truely tearmed Diuine, in respect of the obiect; and Naturall in respect of the Light” (22).

7 Here I rely on Gillespie: “Following traditional and more or less consistent practice, I shall use the term ‘physico-theology’ for that branch of natural theology which emphasizes adaptative design in nature directed toward the accomplishment of purposeful ends” (4). My taxonomy is different from Gillespie’s, however, in that his focus is whether or not an argument supposes an end besides the gratification of the Creator, while I focus on how much authority an argument claims for itself.

8 John Hedley Brooke discusses the relative newness of rational proof as natural theology in “Natural Theology” 163-64.
A Scientific Revolution

The present study considers closely five texts that have been labeled natural theologies, either by their own authors or by posterity. The earliest was written in 1653; the latest, in 1692. Each chapter keeps an eye on the author’s devotion to empiricism; but, more importantly, each asks whether the text in question is a rational theology, focusing on the period in England when people ostensibly began to need to “prove” religious doctrines such as God’s existence and attributes. In so doing I hope to augment and qualify the intellectual history that tells of a birth of strife between science and religion in the West. This story has been told in various forms by people as widely varied as William Draper, Thomas Kuhn, Michel Foucault, C.S. Lewis, and Charles Taylor. All of these authors describe a shift, not only in the way humans gain knowledge, but in the way humans think they can gain knowledge—an overthrowing of one epistemological authority by another. In such a view, the old order saw a subjection of empirical investigation to religious belief, so there was no reason for the two to struggle against each other. For Taylor, the fall of this old epistemology has its roots in the thirteenth century; all four, however, see a large-scale shift occurring over the fifteenth through eighteenth centuries with the rise of Renaissance humanism and then empirical science. Over these centuries, theistic beliefs lost their ubiquity, and people who retained such beliefs—such as English Christians—struggled to hold those beliefs in an epistemological context that no longer made them necessary.

Forced to engage in this struggle, Christians have typically resorted to one of three uncomfortable positions. They could attempt to show harmony between the Bible and the book of nature at a literal level, a tendency that will be evident in the natural theologies of John Ray and Richard Bentley. If this should fail, devout scientists might humbly declare that
their experimental methods are not yet advanced enough to reveal that harmony. Carried on long enough, this line of thought could lead to the second uncomfortable position, the breaking of fellowship with science entirely. It is the possibility for such a break that enabled the nineteenth-century scholar William Draper to construct his model of irresolvable conflict between science and religion, a model that still haunts popular imagination despite the thorough and often scathing critique it has received from a number of camps. (It is perhaps worth pointing out that such willful rejection of science by Christians is not necessarily the ostrich-like posture it is often caricatured to be; it is, rather, an acknowledgement of human fallibility and divine sovereignty, an acknowledgement that will naturally look ridiculous to those who deny both of these.) The third option—and this is what Lewis and Taylor have done—is to become an evangelist for the older epistemology, pointing out the relatively short history of the science/religion battle and calling for a return to an older understanding of the world. Significantly, those assuming this position take a very dim view of what they call “humanism,” which in their view bears much of the blame for placing such a burden on truth-seeking Christians.

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9 A number of recent efforts again to divest Draper’s myth of its power can be found in a collection of essays, edited by Ronald Numbers, entitled Galileo Goes to Jail.

10 Further study would be needed to determine whether Taylor and Lewis are attacking the same “humanism,” but the two make similar charges against it. Taylor explains, “I would like to claim that the coming of modern secularity in my sense has been coterminous with the rise of a society in which for the first time in history a purely self-sufficient humanism came to be a widely available option. I mean by this a humanism accepting no final goals beyond human flourishing, nor any allegiance to anything else beyond this flourishing. Of no previous society was this true” (18). Later and for the rest of his argument, Taylor refers to this as “exclusive humanism” (19). Lewis, for his part, speaks of the “immense harm” the humanists did, “their narrowness, their boasting, and their ferocity—for it is a strange delusion that represents them as gentle, amiable, and (in that sense) ‘humane’” in his volume of the Oxford History of English Literature (31). Narrowness thus emerges as a charge common to both Taylor and Lewis. As Stephen Jay Gould points out, however, the differences between Renaissance humanism and the New Science are as profound as the similarities (36-43).
In the broader scholarly world, the sweeping intellectual history of Kuhn, Lewis, and Foucault has been roundly questioned, critiqued, and qualified. But the general argument for a shift, which gives easy entrance to the myth of progress and to Draper’s “conflict thesis,” is compelling and far-reaching, and one area that remains burdened with its implications is natural theology. In particular chapters of the present study—those on More and Ray especially—I shall consider the ways twentieth-and twenty-first-century readers judge natural theologians by how “scientific” they are, extolling them for ways in which their methods and assumptions accord with those of modern science and deprecating or explaining away their faith as credulity. More generally, those who treat Early Modern natural theology as a phenomenon—people like McGrath and Harrison—accuse those natural theologians themselves of being riddled with anxiety that the New Science posed a new threat to religion, anxiety we now know was unwarranted. Alston’s definition is itself evidence of this view: when all “natural theology” is defined as “rational theology,” the entire movement looks like a retaliation against a perceived threat to faith. Granted, some members of this group (such as Ralph Cudworth, Henry More and Richard Bentley) were at least partly motivated by such concerns. But other natural theologians were less polemical than enterprising: they saw an opportunity and capitalized. And sometimes, as in the case of John Ray, they simply saw something wonderful and worshipped.

Another reason that we remain burdened with the idea of an epistemic shift is that a wealth of evidence remains that human knowledge-seeking did somehow change between the “medieval” and “modern” times, as Taylor asserts in his 2007 *A Secular Age*. The present study of natural theology likewise largely supports old-fashioned accounts of a birth of experimental science, though perhaps without the exuberance or anxiety of some of those
accounts. The crudest version of this view runs: the old scholastics relied on deductive reasoning after the great philosophers and fathers. The newer generation, by contrast, subjected text-based, deductive reasoning to inductive: if experimental results defy logic’s predicted outcome, it is the deduction, often Aristotle’s deduction, that must give way.

Natural theologies written during the latter half of the seventeenth century in England reflect this shift: this is why physico-theology was born. Moreover, as Harrison points out, reformed principles led to the collapse of the three- and four-fold biblical hermeneutics in favor of readings that aim to find one “true” meaning of the text, and pious readers soon found themselves treating the Bible as a science textbook. This raised demand for a kind of natural theology that could not have existed within the old framework (The Bible 121-60, “Reading” 1-5).

In these works pre-modern categories are sketched with considerable thoughtfulness, at least well enough to provide a point of contrast against which modern assumptions and biases can be seen. These works focus on the interrelation between “science” (by which post-Enlightenment people mean experimental science) and “religion” (sometimes Christianity, sometimes theistic religions generally). Both fields have shifted enough since the middle ages that moderns discussing pre-modern thought must begin with explanations and definitions in order to ward off anachronism. But in texts written during the time of change, when it was uncertain what “science” was, and as the territory held by “religion” shrank with every passing decade, categories appear so hazy to modern readers that some intellectual historians choose to focus on the haze. ¹¹ This approach is laudably honest, and it helps to

¹¹ See for example Robert Crocker’s introduction to Religion, Reason and Nature in Early Modern Europe. Crocker opens, “While today many still view ‘science’ and ‘religion’ as relatively unproblematic and fundamentally opposed categories, this was by no means so clear in the seventeenth century” (xi).
debunk a number of longstanding myths about a straightforward overthrow of credulity by science. In the wake of many such studies, however, I attempt to make use of the epistemological murk in a different way: I ask whether any categories continue to stand out against the murkiness. With some adjustment to their definitions, both “science” and “religion” can be seen as enduring categories whose interaction is of perennial interest. In taking this stance I rely largely on Taylor’s demonstration that many tensions said to have been produced by the “Scientific Revolution” began significantly earlier, but I eventually depart from Taylor, who finally argues that tension between science and religion is an accident of history.

Science is the easier category to redefine, because the broader category of scientia is already well understood. Scientia comprises those fields within the purview of human reason: to acquire scientia, no special revelation is required. Old scholasticism and new empiricism both fall within its province, so that the redefinition of “science” as scientia involves a zooming-out if one is to consider its relationship to religion: the revolution described by Kuhn, Lewis, and Foucault involves only the deposition of one sub-category of scientia by another. Naturally, it is the reigning sub-category whose relationship to religious faith will be the most fraught: it is thus unsurprising that one finds little or no tension between empirical science and religious faith during the centuries when scholasticism held sway. Before trying to usher back in the older age of harmony between religion and science, however, one ought perhaps to ask whether an equally uncomfortable tension between religious faith and the deductive reason was negotiated by the scholastics.

The answer to this question naturally depends on how one defines the second term, “religious faith.” It is possible to define religion broadly enough that one can argue for an
older age of harmony between even scientia and religion, and this is what Charles Taylor does. To put his argument crudely, Taylor shows how religious belief and scientia are synonymous if one looks back far enough in history. He describes a gradual dissociation that began around 1215 and culminated in the Enlightenment that is best called “disenchantment,” a slow shift in how people perceived both nature and themselves. A thousand years ago, he points out, the self was “porous,” the world was animated, and what is now called religious belief was an assumption so deep that no one thought to question it. The modern situation, in which belief in God is not a requisite condition of being human, came about as a result of the slow emptying of the world of these animating forces; or, rather, the investing of human reason with all of the meaning, the “fullness,” that humans once found outside themselves. Heavily implicated in this “disenchantment” are nominalist theologians and church reformers. In an effort to emphasize God’s sovereignty, the nominalists divested “good” and “evil” of any reality they might have apart from God’s willing them to be so. This metaphysical neutralization of the cosmos, and relocation of all

12 Taylor concedes that certain groups, such as the Epicureans, held the “modern” view long before the secular age, but he pleads that “one swallow doesn’t make a summer,” intending to talk about “an age when self-sufficing humanism becomes a widely available option” (19).

13 Taylor argues against the story of our intellectual history as one of “subtraction” or disillusionment: such accounts, he says, give us the mistaken impression that “it was a struggle and achievement to get where we are” (28) and ignore the historical construction of “alternative possible reference-points for fullness,” which in fact “weren’t yet there” when people still saw the cosmos as animated (27).

14 In asserting a connection between nominalism and the rise of a Baconian “instrumental reason” that characterized the Scientific Revolution, Taylor follows Francis Oakley, who argued in 1961 that the late thirteenth century saw “the beginning of that fruitful stream of voluntarist natural law thinking, which, although it made its way with profound effect into the ethical, political and scientific thought of the modern world, has attracted less than its due share from historians of these subjects” (438). She then proceeds to proffer a rough sketch of how theologians such as Duns Scotus and William of Ockham came “to regard the order of this world as deriving, not from the realization of divine ideas, but rather from the peremptory mandate of an autonomous divine will” (439), which would later mean that “when Descartes spoke of God’s having imposed laws upon nature, all he
meaning to a self-determining godhead, widened the gap between religion and everyday life, and this divestment in turn opened up a space for intelligent people to hold a secular materialist worldview. The worldview was not apprehended overnight, but the space was there, and eventually theistic religions felt the consequences: because it was no longer inconceivable that God should not exist, people began to conceive that very thing.

In taking a dim view of modern epistemological assumptions, Taylor thus aligns with Lewis and Harrison, who seek a degree of reversion to older ways of thinking in order to resolve some of the troubles facing the natural theologian, or perhaps even to render natural theology unnecessary. Such a strategy is useful: every past age has epistemological blind-spots, and logic dictates that the present age would do well to recognize its own by considering other possible epistemological frameworks. But Lewis, Harrison, and Taylor do the natural theologian a disservice if they accuse these faithful scientists of engaging in an unnecessary struggle. Taylor implicitly highlights one of the problems with this dismissive view in noting that the roots of the science/religion struggle reach a great deal further back than the Reformation. Indeed, if one defines “religion” more narrowly than “an unquestioned conviction that the world is enchanted,” one finds tension between scientia and religion long before the birth of modern science.

Here I depart from Taylor and confine “religion” to “Christianity,” or at least to those

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15 Lewis was aware that his bias arose in part from this general conviction rather than from any particular grievance against his age, and as a Christian he cites Richard Baxter, one of the natural theologians considered here, in defense of that conviction: “The only safety is to have a standard of plain, central Christianity (“mere Christianity” as Baxter called it) which puts the controversies of the moment in proper perspective. Such a standard can be acquired only from the old books (Introduction).
belief systems whose proponents believed those systems to embody Christianity, however ideologically diverse they may be. My reasons for excluding more general conceptions of “religion” or “spirituality” or “enchantment” are pragmatic. First, there is no need for me to repeat Taylor’s inquiries. Second, “religion” or “spirituality” so defined does not merely include a number of Christian heresies and pagan belief systems in addition to “true” Christianity. According to a robust strain of Christian thought set down by St. Paul, carried on by Augustine among other Fathers, and retained by many of the natural theologians forced to reckon with the new epistemology, Christianity excludes such “religion” or “spirituality” altogether. This is a heavy theological point, and the present study is not theological, so I appeal in the next section to the authority of others to lay down a bare sketch of this teaching and its persistence in Christian theology, presenting this exclusive Christianity as at least a worthy rival to the broader Christianity of Taylor (and, in the century in question, of the English latitudinarians).

At the same time I intend to sketch an account of the persistence of rationalized Christianities, from the second century down to the seventeenth, in an effort to defuse the false sense that intellectual scrutiny of Christian doctrine is a novelty of the seventeenth century. Seventeenth-century natural theologians were part of a long tradition of pious scholars who wished to preserve what they saw as orthodox Christianity, not only against paganism without, but against over-valuation of human reason within.

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16 My reason for excluding non-Christian revealed religions is likewise pragmatic, but different: it would take time and space not allowed here to trace the relationship between faith and reason in, for example, Judaism or Islam. In many ways the relationship between faith and reason in these worldviews is similar to that in Christianity (see Louis Jacobs 377-78 regarding Judaism, Winter 13-14 regarding Islam).
A Brief History of Natural Theology

The Judaism from which Paul was converted to Christianity already held human wisdom in tension with, and subservience to, the divine word, and Paul looks back to Isaiah even as he proclaims the now-complete expression of that word in Christ:

For the word of the cross is folly to those who are perishing, but to us who are being saved it is the power of God. For it is written, “I will destroy the wisdom (Vulg. sapientia) of the wise, and the discernment (Vulg. prudentia) of the discerning I will thwart.” Where is the one who is wise? Where is the scribe? Where is the debater of this age? Has not God made foolish the wisdom of the world? For since, in the wisdom of God, the world did not know God through wisdom, it pleased God through the folly of what we preach to save those who believe. For Jews demand signs and Greeks seek wisdom, but we preach Christ crucified, a stumbling block to Jews and folly to Gentiles, but to those who are called, both Jews and Greeks, Christ the power of God and the wisdom of God. (I Cor. 1:18-24 ESV)

This passage is rife with the language of natural theology: Paul’s topic is human learning, and he mentions the particular divine attributes that natural theology discloses, power and wisdom (Rom. 1:20). He distinguishes two ways humans may seek metaphysical truth: the Jews demand a miraculous sign, and the Greeks demand wisdom. Paul claims that neither allegations of miracles nor philosophical deduction, stock features of natural theology, will produce sufficient access to the power and wisdom of God, which are available only in

\[17\] This distinction is foundational to the Hebrew Tanakh, which distinguishes God’s word given directly in the law (Torah) and through the prophets (Nebi’im) from the wisdom books (Kethubim). In this tradition human wisdom begins and ends with the fear of God, but it is taxonomically distinguished from revelation nonetheless. Outside of the Tanakh altogether are the midrashic interpretations, in which Harry Austryn Wolfson locates the source of “the method by which the [Christian] Fathers sought to discover in Scripture hidden philosophic meanings”; these reasonings are paralleled in (but not identical to) the Hellenistic Judaism of Philo (Wolfson 24-38).
Christ. In other words, Paul defines Christianity intentionally to exclude religious worldviews that may be arrived at by human wisdom alone.\textsuperscript{18}

In light of this definition, it seems paradoxical that Paul’s allusions to Greek philosophy would come to be cited in defense of the use of human reason by Christians who have access to the “purer” truth of revealed Christianity.\textsuperscript{19} The main question for these theologians was whether mere pagan wisdom was efficacious unto salvation. Century after century saw these literati lucubrate, both on the plight of the virtuous pagan with no access to Christian revelation and on the worth of texts containing pagan wisdom, which might be conducive to that person’s salvation. Among those who regarded revelation as necessary, some regarded secular wisdom with suspicion even when it was relegated to an ancillary role: down the ages Tertullian, Gregory of Nyssa, Bernard of Clairvaux, Peter the Lombard, Hugh of St. Victor, Alain of Lille, and Thomas Bradwardine all took conservative stances of varying degrees, insisting on the necessity of revelation and voicing reservations about the worthiness of pagan wisdom to be read at all because of its implication in heretical thinking among Christians.\textsuperscript{20} Still suspicious, but less so, are Augustine and Jerome, who made relatively more allowances for certain kinds of pagan wisdom. Reason, tropically figured by Hagar, has a measure of blessing but is ever subservient to faith, represented by Sarah,

\textsuperscript{18} Harrison points out that Paul’s declaration that God “had made foolishness the wisdom of the world” was to exert considerable influence on subsequent Christian thinkers,” making philosophy suspect at best among Christian writers in the West (12).

\textsuperscript{19} Jeffrey, \textit{People of the Book} 77-78.

\textsuperscript{20} See Vitto 1-32 for a succinct review of various fathers and medieval theologians on the situation of the virtuous pagan. See also Wolfson 16 for a list of Fathers who were particularly suspicious of Greek philosophy.
through whose line the full revelation of God would come in the incarnate Christ. Augustine and Jerome both also made allegorical use of Levitical law surrounding the sanctification of gentile property: just as pagan women and spoils could be cleansed and brought into the nation of Israel, so could pagan writings be pillaged for wisdom worthy to draw humans toward better knowledge of God. Augustine and Jerome both insisted that secular texts were of limited use and were dwarfed by the truth available in Scripture.

Even at the height of western Christendom, then, and even among these conservative and moderate theologians, there is room for natural theology, for the application of human reason to divine things. In addition to the incitements listed above—familiarity with and recognition of the worth of pagan writings, apostolic precedent for both the theory and practice of appropriating human wisdom, tropical figuration of such appropriation—another factor influenced early and medieval Christians to consider the value of natural theology. This was the plight of people without access to the revealed truth in Christ for reasons that seemed beyond their control. Natural theology was an obvious starting point for their sanctification, for Paul had outlined this avenue in Romans 1:20: “For his invisible attributes, namely, his eternal power and divine nature, have been clearly perceived, ever since the creation of the world, in the things that have been made. So they are without excuse.” This last clause sets off an exposition of the lack of virtue among the pagans, yet Paul goes on to assert that the “Gentile” conscience not only condemns some human actions, but also

\[21\] Augustine adopts this trope from the rational Jewish tradition exemplified in Philo, who subverts encyclical studies (Hagar) to biblical wisdom (Sarah) (Wolfson 97). See also Gilman 6.

\[22\] Augustine, DDC 2.40; Jerome Epist. 70. For further discussion, see Jeffrey, “Egyptian Gold” 226-28 and People of the Book 71-89.

\[23\] Alan Jacobs 669-71, Rist 28-29.
approves of others (Rom 2:14-15). Thus linking right reason with right behavior, Paul also
links the practice of natural theology with the virtuous pagan, opening a space for subsequent
generations of Christian theologians to theorize a potentially salvific pagan philosophy.\(^{24}\)

As long as the conceivable reality of the virtuous pagan remained in tension with the
revealed truth of the necessity of the cross for salvation, a whole range of opinions regarding
the relative worth of faith and reason were in play—a range no narrower, I argue, than that
available to people in England during the Scientific Revolution. The fact that most outsiders
held generally “theistic” or “religious” views did not ease these early theological concerns,
for Christians stood with St. James on the topic of whether mere admission of God’s
existence were sufficient for salvation.\(^{25}\) James’s putative elevation of free will and
diminution of original sin, on the other hand, were treated more warmly by some than by
others. Just as their seventeenth-century successors would do, various fathers and medieval
theologians gave to reason greater and less sway as their received understanding of
Christianity and their consciences dictated. The theologians mentioned so far all took
relatively conservative stances: even Augustine and Jerome insisted on the poverty of reason
when compared with the revelation vouchsafed God’s chosen people, whether the Hebrew

\(^{24}\) Wolfson notes that Paul himself spurned to use philosophy in support of his
communication of the gospel, as did the Apostolic Fathers (C.E. 90-160); it was the next generation
of Fathers called Apologists who began to adopt Greek argumentation in the service of Christian
thought (11).

\(^{25}\) James writes, “You believe that God is one; you do well. Even the demons believe—and
shudder!” His concern (and we will see it reflected in seventeenth-century natural theologies such as
Richard Baxter’s and Richard Bentley’s) is that Christians live as they profess to believe: virtue and
reason are for all these theologians inextricably yoked. Nonetheless, James’s assertion also supports
Paul’s insistence that “Christ crucified,” and not only Jewish monotheism or Greek wisdom, is
requisite for salvation.
nation before Christ or the Christian church after.²⁶

Others took more liberal stances, however. First, there were the “heretical” strains of thought against which Augustine and others positioned themselves: Manicheans and Gnostics, schools that in one way or another asserted human reason and will over (and, in consequence, against) revelation.²⁷ More to our purpose, however, are theologians more widely accepted as Christian who nonetheless gave reason a prominent place in their theology. Over the centuries Justin Martyr, Clement of Alexandria, Origen, Peter Abelard, Anselm of Canterbury, and Thomas Aquinas ascribed great efficacy to human reason. These authors were steeped in Greek philosophy themselves and could not but applaud the nearness to Christian truth that such philosophy, whether Plato’s or Aristotle’s, had attained. Such rational Christians held, first, that a rational faith exceeds a simple faith, making reason an enrichment for the Christian. Secondly, and more importantly for the present consideration of natural theology, from Clement of Alexandria’s time onward some also held that one might assent to a theological doctrine as a result of rational demonstration.²⁸ Reason might therefore be efficacious in bringing a pagan to Christian belief. If the more conservative

²⁶ This pronouncement flattens out the thought of both fathers considerably. Augustine in particular shifted in his view of reason, generally tending toward a lower estimation of reason over the course of his writings (Rist 127-32). He also gives the first known Christian use of the term “natural theology” (theologi naturae), taking up a threefold distinction of theology inherited from Cicero through Varro (116-27 B.C.E.) in De Civitate Dei; while better than popular or civic theology, natural theology is nonetheless insufficient and finally indistinguishable from the others when viewed next to revealed theology.

²⁷ This view of Manichaeism is Augustine’s (Rist 27); “Gnosticism,” tellingly, is a term first applied to that specific tradition of thought by Henry More.

²⁸ Harry Austryn Wolfson calls the first of these groups the “single faith” theologians and includes Origen in their number. Origen defined “faith” simply as acceptance of the truth in scriptures, but insists that people capable of studying philosophically are obliged to support scripture with reason. His teacher Clement, by contrast, is what Wolfson calls a “double faith” theologian: he admits the possibility of assenting to a doctrine as a result of such philosophical support, without eclipsing the other definition of faith (106-12).
theologians held, *Salus extra Ecclesiam non est*, a more inclusive school wished to widen the territory held by the *Ecclesia*, insisting on salvation for “Socrates” on grounds that certainly emphasized his worldly wisdom, even if such a soteriology required the theorization that the gospel must have reached down to hell. Reasoning that Christ’s sacrifice worked to prevent people from being unjustly condemned, both Clement and his student Origen concluded that both pre-incarnation Jews and virtuous pagans would hear the gospel in hell: the Jews, from the mouth of Christ himself; the pagans, perhaps from the apostles (Vitto 10-11). Whatever the eventual means of these pagans’ salvation, their employment of reason was instrumental and in some measure made up for the deficiency in direct revelation.

Thus far this account has dealt with justification for a rationalized Christianity; before considering the situation in the seventeenth century, I pause to mention the two most influential examples of its practice prior to that time, the cosmological and ontological arguments. These are less important in the genealogy of unaided reason than one might suppose: as I have briefly shown, that genealogy runs through the literature on the virtuous pagan. In arguing philosophically for God’s existence, by contrast, medieval theologians make no pretenses of disbelieving Christian doctrine until it has been proven to them. Nonetheless, in making these arguments, they give flesh to the natural-theological wisdom

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29 The commonplace “Sancte Socrates, ora pro nobis” was not articulated until Erasmus; the sentiment, however, had long been in circulation (Craig Thompson 100-121). “Salus extra Ecclesiam non est” is originally Cyprian’s phrase (d. 258).

30 To make a long and complicated story short: this Christian philosophical tradition continued from the fathers through Boethius, who places reason relatively high (Hause), down to the first explosion in natural theology identified by Polkinghorne, the time of Anselm and after him Aquinas. The phrase “quod in se est” came to represent a doctrine of salvation for those who did all they could with the measure of revelation vouchsafed them, and was used (with approbation) by a number of late medieval thinkers, including Rabanus Maurus (*PL* 11.2.2.4), Abelard (*PL* 178.2.4), Peter Lombard (*PL* 191.2), Richard of St. Victor (*PL* 196), and Alain of Lille (*PL* 210). For another survey of philosophical Christianity through the Middle Ages see Vitto 9-32.
whose existence Paul implied, making this wisdom available not only for the edification of
the Christian, but also (perhaps unintentionally) for the pagan who should have need of it.

And it is clear that seventeenth-century Englishmen would see such a need arising
around them. It is therefore unsurprising that they should address old natural-theological
arguments—the cosmological (highly Aristotelian) argument of Aquinas, and a revised
version of the ontological argument of Anselm—to their own culture. Aquinas’s argument
runs: everything that moves must be moved by something, and there cannot be an infinite
regression of causes, so there must be some unmoved mover or first cause. Some
seventeenth-century natural theologies, notably the Newtonian ones, are still laden with this
logic; others, such as those of the Cambridge Platonists, resonate with Anselm, who argued
that God is that than which nothing greater can be thought. Reasoning that to exist is greater
than not to exist, Anselm deduces that God must exist in reality, or else humans could
conceive of something greater than the greatest conceivable thing, an absurdity (Plantinga 1).
The Cambridge Platonists deploy a Cartesian argument that Anselm would likely have
regarded as blasphemous; still, they retain Anselm’s use of the human mind as a starting
point for demonstration of God’s existence.

As mentioned, many Christians down the ages have defined ‘true religion’ in such a
way as to exclude religion based on rational demonstration. Such Christians will naturally
react against this more inclusive school of thought anywhere these teachings start to take
hold. Such reactions are easy to find in history: Origen’s orthodoxy was challenged in his
own time and has been held suspect down the centuries, and any subsequent theology over-
elevating human reason suffered a similar fate, often branded as Pelagian. Pelagius was the
fourth-century theologian whose elevation of virtue to the devaluation of the atonement
earned him the censure of Augustine and condemnation by two church councils: if one can work one’s way to salvation, the church protests, then wherefore did Christ die? The distance between a doctrine of works and a high view of human reason has never been great, as we shall see more clearly when we examine the natural theologies of Richard Baxter and Richard Bentley, for virtue is predicated on right reason. One cannot (except by chance) do the right thing unless one knows what the right thing is. The fear of Pelagianism persisted through the centuries and would eventually congeal into the nominalist movement of the later Middle Ages, which for Taylor is so heavily implicated in the disenchancement of the world that came to fruition in the scientific revolution.\textsuperscript{31}

In the preceding historical sketch, I have tried to challenge the notion that the intellectual developments of the Renaissance posed a novel or unique challenge to those striving for an orthodox Christianity—not to say to those striving to preserve Christendom. Alongside their conviction of the necessity of revealed truth of the atonement, many Christians held that reason could play an instrumental role in the salvation of pagans, and some of these Christians were finding in pagan philosophy what that reasoning might look like. The existence of a body of Christian literature wrestling with the place of pagans and pagan philosophy itself bears testimony to the difficulty of negotiating a peaceful relationship between Christianity and \textit{scientia} (“Jerusalem” and “Athens” in shorthand) long before the pursuit of \textit{scientia} was relocated to the field and the laboratory. We turn now to consider

\textsuperscript{31} Vitto, preceding Taylor, considered the paradoxical role of the nominalists in the history of faith and reason: they drove a wedge between reason and faith by means of their philosophy. William of Ockham was at once “Pelagian,” because God could save a non-Christian on account of his virtue if He please, and utterly condemning of natural theology, because nothing can be known by reason about a God who precedes all principles and logic (28-30).
developments of the seventeenth century, during which the renovation of natural theology took place, and during which England began to play a major role in the evolution of scientia.

The Intellectual Climate of Seventeenth-Century England

I have said that the scientific revolution did not diminish the perceived cogency of Christianity, or increase the perceived importance of its cogency. This is not to say that the scientific revolution did not happen, or that western Christendom did not decline: during the fifteenth through eighteenth centuries, the church lost political power as the scholastics lost intellectual currency. The mistake made by popular intellectual history is a conflation of these changes with a decline in Christian faith, whether one does so as Draper did, celebrating the triumph of understanding over credulity, or as C.S. Lewis did, viewing the spiritual poverty around him as evidence of the discarding of a beautiful and intellectually compelling image. Before considering the natural theologies of the period with a view to the persistence of revelation’s necessity for salvation, I shall briefly characterize these intellectual changes in relation to natural theology.

Let us suppose that Francis Bacon is paradigmatic of the new philosophy that took hold in England in the seventeenth century. Bacon’s theology was suspect, to be sure: almost as a side-note, he deftly overturns the thousands-year-long tradition casting knowledge as a bondswoman in contrast with revelation as free woman, expressing his hope that “knowledge may not bee as a Curtezan for pleasure & vanitie only, or as a bond-woman to acquire and gaine to her Masters use, but as a Spouse, for generation, fruit, and comfort.” Bacon can make such pronouncements, however, because he speaks not as a theologian but as a philosopher of science. The undesirable characterization of knowledge he invokes is not that of Judeo-Christianity, but of the old philosophy, which applies knowledge “only to
manners, and policie” and spurns natural philosophy (27). Here Bacon conducts the kind of “zooming in” that the present study seeks to reverse. He does not attack the category of revelation; he merely ignores it and weighs instead the merits of two kinds of scientia.

One application of scientia, for Bacon, is the consideration of divine things. He took a relatively low view of the practice, famously and ironically, considering that two of the natural theologies studied here cite him in defense of their projects. In the Advancement of Learning he sets out natural theology, or “divine philosophy,” as one of the three categories of philosophy, in turn one of the three parts of knowledge along with history and poesy.

Having bounded natural theology from both natural philosophy and the humanities, Bacon—along with many of his successors in the Royal Society—sets natural theology outside the purview of science, if not outside the realm of useful human activity altogether.

He makes two general observations about natural theology: first, it is of limited use, and second, these limits have already been reached. “Touching Divine Philosophie,” he notes, “I am so farre from noting any deficience, as I rather note an excesse” (6.212), expressing a wish that the natural theologians’ time and energy would rather be spent on natural history and philosophy.

Concerning the use and limits of natural theology, Bacon explains:

The boundes of this knowledge are, that it sufficeth to convince Atheisme; but not to informe Religion: And therefore there was never Miracle wrought by

32 Bacon: “I have digressed, because of the extreme prejudice, which both Religion and Philosophie hath received, and may receive by being commixed together; as that which undoubtedly will make an Heretical Religion; and an Imaginarie and fabulous Philosophie (24).

33 Both Richard Baxter (13) and John Wilkins (91) quote Bacon’s assertion that “God never yet wrought any miracle to convince an Atheist; because to a man that is capable of being convinced, his ordinary works are sufficient to the purpose.” Baxter’s use of Bacon was the more galling, as his natural theology was conducted in the old way and argued forcefully for the trinity, exactly the sort of doctrine Bacon wished to keep out of natural theological arguments.

34 For some discussion about debates concerning what subjects should be in the purview of the Royal Society, see Crocker (Henry More 152-56).
God to convert an Atheist, by cause the light of Nature might have led him to confess a God: But Miracles have been wrought to convert Idolaters, and the superstitious, because no light of Nature extendeth to declare the will and true worship of God. For as all works do shew forth the power and skill of the workeman, and not his Image: So it is of the works of God; which do shew the Omnipotencie and wisedome of the Maker, but not his Image: And therefore therein the Heathen opinion differeth from the Sacred truth: For they supposed the world to bee the Image of God, & Man to be an extract or compendious Image of the world: But the Scriptures never vouch-safe to attribute to the world that honour as to bee the Image of God: But onely The worke of his hands, Neither do they speake of any other Image of God, but Man: wherfore by the contemplation of Nature, to induce and inforce the acknowledgement of God, and to demonstrate his power, prouidence, and goodnesse, is an excellent argument, and hath beene excellently handled by diverse. (22)

The harmony between this pronouncement and Protestant theology is obvious, and has, like divine philosophy, “been excellently handled by diverse.” Bacon is thinking of the scholastic “divine philosophies” his generation had inherited from the Greeks and some Christian scholastics, and aspects of these works—including the medieval doctrine of correspondences, which he bitingly conflates with “Heathen opinion”—receive his censure here. This censure itself, whether voiced by Bacon or others, partly warranted the later proliferation of natural theologies that Bacon would likely have viewed as a shocking waste of manpower. Little did he know that a new natural theology would be practiced in the new Atlantis: devout natural historians and scientists would bring hundreds of particular empirical discoveries to bear on the topic of God’s “omnipotencie and wisedome.”

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35 For a review of literature connecting Baconianism with Protestant, and particularly Puritan, thought, see Harrison, The Bible 5-6.
36 Commenting on the same shift, but in a different medium and with different allegiances, John Donne famously laments the passing of correspondence between heaven and earth, in his The First Anniversarie (1621): “The art [of astrology] is lost, and correspondence too. / For heaven gives little, and the earth takes lesse, / And man least knowes their trades and purposes.”
Traditional natural theology also stood in danger of being supplanted by—or, perhaps, transformed into—the effort to raise human intelligence to new heights, or at least heights it had not reached since Adam. There were two ways of doing this: the first, sanctioned by Bacon, involves the use of one’s mind in the god-like pursuit of understanding creation in its entirety. 37 “That men and Gods were not able to draw Jupiter down to the Earth, but contrariwise, Jupiter was able to draw them up to Heaven,” Bacon reasons, “so as wee ought not to attempt to drawe downe or submitte the Mysteries of GOD to our Reason; but contrariwise, to raise and advance our reason to the Divine Truth” (23). The echo of his title gives the passage greater significance in terms of the overall project of the Advancement, which I have suggested involved a “zooming-in” of focus onto the physical world. Bacon conceives of this refocusing instead as a concession to the limitations of human “vision,” as it were, which can never comprehend the metaphysical, and should thus turn downward, looking upon what God sees as he sees it. This enterprise is justified because, while God’s image is not found in nature, it is found in man’s reason. In fact, the argument goes, a god-like pursuit of knowledge is a humble way of applying Genesis 1:27—man’s creation in God’s image does not mean that man has the capacity to understand God by means of reason, but that man can come to understand the world as God understands it.

Not all applications of this rhetoric of elevation proscribe the practice of natural theology, however; some justify it. The other means of recovering Edenic reason is found in the “innate idea” philosophy most famously asserted by Descartes and brought into the service of natural theology by the Cambridge Platonists (Fallon 61-63). The book of nature

37 A notable thinker in this vein was John Webster (1611-82), who hoped to rediscover the knowledge available to Adam through Baconian laboratory science, Copernican astronomy, and Paracelsian chemistry (Mandelbrote 454).
having been divested of its one-to-one correspondence with attributes and activities of the Creator, some sought to find these truths reflected in human reason instead. These would have been clearly evident, the argument goes, in unfallen humans, but in a fallen world only sufficiently reflective persons will be able to follow their reason to an accurate—that is, a Christian—perception of God. The Trinity is particularly obscure. In this view, Adam was a “natural theologian” in the sense in which he was a “natural gardener”: truths physical and metaphysical opened themselves up to him at the very moment of his asking the question. Fallen man still possesses this ability, but he must awaken it in a process More describes in his 1653 An Antidote against Atheism:

Suppose a skilful Musician fallen asleep in the field upon the grasse, . . . but his friend sitting by him that cannot sing at all himself, jogs him and awakes him, and desires him to sing this or the other song, telling him two or three words of the beginning of the song, he presently takes it out of his mouth, and sings the whole song upon so slight and slender intimation: So the Mind of man being jogg'd and awakened by the impulses of outward objects is stirred up into a more full and cleare conception of what was but imperfectly hinted to her from externall occasions; and this faculty I venture to call actuall Knowledge in such a sense as the sleeping Musicians skill might be called actuall skill when he thought nothing of it. (More 13-14)

More’s particular brand of natural theology sets human reason relatively high in relation to revelation, but his self-assurance is not a necessary consequence of the argument from human

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38 It is useful to speak of a general “thinning-out” of those who are able to reason themselves to a particular doctrine as the doctrines become more particularly Christian. John Wilkins, unwilling to admit Scripture’s necessity and somewhat sheepish about his increasing use of Scripture to buttress his claims about Christian virtues, apologizes: “[Heathen Philosophers] do in their Writings, speak but sparingly, concerning those kind of virtues which are of a more spiritual nature, and tend most to the elevating and refining of the mind.” Ralph Cudworth (True Intellectual System, 1678), Joseph Glanvill (A Blow at Modern Sadducism, 1668) and Henry More (Antidote Against Atheism, 1653), who take particularly high views of human reason, often avoid consideration of particularly Christian doctrines in their natural-theological works. Cudworth does briefly address the trinity, exclaiming only that it is so “Abstruse a Point, and Dark a Mystery” that the wonder was that pagan wisdom had arrived as near to truth as it did (595).

39 See South 127-29.
reason: Richard Baxter structures his *Reasons of the Christian Religion* (1667) around the Augustinian notion that God’s triune nature is adumbrated in human will, intellect, and power. And Baxter takes the highest view of God’s sovereignty of any of the natural theologians considered in the present study.

In seventeenth-century England, then, an array of vantage points and lenses, some of them incompatible with each other, were available to the philosopher seeking to bring together learning and theology.40 (In the chapter on Baxter, I will consider positions off this spectrum entirely, inherited from nominalist philosophy and retained in the puritanical inclination to condemn any kind of human learning.) God’s attributes can be seen in the world, God’s attributes can be seen in human reason, God’s power and wisdom can be seen in the natural world, we best reflect God’s image by turning our intelligent gaze away from divinity and onto the created order. A single work might make all or some of these assumptions at various points. A sermon given in 1679 by Robert South, then canon of Christ Church, offers an example of a view of natural theology a lay congregation might have received in this time of intellectual upheaval:

But as it is reasonable to imagine that there is more of design, and consequently more of perfection, in this last work, we have God here giving his last stroke, and summing up all into Man, the Whole into a Part, the Universe into an Individual: so that whereas in other Creatures we have but the Trace of his foot-steps, in Man we have the Draught of his hand. . . . As we might well imagine that the great Artificer would be more then ordinarily exact in Drawing his own Picture. (120-21)

The notion that man is in little all the sphere is by now conventional—but South is apprehensive about the philosophy underlying the investigation of signs and signatures in the

40 Taylor asserts a fundamental difference between the Baconian view and the earlier conception of a “normative order”: “We rather have to inhabit [this world] as agents of instrumental reason, working the system effectively in order to bring about God’s purposes; because it is through these purposes, and not through signs, that God reveals himself in his world. These are not just two different stances, but two incompatible ones” (98).
natural world, redirecting his audience’s attention toward man in order to deflect it from those older notions. Next, commenting on Adam’s god-like abilities, South places the human body below the human mind, the real locus of the Creator’s image.\footnote{\text{[Man] came into the World a Philosopher, which sufficiently appeared by his writing the Nature of things upon their Names: he could view Essences in themselves, and read Forms with the comment of their respective Properties; he could see Consequences yet dormant in their principles, and effects yet unborn in the Womb of their Causes . . . . (South, 127-28; see Harrison, 1).}} Having moved from an assertion of the old doctrine of correspondences, then, the sermon comes to rest on a point that sounds Baconian: Adam named the animals, and so should we, by methodical natural history.

From this complex intellectual-theological landscape, I have chosen five texts for particular consideration, on the presumption that even a relatively small sample will widen current knowledge of late seventeenth-century natural theologies considerably. I will soon say a word or two about why I have chosen these out of the broader list I give below. The list is itself certainly only partial, but it gives some sense of the popularity of these texts and the rubrics under which they were published. Importantly for my argument regarding the persistence of the categories of reason and revelation, during the “earliest” years covered by this study, authors describe their natural theologies as new works in an old genre: Seth Ward and Henry More, whose natural-theological texts were published respectively in 1652 and 1653, make strikingly similar statements about their projects. Neither of them seems bent on starting a natural-theological revolution: each speaks as though he is giving the final word on the matter. Both announce that they will provide rational grounds for belief, and both claim not to have drawn intentionally on other authorities in so doing, but both acknowledge that the same task has been undertaken many times before. Ward claims initial ignorance about these undertakings, asserting in his preface that “since the composing of this he knows that . . . .
divers Bookes of the same Argument have been written by men farre more knowing then himselfe,”—the reference here seems to be to relatively recent works—“but that he hath not read any of them.” Ward adds that he thought it best not to read these works even once he knew about them. More, looking further back, speaks in his preface of “what is already extant in the world about the same matter,” adding that he “did on purpose abstaine from reading any Treatise concerning this subject.”

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<td>More, Henry (1614-87)</td>
<td><strong>An Antidote Against Atheism</strong></td>
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<td><em>Enthusiasmus Triumphatus</em></td>
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<td><em>On the Immortality of the Soul</em></td>
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<td><em>Origines Sacrae, or a rational account of the grounds of the Christian Religion</em></td>
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<td>Stillingfleet, Edward (1635-99)</td>
<td><em>Origines Sacrae, or a rational account of the grounds of the Christian Religion</em></td>
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<td>Boyle, Robert (1627-91)</td>
<td><em>(Some Considerations touching the Usefulness of Experimental Naturall Philosophy)</em></td>
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<td><em>A Free Enquiry into the Vulgarly Received Notion of Nature</em></td>
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<td><em>A Disquisition about the Final Causes of Natural Things</em></td>
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<td><em>De Legibus Naturae</em></td>
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<td><em>Archelogia philosophica nova, or New Principles of Philosophy</em></td>
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<td>Tillotson, John (1630-94)</td>
<td><em>The Wisdom of Being Religious</em></td>
<td>1664</td>
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<td>Author</td>
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<td>(Newton, Isaac [1642-1727])</td>
<td>(Quaestiones quaedam philosophicae)</td>
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<td>Baxter, Richard (1615-91)</td>
<td>The Unreasonableness of Infidelity</td>
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<td><strong>The Reasons of the Christian Religion</strong></td>
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<td>More Reasons of the Christian Religion and No Reason Against it</td>
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<td>Of the Immortality of Man’s Soul</td>
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<td>Glanvill, Joseph (1636-80)</td>
<td>A Blow at Modern Sadducism in some Philosophical Considerations about Witchcraft</td>
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<td>Reason and Religion</td>
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<td>Saducismus Triumphatus: Or, Full and Plain Evidences concerning Witches and Apparitions</td>
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<td>Barker, Matthew (1619-1698)</td>
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<td>Wilkins, John (1614-1672)</td>
<td><strong>On the Principles and Duties of Natural Religion</strong></td>
<td><strong>1675</strong></td>
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<td>Cudworth, Ralph (1617-88)</td>
<td>The True Intellectual System of the Universe</td>
<td>1678</td>
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<td>Parker, Samuel (1640-88)</td>
<td>A demonstration of the divine authority of the law of nature and of the Christian Religion</td>
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<td>Locke, John (1632-1704)</td>
<td>The Reasonableness of Christianity</td>
<td>1695</td>
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<tr>
<td>Ray, John (1627-1705)</td>
<td><strong>The Wisdom of God</strong></td>
<td><strong>1691</strong></td>
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<td>Bentley, Richard (1662-1742)</td>
<td><strong>The Folly of Atheism (or A Confutation of Atheism)</strong></td>
<td><strong>1692</strong></td>
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<td>Edwards, John (1637-1716)</td>
<td>A Demonstration of the Existence and Providence of God</td>
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<td>Becconsall, Thomas (?-1709)</td>
<td>The Grounds and foundation of natural religion</td>
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<td>Grew, Nehemiah (d. 1712)</td>
<td>Cosmologia sacra</td>
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<td>Clarke, Samuel (1675-1729)</td>
<td>A demonstration of the Being and Attributes of God</td>
<td>1705</td>
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<tr>
<td>Derham, William (1657-1735)</td>
<td>Astro-theology</td>
<td>1715</td>
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Table 1: Natural Theologies of the Scientific Revolution. The generation considered in the present study appears in black, with the five principal natural theologies in bold print. Bacon, Boyle, and Newton did not write formal natural theologies but nonetheless exerted a significant influence on the project of natural theology.

I used two criteria in choosing texts for study. First, these texts were all relatively popular and influential in (and, in Ray’s case, well beyond) their own time, going into
multiple printings or being cited by others. Second, from the pool of works from the period that self-describe as natural-theological, I attempted to draw a wide variety of philosophical and theological viewpoints. Situated at one end of this chronology is More, a Cambridge Platonist whose sympathies were with Catholicism and the old philosophy; at the other, Ray and Bentley, new scientists of Baconian and Newtonian persuasions, respectively. Holding up the cable between these two pillars, as it were, is John Wilkins, Anglican bishop and avid supporter of the new scientific project who nonetheless employed scholastic deduction. The remaining natural theologian, Richard Baxter, stands apart. A Puritan divine of imposing intellectual stature, he cared much less about scientific methods than about personal holiness. His natural theology proceeds in the old way, but his deductive method is less a staking out of epistemological position than a reaching for the tools most readily available: he is also the only natural theologian considered here who was not educated at Oxford or Cambridge, the latter of which in particular served as the center of the burgeoning New Science. These five following chapters are arranged chronologically, and Baxter’s reads like an intermission, which makes it all the more necessary.\footnote{Selective catalogues of natural theologies existed in the time period under consideration here as well: later editions of John Wilkins’s \textit{Ecclesiastes} (published thirteen times between 1646 and 1713) include a list of “those authors that treat concerning Natural Divinity, the Religion of the Heathen, or the Light of Nature, and the Use of Reason in sacred matters, and the like; such as, . . . .” (Ed. John Williams). The list includes Bacon, More, Cumberland, Wilkins himself, and Boyle; significantly, it does not include Baxter, although Baxter’s natural theologies were tremendously popular during those decades.} Indeed, my argument that the Scientific Revolution posed no new challenge for Christianity comes into clearest relief in that chapter.

The following author-by-author organization is intended partly as a further corrective to the tendency to homogenize Early Modern natural theology: each chapter offers a new “reading” of the natural theologian that strives to respect his peculiar character and concerns.
I also hope to add a dimension to existing scholarly considerations of particular natural theologians, for the general dearth of sustained scholarly considerations of seventeenth-century natural theology extends to single-author studies.\textsuperscript{43} Such studies tend to focus on the authors’ other works: historians of science and philosophy are interested in Ray’s biological taxonomies and Wilkins’s work on a universal language, for example, and philosophers are interested in More’s ontology and Bentley’s theory of void, while classicists still refer to Bentley in editions of Greek and Latin texts. Readers of Baxter, understandably of a more theological stripe, often focus on his treatment of topics such as atonement and redemption. There is nothing wrong with such studies individually, but one begins to sense a collective twentieth and twenty-first century lack of interest in natural theology as one reads scholarship on the people who practiced it, and this lack of interest in turn threatens to produce a skewed picture of the intellectual milieu of the age.

The first chapter, “Rational Theology,” considers Henry More’s 1653 \textit{An Antidote Against Atheism}, which is the most rigorously rational of the five. More aptly calls his own work a “rational theology.” He also takes the lowest view of empirical science. Although the second book comprises the first incarnation of physico-theology, More insists that this approach is a concession to the “weake and sunk minds of sensuall mortalls” and places the weight of his argument on human cognition. More held that accurate ideas about God and the cosmos, like ideas pertaining to geometry, are innate in the human mind and may be excavated by a careful process of deductive reasoning. Although his greatest stated aim is to

\textsuperscript{43} Notable exceptions are Scott Mandelbrote’s “The Uses of Natural Theology in Seventeenth-Century England” and Neal C. Gillespie’s “Natural History, Natural Theology, and Social Order: John Ray and the ‘Newtonian Ideology.’” Biographies and intellectual biographies (when they exist) about particular natural theologians tend to devote a few pages to their natural theologies, but no more; these are noted in the relevant chapters. And, as mentioned, works focusing on natural theology tend to group seventeenth-century natural theologies with their successors and deal with their strengths and weaknesses en masse.
combat atheism, he spends the bulk of *An Antidote* combating atheism’s (to his mind) more pernicious bedfellow, enthusiasm, the mistaken claim of an individual to have access to divine knowledge without the means of reason. Reason, for More, fills the pages of the great texts of old, especially Plato’s. Relative to other natural theologies of the period, *An Antidote* assigns to humans high agency and responsibility for right thinking, and gives significant weight to the scholastic tradition while insisting that More’s own mind is the author of his assertions. More has been cast as the unwitting instigator of an intellectual trend that would prove damaging to public acceptance of Christianity; but a close look at the epistemology of *An Antidote* renders these consequences far less surprising. More’s rationalistic bent sets him in stark contrast with his Puritan parents, whose doctrines came to repel him early in life.

It is thus surprising to find a contemporary Puritan writing natural theology, and indeed, readers of Richard Baxter have long found him difficult to categorize. My second chapter focuses primarily on Baxter’s 1667 *The Reasons of the Christian Religion*, which was widely known in its day and was later hailed by Dr Johnson as “the best collection of evidences of the Christian system” (Boswell 202). The chapter’s title is “Prudent Charity,” a phrase Baxter uses to describe the work done by natural theology, and this juxtaposition of the cardinal and Christian virtues captures the spirit of the work well. Baxter is pragmatic and bent on holiness, and he observes that many Christians are plagued by intellectual doubt. So long as this is the case, he argues, it will be the job of the pastor to demonstrate that Christianity is reasonable, enabling Christians to believe and live as they ought and thus to avoid perdition. Insofar as he sees natural theology as an effective aid to right living, Baxter gives more weight to human reason than do his Puritan contemporaries, notably John Owen, whom he accuses of antinomianism. On the other hand, Baxter diverges sharply from the
Cambridge Platonist and latitudinarian natural theologians in maintaining a robust theology of “things revealed,” as well as of human fallibility. Baxter gives a startling degree of weight to God’s sovereignty and stakes out a unique position regarding the necessity of revelation, drawing a distinction between the Bible and “God’s word.” This move allows him to subject Scripture to rational verification while still subjecting his own reason to the Christian God, whose existence he finally assumes rather than proves.

Situated at the middle of this study is John Wilkins (Of the Principles and Duties of Natural Religion, 1675), whose positioning is especially appropriate given the high value he sets on the golden mean, or what he calls “mediocrity.” In the chapter “An Exercise in Mediocrity,” I find Wilkins to be the least philosophically consistent among the natural theologians considered in this study. His natural theology makes an attempt at intellectual peacekeeping, holding the middle ground among the existing natural theologies while registering a large-scale move in the direction of empirical epistemology. He respectfully incorporates both old and new science, argues from wondrous phenomena as well as from natural law, and espouses the authority of both reason and revelation. In its inclusivity the text is much like Wilkins himself: he spent much of his life espousing latitudinarian principles and uniting those with differing viewpoints in the institutions over which he presided: Wadham College, Oxford, Trinity College, Cambridge, and eventually the diocese of Chester. Wilkins died before finishing his natural theology, and his friend John Tillotson published the work, hailing it in his preface as an infallible proof of Christianity. Tillotson is half right: the opening chapters speak strongly for human reason. As the treatise (like Wilkins’s life) approaches its close, however, Wilkins relies increasingly heavily on Scripture.
Having examined some of the arguments that make up the sunset of the deductive natural theology, I turn at this point to the sunrise of the design argument, in “God’s Naturalist.” John Ray not only argues from natural history—Henry More did that, scoffing—he also remains thoroughly committed to the new science and is still remembered as Linnaeus’s mentor and a founding father of ornithology in particular. His *The Wisdom of God* was tremendously popular, going into 23 printings between its first publication in 1691 and 1846. Ray expands the subject matter of the second book of More’s *An Antidote* into an entire work and explicitly avoids both the argument from an innate idea and the God-of-the-gaps argument from miraculous phenomena. He evinces the epistemological humility of a new scientist: when he cannot verify a fact empirically, he confesses as much, even to the weakening of his theological argument. “But,” he says on one occasion, “it follows not that [apparently unfit specimens] are useless because we are ignorant.” This humility is the key to understanding the longevity and effectiveness of Ray’s natural theology: he keeps his deference to the Book of Nature in tension with a more deeply held deference to the Book of Scripture. Ray sees both books as authoritative sources of Fact, whose contents he seeks to understand rather than justify. His deferential relationship to these “books” distances him from a number of his acknowledged sources, as well as from many who would be considered his intellectual successors. In *Wisdom* he practices rather than theorizes about the apprehension of God through nature, spending tracts of text simply describing natural phenomena and exclaiming in awe rather than answering potential counterarguments. This celebratory, rather than argumentative, tone is intentional: in his preface he distinguishes what he is doing from philosophy and locates himself “in the tradition of the Psalmist.”

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44 Stearne 104. Scott Mandelbrote calls *The Wisdom of God* “perhaps the most popular work of natural theology produced in the second half of the seventeenth century in England” (468).
Richard Bentley, on the other hand, is far more comfortable with the language of proof and certainty. Bentley’s inaugural Boyle lectures, intended by their late patron to “prove the Christian Religion against notorious infidels,” were published together under the title of *The Folly of Atheism* (1692), and I examine them in my final chapter, “God’s Philologist.” Bentley was not only an avid Newtonian but also a remarkably skillful classical scholar, and the latter of these two traits dictated the form of his natural theology just as the former dictated its content. If Ray writes in the tradition of the Psalmist, Bentley writes in the tradition of St. Paul, explicating Pauline epistles and framing his argument in a discussion of Paul’s encounter with pagan learning at the Areopagus in Acts 17. In Paul, Bentley sees a canny rhetorician, formidable debater, and zealous champion of Christianity—but also, significantly, someone who met with success only when the audience was sufficiently wise. His emphasis on personal holiness aligns him with Richard Baxter, while his “scientific” veneration of the actual text of Scripture and willingness to pay attention to poetry set him apart from Baxter as well as Wilkins. In Bentley we find the notion that a sufficiently wise person, focusing on the orderly superlunary sciences and the science of textual exegesis, will find a logically compelling harmony between nature and Scripture.

Although the period covered by this study ends before the start of the eighteenth century, part of my aim is to identify more particularly who can be credited or blamed for the ideas inherited by eighteenth-century deists and rationalists. In the ontological argument of Henry More and the cosmological argument of the early-career John Wilkins, I will argue, are laid the foundations for rational deism, although these two authors did not see the need to abandon particular Christian doctrines as their English successors (and, more famously, Voltaire) would later do. The teleological argument on which Ray spends the bulk of *The
Wisdom of God took a different course: it would be taken up by hundreds of natural theologians, from Paley through the Bridgewater Treatises and, in certain camps, up to the present day. This argument received a round thrashing from David Hume in the eighteenth century, and although not everyone listened to Hume on religion, intellectual historians from Leslie Stephen onwards have recognized with Hume that rational demonstration of Christianity by a posteriori argumentation is not possible. But unlike More or Wilkins, Ray cannot rightly be located in this philosophically and theologically wayward genealogy, for Ray already knew what Hume would demonstrate. Hume showed that thoroughgoing evidentialism is finally incommensurate with Christian faith. Ray did not say this explicitly, because such thoroughgoing evidentialism did not yet exist, but he gives readers much evidence that he would have agreed with Hume about the “irrational” nature of natural theology, evidence I shall consider in that chapter.

Although these five men hold widely differing philosophical and theological views, they are unified by a fervent interest in the same questions. In their era new questions came to the fore: is Providence best seen in the wonderful and lawful ordering of creation, or in those aspects of the world that laws cannot account for? Old questions took new shapes. Plato and Aristotle fade to the background as Descartes and Bacon come to represent ways of

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Ray’s teleological argument thus does not accord with the iteration of the argument Hume puts into the mouth of Cleanthes, his empirical theist in the Dialogues of 1776:

[The world is] nothing but one great machine, subdivided into an infinite number of lesser machines . . . all these various machines, and even their most minute parts are adjusted to each other with an accuracy, which ravishes into admiration all men . . . the curious adapting of means to ends, throughout all nature, resembles exactly, though it much exceeds, the productions of human contrivance, of human design, thought, wisdom, and intelligence . . . By this argument a posteriori, and by this argument alone, do we prove at once the existence of a Deity, and his similarity to human mind and intelligence. (59-60)

While Cleanthes argues (mistakenly, Philo insists) from an analogy between human and divine art such as that made by Henry More, Ray follows Robert Boyle in asserting an essential disjunction between the two.
advancing *scientia*, and natural theologians wondered whether innate ideas or external order provide the best starting point for reasoning about God. Ecclesiastical and theological debates, too, made their way into these texts, as authors asked how certain passages in Scripture can be reconciled with increasing knowledge about the physical world, and whether Scripture need be read in that way at all. And some old questions remained just the same. Physico-theologians were as keenly interested in suffering and the problem of evil, in human depravity and personal holiness, as were their predecessors. These enduring questions, moreover, might prove to be best answered not in prose, but in poetry—or perhaps not. Others, with whom these natural theologians were in conversation, were trying that experiment.

In turning to the first of these natural theologians, then, I wish to return to the centuries-long Christian problem of holding faith in tension with reason, and to suggest that natural theologians of the scientific revolution continued the work their thoughtful forebears had undertaken. Despite the great variety within this tradition, these authors took part in a single conversation. When a new science began to vie for the title of uncontested epistemological authority, they fought to maintain ground for the revelation that they believed to supersede that authority. Despite all the centuries between them, there is no great distance between Paul’s theology of human reason in Romans 1 and Nathaniel Culverwell’s injunction to readers to render “unto *Reason* the things that are *Reasons*, and unto *Faith* the things that are *Faiths*” (preface).
Rational Theology: Henry More’s *An Antidote Against Atheism* (1653)

*An Antidote Against Atheism* is a paradigmatic “rational theology”: More himself used that designation, which persisted at least until the time of nineteenth-century critic John Tilloch. Human reason, which functions to some extent in any natural theology, dominates *An Antidote* more than any other of the period. Celebration of rationality—and a polemic against the irrational—persists through the text, which is otherwise remarkably elusive. More draws evidence from the natural world as well as deducing from first principles, asserts the truth of supernatural events as well as urging the wondrousness of natural law itself, and purports to prove conclusively the existence of God while acknowledging that some readers will nonetheless not conclude that God exists. Although More’s greatest stated aim is to combat atheism, he spends the bulk of *An Antidote* combating atheism’s (to his mind) more pernicious bedfellow, enthusiasm, the mistaken claim of an individual to have access to divine knowledge without the means of reason.

Relative to other natural theologies of the period, *An Antidote* assigns to humans high agency and responsibility for right thinking, and gives significant weight to the assertions of
preceding texts. More conceives of reason broadly, and he venerates ancient philosophers while protesting that he does not draw on their thought: he follows Plato in arguing from innate ideas as well as Aristotle in drawing arguments “from external nature.” The only source of truth he will not draw upon is revelation; in *An Antidote* he neither relies on revealed knowledge nor expresses a caveat that the reason therein must be supplemented by faith. God’s act of revelation, if it may be called that, was effected by his imprinting divine knowledge onto the human mind, which “natural sagacity” thenceforth serves as the final epistemological authority. More has been cast as the unwitting instigator of an intellectual trend that would prove damaging to public acceptance of Christianity; but a close look at the epistemology of *An Antidote* renders these consequences far less surprising.

**Context and Recent Criticism**

More published *An Antidote against Atheism* in 1653, his first major work. The text is organized into three books: Book 1 deals with his doctrine of innate ideas; Book 2, with design in the natural world; Book 3, with supernatural phenomena. He had yet to articulate fully his philosophy of spirit and his system of ethics; these would come later, in *The Immortality of the Soul* (1659) and *Enchiridion ethicum* (1667). These texts buttress and expand on More’s dualistic philosophy, for, among natural theologies in the period, *An

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**NOTES**

Pages in the Dedication and Preface to *An Antidote* are not numbered. Translations of More’s Latin are from Ward’s *Life* unless otherwise indicated.

46 “I should commend to them that would successfully Philosophize, the belief and Endeavor after a certain Principle more noble and inward than Reason it self; and without which Reason will faulter . . . I want a Name for it, unless I should adventure to term it Divine Sagacity; which is the First Rise of successful Reason” (qtd. in Ward 101).

“There is no faculty that can be pretended to clash with the Judgement of Reason and natural Sagacity” (*An Antidote* 33).
Antidote rests especially heavily on the essential difference between the “Spirit of Nature” and passive matter; that is, More relies especially heavily on Descartes, though he protests to the contrary (Henry 23-24). Also expanding on claims made in An Antidote is More’s influential work The Mystery of Godlinesse (1660), where he reiterates not only his dualism but also his claims about the demonstrability of the truth of Christianity. An Antidote, however, is More’s only work of natural theology proper, and it has earned him the title of “father of natural theology,” at least according to some intellectual historians.47 The present section relates More’s treatment of reason and revelation to that of his Cambridge Platonist colleagues in preparation for a closer consideration of that particularly influential text.

More’s celebration of reason in An Antidote Against Atheism will not surprise those who are familiar with his life and thought. His parents were staunch Calvinists, and he would later record his aversion to that “hard doctrine concerning Fate” that in his view assigned too little agency to human will.48 More was a Cambridge Platonist and a founder of latitudinarianism, both of which movements emphasize the goodness of reason and its efficacy in leading the sincere truth-seeker to truth—and, in the case of the latter, the truth of a Christianity that transcends denominational boundaries.49 The Cambridge Platonists, a group that included Benjamin Whichcote and More’s friend Ralph Cudworth among others,

47 A. Rupert Hall, for example. Charles Raven, who gives the title to John Ray, admits that Ray based both structure and content of his 1691 The Wisdom of God on Book 2 of More’s Antidote.

48 More records in the general preface to his Opera Omnia (1675-79), “Ego vero nec illic nec alibi usquam durum illud de Fato dogma imbibere potui. . . . fortiter pro mea aetate contra Fatum ac Praedestinationem Calvinisticam vulgo appellatam, disputasse” (v) ‘But neither there nor yet anywhere else could I ever swallow down that hard doctrine concerning fate. . . . I did very stoutly, and earnestly for my years, dispute against this fate or Calvinistick predestination, at it is usually called.’

49 Regarding More’s latitudinarianism, see Crocker, Henry More 93-109.
flowered in the mid-seventeenth century, responding to mounting criticism of Aristotelian scholasticism with revived interest in Plato and his intellectual successors, including the Christian neoplatonists. These philosophers argued for the existence of an “inner light” of innate reason common to all men, which they privileged over any particular claims to direct revelation. This theology is closely tied to Latitudinarian ecclesiology: “inner light” bearing witness to the same truth in all men, greater attention to its cultivation should weaken sectarianism and produce a unified church.

While the Cambridge Platonists shared a keen desire to pursue the good, and a conviction (contra the antinomians) that humankind is able to undertake that pursuit, there are two differences between More and other members of that school. First, More is relatively fanciful. More’s fancy is most evident outside of *An Antidote*: his Platonic poems are characterized by the very “enthusiasm” he sought to squelch in reformed Christians, his quasi-scientific doctrine of a “spirit of nature” famously irked Robert Boyle (Crocker, *Henry More* 154), he was known to enter meditative trances for days on end (Ward 4), and in later life he became interested in the Hebrew Cabbala at the encouragement of his former pupil and dear friend Anne Conway.50 But, for all his whimsical style of writing and his receptivity to things supernatural, More integrates mysticism into his philosophy rather than the other way around. The main charge leveled against his *Psychozoia*, for example, is that of subordinating his poetry to his philosophy, instead of keeping poetry primary as Spenser had done (Smith 344).51 The subordination of fancy to reason is evident in the third book of *An Antidote* as well: More’s emphasis on the wondrous amounts to a god-of-the-gaps argument.

50 For a collection of evidence of More’s mysticism, see Taliaferro and Teply 16-18.

51 See Jacob for a more charitable interpretation of More’s strategy in *Psychozoia*: Jacob finds precedent for the philosophical poem not in Spenser, but Lucretius (16-20).
The argument in Book 2 runs: so passive and inadequate is matter to have produced the present world that there must be an immortal spirit animating the cosmos. Over this he lays the argument of Book 3, that many human experiences and observed phenomena are so immaterial that these cannot be explained even in terms of animated matter, so these *animae* serve as yet further evidence against atheistic worldviews. This high elevation of reason constitutes the second difference between More and some of the Cambridge Platonists, specifically Peter Sterry and Nathaniel Culverwell. It may seem counterintuitive to call More relatively rationalistic, but there is a logical harmony between his mystical bent and his desire to encompass everything with human reason so that nothing is left to revelation.

In placing More in his intellectual context, twentieth-century critics have noticed both his rationality and his fancy, with varying degrees of approbation. Aligning with the concerns of the present study, C.A. Patrides has measured the various Cambridge Platonists according to the rule of reason in his 1969 anthology of the school’s most notable specimens. At the helm he places Benjamin Whichcote and Ralph Cudworth, who were by no means experimental scientists but who shared Plato’s unrelenting commitment to the rational pursuit of the true, the good, and the beautiful. Culverwell and Sterry he omits entirely, on the grounds that “Culverwell’s loyalty to Calvinism and Sterry’s denial of free will are sufficient of themselves to set both men in diametric opposition to Whichcote, [John] Smith, Cudworth and More” (xxvi). Patrides’s pronouncement did not close the discussion of whether these less “reasonable” men might be counted among the Cambridge Platonists, however: D.W. Dockrill countered in 1982 by pointing out that fidelity to Plato is not the only defining trait.

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52 Another example of a treatment of More that brackets his mysticism is Aharon Lichtenstein’s, which is praised by one reviewer except for this flaw: “Lichtenstein indicates a lack of any real comprehension of or sympathy with any aspect of mysticism” (Panichas 252). Arguing in the same corrective direction as the present study is Crocker, “Role of Illuminism.”
of a Cambridge Platonist, and in 2004 Charles Taliaferro and Alison J. Teply took Dockrill’s argument a step further by pointing out Culverwell’s “allegiance to the Platonic outlook on toleration; optimism regarding human potential; the goodness of inquiry; the sovereignty of the good, the true, and the beautiful; and the rationality and essential goodness of God” (25-26). Regarding More, Patrides claims to have faced some taxonomical problems, eventually opting to downplay his “frequent lapses into absurdities” and “present him in as favourable a light as might be possible,” by which Patrides means to include only Books 1 and 2 of An Antidote.

Although recent critics express more patience with More’s whimsy than did the previous generation,\(^5\) he was not the last critic to see More’s scientific thought as a redemptive counterbalance to his rapturous metaphysics. A. Rupert Hall grants that if More contributed to the advance of empirical science, it was against his will; but, he argues, More still deserves the designation of founder of natural religion—primarily on the grounds that he was a “more original thinker” than was Cudworth.\(^4\) More influenced subsequent scientists as well as natural theologians, Hall points out, including Isaac Newton himself, whom More probably taught.\(^5\) Although he was admittedly preoccupied with theological matters, “his

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\(^5\) Patrides writes of More’s *Psychozoia*: “More once said that his father had ‘from childhood tuned mine ears to Spencers rhymes’. It does not seem to have helped” (xxvi). Sarah Hutton names several other mid-twentieth-century critics who “dismissed [More] as credulous on account of his belief in witchcraft while his reputation as the most mystical of the Cambridge school has undermined his reputation as a philosopher,” mentioning Gladys Wade, Tulloch, and W. T. Costello (x-xi).

\(^4\) Regarding More’s originality, Hall compares him to Cudworth:

Cudworth’s is generally supposed to be the stronger and more methodical mind, and this need not be disputed here, where the issue is rather: who was the more original thinker? . . . The positive evidence is all to the effect that More was not only more active in publication than Cudworth, and more capricious in his interests, but that he was also the more inventive thinker. (119)

\(^5\) See also Hutton, “Henry More” 591, Mandelbrote 456, and Taliaferro and Teply 17. Hall summarizes More’s engagement with the philosophy of the new science:
opposition [to mechanical philosophy] was not theologically argued. He said: this notion of the natural philosophers . . . can be proved to be false, for it is absurd, therefore its potential danger to religion is nullified” (7). Hall’s argument for More’s importance goes on to highlight More’s empiricism specifically: in *An Antidote* he makes “carefully detailed natural-philosophical arguments” resting on the Copernican solar system, the “intricate system of heart and blood vessels,” and on the eye, a favorite object of contemplation by subsequent natural theologians (120-21). Interestingly, Hall (like Patrides) ignores the third book of *An Antidote*, in which More takes up witchcraft and supernatural apparitions.

A look at More’s own apology in the Preface of *An Antidote against Atheism* leads to the conclusion that More deserved neither such praise nor such censure. Judging his beliefs about the supernatural as absurd or credulous is surely “Whig history”: critics since Patrides have pointed out that many respectable people (including More’s friend Joseph Glanvill) believed in and asserted the reality of supernatural phenomena. Nor, however, is More rightly to be called the father of natural theology, if we accept his own conception of what he was doing. For he spends much of the preface dealing with “what is already extant in the world about the same matter.” Although he protests that he has intentionally abstained from reading these works, More was familiar with the natural theological tradition and acknowledges in his preface his affiliation with this “publique good,” while maintaining that he is doing something new. This leads to the question of what, if anything, was new with More.

According to More, his originality did not lie in his empiricism. Instead, he makes a case for rational consistency, purporting to include nothing that he cannot “make good by

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The young More popularized in English verse the work of Galileo and Descartes; the mature More ignored the former and rebelled against the latter. In final judgement More may be found an opponent of the rising scientific spirit, even if his ideas did contribute positively to Newton’s concepts of space and time.” (xi)
reason.” Taking away the “winning Rhetorick and pleasant Philology” that make for the “copious variety of Arguments that others have done,” More means to use “plain Reason, and an easy and cleare Method,” keeping only such older arguments as are absolutely compelling as he endeavors “not to impose upon the Atheist, but really to convince him.” More adds: “I think I may here without vanity or boasting, freely profess that I have no lesse then demonstrated that there is a God” (preface). In the effort to avoid boasting, More claims that he “doe[s] not bestowe the ostentative term Demonstration” on his arguments, but immediately he undercuts this claim by adding that an objection to his argument “is no more possible, then that the clearest Mathematicall evidence may be false (which is impossible if our facultyes be true)” (5). In so professing, More hopes to match and undercut the similar claim made by Hobbes, who purported to set forth his materialistic worldview with geometrical certainty. More also viewed empirical argument not as an integral and necessary component of his airtight defense of Christianity, but rather as a concession to the

Although An Antidote is unusually “scientific” for a work of Henry More, then, there is nothing uncharacteristic about his elevation of reason over revelation. Moreover, the Baconian distinction between old and new science supplies us with less helpful categories than we would wish: this first empirical theologian did not see his drawing arguments from external nature as particularly innovative—Aristotle had done that, in contradistinction to Plato, who looked inward. More also viewed empirical argument not as an integral and necessary component of his airtight defense of Christianity, but rather as a concession to the

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56 More called Hobbes “that confident exploder of immaterial substances,” and he attacks him not only in An Antidote, but also The Immortality of the Soul (1659), Divine Dialogues (1668), and Enchiridion Metaphysicum (1671) (Taliaferro and Teply 17-18).

57 The integrity of An Antidote for More is brought home in his crisp pronouncement that he shall appeal “to the known & unalterable Idea’s of the mind, to the Phaenomena of Nature and Records of History” all in the service of a single argument from Reason (164).
“weake and sunk minds of sensuall mortalls.” His strategy in Book 2, he goes on to say, is to appear
in the shape of a meere Naturalist . . . For hee that will lend his hand to help another fallen into a ditch, must himself though not fall, yet stoop and incline his body: And hee that converses with a Barbarian, must discourse to him in his own language . . . to accommodate himself to their capacity, who like the Bat and Owle can se no where so well as in the shady glimmerings of their own Twilight” (16).

A “naturalist,” More explains later, is a person who rejects Logic “out of Dotage upon outward grosse sense” (21) and must therefore have the gap between sense and deduction bridged in order to see reason. So More, who has such high praise for the faculty of Reason, does not mean empirical reason, even though he is the first to undertake such a sustained consideration of arguments drawn from observable nature.

The image of twilight in this excerpt from More’s preface further illuminates the relationship between reason and revelation in his thought. This dialectic is common in natural theological discourse of the period, and More’s departure from the usual trope is significant. Many seventeenth-century philosophers of science relied on the image of the “candle of the Lord” to distinguish human science from revealed truth, and Whichcote brought this image into the province of the Cambridge Platonists in particular by identifying the candle with those “truths of first inscription” that correspond roughly to More’s “divine sagacity.”58 This candle is given various degrees of brightness—and the greater light of day various degrees of attention—according to the theological stance of the particular writer. Culverwell widens the gap between the two the most, writing that “The Candle of the Lord do’s not shine so clearly

58 Robert A. Greene points out that this interpretation of Proverbs 20:27 the triumphant of two interpretive traditions, the other casting the “lamp of the Lord” as man’s guilty conscience, which points toward his need for grace. Greene also points out that Bacon attempts to reinterpret Prov. 20:27 in order to buttress his argument for the advancement of learning (Bacon 4; see also Spedding and Ellis’s note in Aug. Sci. III, 252).
as it was wont” but insists that humans should value these “few seminal sparks” of “faint and languishing light” and not try to quench them as the antinomians would wish to do (3-4). Whichcote, more optimistic about human reason, says that “if a Man do but use Reason; he must see, and acknowledge God. The wise Man tells us, That the Spirit of a Man is the Candle of the Lord. A Candle lighted by God, and serving to discern and discover God” (449).

But some writers’ theological stances do not allow them to compare human reason with a candle at all, and More is one of them. On the reformed side of the spectrum, Richard Baxter withholds even candle status from natural knowledge, demoting the philosophers of the past to the rank of “glow-worms.” More, on the other hand, never mentions the candle of the Lord—possibly because he is aware of the Scriptural origin of the phrase—but he does contrast “shady glimmerings” and “twilight” with “pure light” in the preface to his natural theology. Those glimmerings do not correspond to human reason or scientia in the broad sense, but to empirical reason only. This crucial move eclipses revelation entirely and elevates scientia, a shift that becomes clear when More speaks of the “pure light of reason,” which sounds more like daylight than a candle.

More had further opportunity to refine and qualify his relationship to revelation when his crusade against enthusiasm was met with understandable resistance from theologians. It was not lost on these critics that enthusiasm, broadly defined, can denote legitimate revelation by a divine authority, including that found in Christian Scriptures. Perhaps because

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59 Baxter writes, “When our Divines and their Philosophers are compared, as to their promoting of true Holiness, verily, the latter seem to be but as Glow-worms, and the former to be the Candles for the Family of God” (290). Interestingly, Lucy Hutchinson likewise compares her interest in pagan philosophy to hunting for “glow-worms in ditch bottoms” (Norbrook 4).
of the reaction against his *Antidote*, More would take care in *Enthusiasmus Triumphatus* to define enthusiasm as the *mistaken* conviction of one’s divine inspiration, and years later still, he would explicitly place Scripture over Reason as the ultimate source of truth, if only for a moment. In his *Apology* (1664) More includes a section titled “How a man is to behave himself in this Rational and Philosophical Age for the gaining men to or retaining them in the Christian Faith,” and there he counsels:

> He must be sure not to deny any thing which he whom he would convince does hold and alledge upon clear and solid Reason: And especially he must be tender of denying it as repugnant to the Christian Faith; Unless it be plainly and really contrary to the Infallible Oracles of Holy Writ.

It is not particularly noteworthy that More would place Scripture above reason if the two should contradict each other, but the fact that he opens up the possibility for such contradiction is significant. This is partly explained by More’s subjection of Reason-as-process to the innate idea or inner light or “divine sagacity” that is extant in the human mind and with which Reason works. This capacity More compares to a musician’s ability to sing an entire song upon hearing the first few notes (*Antidote* 13-14). Keeping in mind More’s

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60 The tension between sources of authority here was not missed by More’s contemporaries: within a year of the *Apology*’s publication, John Beaumont quoted this passage and points out that, if “Scripture may be contrary to Reason which is clear and solid,” then “the Doctor can have small hopes of prevailing upon is Men of a rational genius, unless he grants them, that Scripture is not Infallible” (5). For a recent discussion of the More-Beaumont controversy, see Crocker, *Henry More* 93-104.

61 “The Etymologie, and variete of the significations of this word *Enthusiasme* I leave to *Criticks* and *Grammarians*,” More says in *Enthusiasmus Triumphatus*; for him, “Enthusiasme is nothing else but a misconceit of being inspired” (2).

62 The *Apology* itself was a defense against a work that must have stung More, Robert Boyle’s criticism of his use of Boyle’s discoveries to buttress his doctrine of spirit.
familiarity with the trope of the flaying of Marsyas, one could argue that the inner light is itself therefore merely the site of revelation.  

Adding to this evidence against More’s elevation of reason is his lack of what might now be called a scientific open-mindedness. “And verily,” he declares in *An Antidote*, “I do not at all doubt but that I shall evidently trace the visible foot-steps of this Divine Counsell and Providence, even in all things discoverable in the world.” This closed-minded certainty of his theistic conclusions at the outset of investigation, which gives grounds for later critics to accuse him of absurdity, is rooted early in More’s personal history. He narrates his experience of being so taken with the beauty of the world that he “never had the least doubt” there was a God, despite his doubts about his parents’ particular religious beliefs (*Opera Omnia* vi-vii).  

On the other hand, More’s conviction of his own rightness does not grow out of submission to some non-scientific external source of authority, but from within, so for all this More remains heterodox as regards Scriptural revelation. Regarding the “infallible oracles of Holy Writ” he mentions in his *Apology*, his argument eventually proves circular: he asserts later that interpretations of “Holy Writ” that do not accord with reason are to be discarded. And, as in the case of the image of daylight, More reinterprets “oracle” in such a way as to divest it of its revelatory force: in *An Antidote*, oracles are equated with “our own natural

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63 Matthew Evans-Cockle does argue this. Ovid relates how Marsyas, a distinguished musician, is flayed by Apollo after daring to take credit for godlike musical ability: Marsyas should have understood that he was not the author of his own ability. Among More’s contemporaries, Nathaniel Culverwell tackles the same problem of the potential pride inherent in assertions of an “inner light,” by following Herbert of Cherbury in distinguishing between “innate” and “connate” reason, accusing Plato of having “plac’t all his security in some uncertaine airy and imaginary Castles of his own” (*Elegant and Learned Discourse* 152; See also Serjeantson 225).

64 “De existentia enim Dei . . . numquam dubitavi.”
light.” He partly justifies this move by reference to the genre in which he is writing *An Antidote*:

I did not insist upon any sacred History, . . . mainly because I know the Atheist will boggle more at whatever is fetch’d from establish’d Religion, and fly away from it, like a wild Colt in a Pasture at the sight of a bridle . . ., snuffing the Aire and smelling a Plot afarre off, as hee foolishly fancies.

This seems a fair reason for excluding Scripture; and in fact, if there were no examples of natural theologies that do—to the detriment of their rational consistency—work Scripture into the fabric of their arguments, we might be forced to conclude that it is a necessary clause. As will become clear in the succeeding chapters, however, and in our consideration of John Ray’s *The Wisdom of God* in particular, such exclusion of Scripture is by no means characteristic of all natural theology, or of all empirical theology. It is merely the defining characteristic of all rational theology.

In turning from the intellectual context of *An Antidote* to the body of the text, I close with a comment on More’s uses of “wonder,” a word that (like “demonstrate” or “prove”) appears in natural theologies with widely diverging stances on reason and carries widely different meanings. In his valuable taxonomy of late seventeenth-century natural theologies, Scott Mandelbrote traces two main strands of argument: the first, exemplified in Boyle, Wilkins, and the Newtonians, emphasized providence in the lawful ordering and running of the universe and was longer-lived because it was more in line with the assumptions of the New Science. The second, conducted by the Cambridge Platonists, emphasized the “wondrousness” of phenomena they believed could not be explained by natural science and

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65 “Wherefore it is manifest, that we consulting with our own natural light . . ., that this Oracle tells us” (preface). Summarizing the relationship between revelation and sacred history in Christian doctrine, theologian J.I. Packer explains, “The history of salvation (the acts of God) took place in the contest of the history of revelation (the oracles of God)” (82).
so must be evidence of immaterial reality. In fact, in *An Antidote against Atheism* More uses “wonder” in both ways. In Book 2, he wonders in awe at the precisely contrived operations of the natural world; in Book 3, he wonders in empirical ignorance at supernatural marvels. In a later chapter on John Ray, I will argue that this first kind of “wonder” makes space for a third category of natural theology. Here, I investigate how the two kinds of wonder work in tandem in More’s attack on enthusiasm. For More, the crucial dialectic is not that between a lawful, orderly universe and a wondrous one, but between human reason, spirit, and agency and human enthusiasm, body and passivity.

**New Reason**

*For the Theatre of the world is an exercise of Mans wit, not a lazy Polyanthea or a book of Common places.*

More, *An Antidote against Atheism*

In *Enthusiasmus triumphatus*, first published in 1656 and bound with *An Antidote* and sundry other writings in 1662, More provides his definition of reason, which he will repeat with no substantial change in *The Immortality of the Soul* (1659):

> By Reason I understand so setled and cautious a Composure of mind, as will suspect every high flown and forward fancy that endevours to carry away the assent before deliberate examination; . . . patiently to trie it by the known

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66 Mandelbrote points out that the Cambridge Platonists’ variety of natural theology “was ultimately weakened by its association with credulity and with discredited attempts to prove that spiritual agents could be observed at work in the world” (452).

67 Axiom III in *Immortality* reads:

All our Faculties have not a right of suffrage for determining of Truth, but onely Common Notions, Externall Sense, and evident and undeniable Deductions of Reason. 4. By Common Notions I understand what ever is Noematically true, that is to say, true at first sight to all men in their wits, upon a clear perception of the Terms, without any further discourse or reasoning. From Externall Sense I exclude not Memory, as a faithfull Register thereof. And by undeniable Deduction of Reason, I mean such a collection of one Truth from another, that no man can discover any looseness or disjoyntedness in the cohaesion of the Argument. (7-8)
Faculties of the Soul, which are either the Common notions that all men in their wits agree upon, or the Evidence of outward Sense, or else a clear and distinct Deduction from these. (54)

“Deliberate examination” according to these two authorities, the “Common notions” within and the “Evidence of outward Sense” without, is a necessary condition for acceptance of any proposition. This charge places a high degree of responsibility on the mind to be active at all times: one must never receive an assertion passively, or one is liable to be blown and tossed by “every high flown and forward fancy.” By so conducting itself, the human mind participates in the god-like activity for which it was created.

This godlike capacity of the mind is integral to More’s method in *An Antidote*, in which he deploys his own divine Reason while expecting his readers to do the same. He requires us to think out—“excogitate”—the laws of geometry and the running of the universe as though we were God, at each turn testing whether we could excogitate anything better. If we cannot, then we must conclude—on the premise that our own reason is like that of God—that God must have created the universe just as they would have done. The syllogism, it will be seen, requires a blasphemously high view of human cogitation and industry alike, and much of the text is therefore a celebration of man’s “wit and art” (76). Conspicuously absent is the “book of Scripture,” or revealed theology, and with it the theology of the fall, both in nature and in human reason.

Insofar as he attempts to demonstrate that mere matter cannot give rise to nor sustain the cosmos, More is not alone among natural theologians; but his anxiety about theories of self-moving matter is more pronounced than most others’, and his attempt to conscript Cartesian mechanism into the service of Christianity is outstripped only by his friend Ralph
Cudworth’s. In a move that turns the materialist hypothesis on its head, More plays bait-and-switch with “Nature,” defining her as the self-sustaining spirit that moves matter, insisting that no “natural” movement, in the mechanists’ sense, is possible. More says plainly that Nature could do nothing unless guided by an omnipotent God (157-58). But, on the contrary, she does many wonderful things, and so one must conclude that she is: he repeats throughout the book the axiom that Nature does nothing in vain. For him the question is not one of mechanism versus spiritual agency, but rather of how direct spirit’s agency may be in a given case: “Nor is it any botch or gap at all in the works of Nature,” he writes, “that some particular Phaenomena be but the easy results of that generall Motion communicated unto the Matter from God, others the effects of more curious contrivance or of the divine Art or Reason . . . incorporated into the Matter” (61). He compares Nature’s indirect work with a crack in a piece of wood just where the carpenter would have cut it anyway (53). Unsurprisingly, when it is not clear whether “generall Motion” or “a more curious contrivance” is responsible for a phenomenon, More always lands on the side of direct divine agency. Regarding the development of a chick inside an egg, for example, it

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68 See Fallon 57-63. Both More and Cudworth dealt with the aesthetic problem of theorizing that “God himself doth all immediately, and as it were with his own hands, form the body of every gnat and fly, insect and mite” by theorizing an intermediate, delegated force, which in More’s work is “Nature” as defined above. Cudworth gave this force its more philosophically lucid title, “plastic nature” (True Intellectual System 147).

69 As in his Psychozoia, More attacks Lucretius in particular in making this move; for Lucretius pointedly divested Venus of her literal godhead and redefined her as the mechanical process of evolution by reproduction in the famous opening lines of De Rerum Natura.

70 See 27, 51, 53, 93, and 97-98. More acknowledges Aristotle the first time he uses the phrase, pointing out that he “was no doater on a Deity” but nonetheless saw this principle clearly (27).

71 More is sometimes forced to use “nature” to denote the opposite of “art” (as, for example, when he argues that obviously man-made artifacts should not be thought to be “works of Nature” [6]), but his point is that even “nature” in that sense is someone’s art.
seems to him “highly probable, if not necessary,” that there should be “something besides this fluid Matter” inside the egg, guiding the developmental process. In either case, however, Nature does the work, having made that matter “liquid and plyable to her Art and Skill” (53).

More’s language for describing matter aligns with his metaphysical argument. In An Antidote matter is not so much clay waiting to be fashioned as a slimy, disgusting substance with which only a powerful, wonderful force could do anything constructive. The “fluid, slippery, and undeterminate” nature of matter (40) bears argumentative weight in many natural theologies, but matter is not treated with the colorfully derisive tone that More takes. The brain, where vitalists are especially prone to locate self-moving matter, is “laxe pith or marrow,” comparable to a “Cake of Sewer or bowle of Curds” porous to “grosse Juice and Liquor,” “like a Net in all heaps in the water,” and a “masty body” (28-29). That such porridge could do anything, let alone anything productive, More considers absurd. The derisive tone here is not unlike that he uses on naturalists who dote on “outward gross sense” rather than tapping into their full intellectual potential.

Having put matter in its place, More spends the bulk of Book 2 demonstrating the manifold wonders that Nature has accomplished by ordering it, depending all the while on his audience’s capacity to excogitate. The argument proceeds in a familiar way: if a given structure or phenomenon could be otherwise, but is better as it is, we ought to assume that it was brought about by a reasonable power. This applies to the motion of the stars and planets, the tilting of earth’s axis, the structure and manner of reproduction of plants and animals, and earth’s geographical features. Some of More’s observations would prove shorter-lived than others: he discusses the bird of paradise and spends considerable time on spontaneous

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72 For a discussion of More’s debate with the vitalists, specifically Francis Glisson, see Crocker, Henry More 168-70.
generation and the signatures of plants. But his main point remains the same: Nature, working sometimes directly and sometimes indirectly, does nothing in vain. Indeed, her choice to work directly in some cases but not in others is far from arbitrary: those plants with clearly legible signs—poisons and aphrodisiacs—are the very ones whose properties most need to be recognized by men to help ensure survival (45), and animals that propagate by spontaneous generation (“out of Putrefaction”) are those with high mortality rates (80-81, 157).

In every case, in fact, More declares that the world is such as any reasonable human being would have “excogitated” it.73 Some of these declarations are humble in tone: “we can excogitate nothing to be added thereto” and “what could [one] have excogitated more accurate?” (94, 95) raise the question of whether a human could even have thought up something as accurate. (More is discussing the structure of the human eye.) But in general it seems that human reason, which after all is essentially one with divine reason, not only approves of the design it finds in the world, but would have done the same if given the chance. More wishes to show “that whereas the rude motions of matter a thousand to one might have best cast it otherwise, yet the productions of things are such as our own Reason cannot but approve to bee best, or as wee our selves would have design’d them.”74 This move, in keeping with More’s high regard for Reason, places on the human mind the burden of testing and approving everything nature does; no room is left for perplexing or unfit

73 See pp. 49, 94, 95.

74 More does not balk at assigning divine powers of cogitation to humans, because precisely the divine resides in the “noble” human. In his dedication to Anne Conway, he gushes, “Nor is there any thing of Hyperbolisme or high-flow’n Language, it being agreed upon by all sides, by Prophets, Apostles, and ancient Philosophers, that holy and good Men are the Temples of the Living God. And verily the Residence of Divinity is so conspicuous in that Heroical Pulchritude of your noble Person, . . .”
phenomena. If something remains outstanding, More’s argument for the divine nature of human reason will collapse; in other words, nothing can stand accused of having been done in vain. This explains why More spends relatively little time attacking particular materialist systems as Bentley would do decades later: he cannot afford to attack other philosophies when he has claimed that his own has “no lesse then demonstrated that there is a God.”

Instead, More expends Herculean effort resolving every case of seeming unfitness. His first move applies specifically to cases involving animals that seem “unfit to serve a human end.” To this problem More answers briefly and emphatically that animals have a right to enjoy themselves, and that nothing that serves their ends has been created in vain, however useless it may be to humans. The point is lucid and straightforward and seems to have made an impression on More’s readers.75 Next, More points outs that many things that appear obnoxious to man and useless to beasts serve the purpose of keeping man industrious. On the topic of “stinking weeds, and poisonous Plants,” More says, “if human Industry had nothing to conflict and struggle with, the fire of mans Spirit would be half extinguished” (65). Still other obnoxious things make the obviously fit yet more obviously so: “the brute creatures though some of them be of an hatefull aspect, as the Toad, the Swine, and the Rat,” says More, “are but like discords in Musick to make the succeeding chord goe off more pleasantly” (79). In each case, More demonstrates how human reason—once the human has reasoned carefully enough—will arrive at the same conclusion as the creator did.

We may note that this concordia discord argument encompasses human suffering. Speaking of “the more miserable objects in this present scene of things,” More proclaims that these

75 This assertion of More’s is among those that John Ray preserved in its entirety (Wisdom of God 129).
cannot divest [the Christian] of his happiness, but rather modifie it; being conscious to himself of so sincere a compassion, and so harmonious and suitable to the present state of things, carries along with it some degree of pleasure, like mournful notes of musick exquisitely well fitted to the sadness of the ditty. (Ward 69)

In this specimen of synaesthesia, the viewing of an object or scene worthy of pity brings about a “not unpleasant surprise of melancholy” which, like an annoying insect or a poisonous plant, turns out to be part of the perfectly harmonious symphony of the cosmos. The melancholy will not last long, however: “this soft and moist Element of Sorrow, will be soon dried up, like the Morning Dew at the rising of the Summer Sun,” the sun here being none other than the inner light that is able to comprehend divine providence (Ward 69-70).

More’s ethically dubious treatment of “tragical specimens” is a natural product of his method: the argument might not appeal to the affective sensibilities of the reader, but More’s claim has always been to logical proof rather than rhetorical appeal.76 (One might note here that it was on the virtues of their ability better to understand her suffering that the invalid Anne Conway eventually shifted—to More’s great disappointment—to Quakerism from her more rational, neoplatonic philosophy [Taliaferro 40]). Still, even this aspect of More’s natural theology met with the approval of some readers: in 1876 Edward S. Creasy would describe this passage as “infinitely superior, both in imagination and expression” (162).

76 More “cannot promise my Reader that I shall entertaine him with so much winning Rhetorick” in An Antidote; in the preface to his Collection of Several Philosophical Writings (1662), he explains why he has not added a treatise against superstition to his treatise against enthusiasm: “I do not look upon that Subject as any thing polishable by my hand, it being an argument fitter for Rhetorick then Philosophy (x). More’s suspicious attitude toward rhetoric is especially evident in his Apology, where he frequently attributes “fine Rhetorick” to his (to his mind) philosophically weak opponents. As if to ward off the objections of the squeamish, he insists later in An Antidote: “remember that I do not here appeal to the Complexional humours or peculiar Relishes of men” (164).
Having dealt with these more and less obviously good features of creation, More turns to those that are simply unfinished. These are the opportunities for man to exercise his “Wit and Art” (which nature, doing nothing in vain, has given him) in the indicative, not reasoning about what he would have done but carrying out what he can do to make the created order the best it can be. When More calls human Reason a “divine Art” (61), he is not speaking metaphorically. The direct work of God in the world is not only analogous to human artifice; God’s work is continuous with man’s. More thus portrays civilization and technology as completely positive. He gives lengthy paeans on sea travel and warfare, passages that otherwise seem out of place and possibly counterproductive. He also uses man’s divine artifice as justification for the rawness of raw materials: things not yet fit for use by man or beast, such as flax or iron ore, are fit to be made fit for use by man, because

77 More knows that this point must bear a lot of weight, so he explains carefully:
   And that you may the better feel the strength of my Argument, let us first briefly consider the nature of Man, what faculties he has, and in what order he is in respect of the rest of the Creatures. And indeed though his body be but weak and disarmed, yet his inward abilities of Reason and Artificial contrivance is admirable. He is much given to . . . the building of Houses and Ships, to the making curious instruments . . .” (54).

78 Pointing out the great advantage of water’s being dense enough to support a ship, More adds:
   For the two maine properties of Man being contemplation and sociablenesse or love of converse, there could nothing so highly gratify his nature as power of Navigation, whereby he riding on the back of the waves of the Sea, views the wonders of the Deep, and by reason of the glibnesse of that Element, is able in a competent time to prove the truth of those sagacious sugestions of his own mind . . . besides the falling upon strange Coasts and discovering Men of so great a diversity . . . (57-58)
   It should be mentioned here that More’s attitude toward non-Westerners is remarkably welcoming (See also his expostulations on coconuts on pp. 47-48).
   Likewise, he praises epic warfare, which is enabled by Nature’s provision of metals:
   And that Providence foreseeing what a kind of Creature she would make Man, provided him with materialls from whence he might be able to adorne his present Age, and furnish History with the Records of egregious exploits both of Art and Valour. But without the provision of the forenamed Materialls, the Glory and Pompe both of warre and Peace had been lost (55-56).
those “noble faculties” of “Reason and Artificial contrivance” would be useless unless humans were given opportunity to exercise them (54-58, 72-73). In so exercising them, man continues the work of the creator in a way that he could not do if ropes grew on trees already made, for example. Here too, then, Nature does everything exactly as a reasonable man would have done.

The practice of thinking along with God is not unique to More among natural theologians: indeed, the theoretical justification for the exercise was worked into the hard wiring of the New Science when Bacon announced that “God never wrought miracle to convince atheism, because his ordinary works convince it” (Essay 16). But others are more modest in ambition. Among the natural theologians considered in the present study, Richard Bentley’s argument most closely resembles More’s in this way: both draw on Cicero’s analogy of the world to an obvious human artifact (for Bentley, unsurprisingly, the artifact is a text), and both render explicit their methodology of considering every physical phenomenon with a view to how it could possibly be otherwise, and how—if it could be otherwise—it is better as it is. But where Bentley would claim for the cosmos a “meliority above what was necessary to be,” More says that Earth and the planets “are not but are so ordered as our own Reason must approve of as best” (50). The distance between rational theology and other kinds of natural theology, then, can be described in terms of the distance between meliority and optimality.

By now it will be clear what a heavy burden More expects reason to bear. Humans are not only equipped to recognize latent uses in things in order to bring about the best of all possible worlds; they are then to step back, look at the world they have collaborated with God to create, and see that it is not only good, but best. Because God is doing his part, well-
functioning human minds are the one thing needful for a perfect universe, and any culpable passivity that might compromise one’s mind is to be fought with utmost vigilance. Warnings about the limits of knowledge, the need for humility, revelation, and grace are therefore conspicuously absent from *An Antidote*; instead, More emphasizes human agency and responsibility.\(^79\)

The enthusiast, according to More, is one who boldly dictates “the careless ravings of his own tumultuous fancy for undeniable principles of divine knowledge” (preface). In the very first sentence of *An Antidote* More yokes this disease with materialistic atheism, and from that point on it is clear that he aims to champion Reason no less than theism, and perhaps more. For Reason will eventually lead to acceptance of a providential God, he argues, while unreasoned belief in God will collapse into atheism as easily as it was erected. What a particular fit of enthusiasm may dictate someone to believe is therefore of little importance to More: the problem is that the person has simply, passively, believed.\(^80\)

Because for More enthusiasm involves a lack of reasoning, rather than wrong reasoning, it is less a philosophical error than a physical malady, as his title suggests. In *An Antidote*, as well as his later *Enthusiasmus Triumphatus*, More portrays enthusiasm as a dangerous outcome of humoral imbalance, a disease that can and ought to be countered by the exercise of reason.\(^81\)

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\(^79\) When he celebrates vulgar people or non-westerners, for example, it is for their ingenuity (73).

\(^80\) They “have only a fiery Enthusiastick acknowledgement of God; change of diet, feculent old Age, or some present dampes of Melancholy will as confidently represent to their fancy that there is no God” (preface). We may note in passing a harmony between More’s thought here and Milton’s in *Areopagitica* (1644).

\(^81\) More identifies melancholic and sanguine form of enthusiasm, for example, against which Reason exerts an invigorating and calming influence, respectively. In both cases, it should be noted, Reason is a force counteracting blameworthy inertia.
As in cases where he praises human art and industry, here in his preface he praises activity of the mind and decries any passivity.

The close connection More sees between atheism and enthusiasm surfaces in the language he uses to discuss atheism in *An Antidote*. In addition to the usual accusation of ignorance (94), More accuses atheists of being “slow” (26), “coarse-spirited” (50), “mad or sottish” (59), “dull & slow” (89), and without natural faculties due to sensualism (92). Summarizing the atheist’s condition as an “enormous Disease of the Soul,” More lists its causes:

> either Vanity of mind, or brutish Sensuality, & an untamed desire of satisfying a mans own will in every thing, an obnoxious Conscience, and a base Fear of divine vengeance, Ignorance of the scantness & insufficiency of second causes, a jumbled Feculencie and Incomposednesse of the spirits by reason of perpetuall Intemperance & Luxurie, or else a dark bedeading Melancholy.

(164)

Sensualism is implicated in the foolishness of atheism in other natural theologies—Richard Bentley’s is notable for this—but More is alone in assigning so many physical symptoms to atheists. This disease of the soul arises precisely because humans are culpably giving to their soul less authority than their bodies; this is why an antidote is needed.

With all this discussion of feculency and incomposedness, a reader of *An Antidote* might almost miss More’s glaring omission of the Fall and the resulting human depravity leading to pain and suffering. More’s explaining away of suffering by a *concordia discors* argument sets him apart from Baxter, Wilkins, Bentley, and Ray, and provides us with another distinguishing characteristic of the rational theology. More makes the omission explicit, insisting, “I dare assure any man, that if he doe but search into the bottome of this

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82 See Baxter, preface; Wilkins, 257-260 and 394-95; Bentley, 1692, gives his entire first sermon on Ps. 14:1 (“The fool hath said in his heart, ‘There is no god’”). Matthew Barker (1619-1698) kept the limits of natural theology central in his lesser-known *Natural Theology* (1674).
enormous Disease of the Soul, . . . he will find nothing to be the cause thereof, but . . . ,” listing off the various physical maladies just mentioned (164). The narrow bounding of the etiology of atheism is necessary for More in two ways. First, as discussed, if the cosmos has become disordered as a result of the fall, then humans could excogitate a better one, rendering his arguments in Book 2 merely intriguing rather than absolutely convincing. Secondly, if the human mind has suffered any impairment, it is possible that one could be wrong in trusting both that outward-looking excogitation and, worse, in trusting one’s own innate ideas as explained in Book 1. The fall would therefore compromise the integrity of his airtight deduction.

**Old Reason**

*It’s all in Plato, all in Plato . . . bless me, what do they teach them at these schools?*

Professor Digory Kirke, in *The Chronicles of Narnia*

A further problem for More’s methodology might be presented by the very “Christian-ness” of the Fall. Granted, the Fall is not as peculiarly Christian as the doctrines of the Trinity and hypostatic union, for a degradation of sorts can be traced fairly easily in certain non-Christian world-views. Nonetheless, the assertion of a punctiliar and catastrophic event, for which a superhuman remedy is needed, is far from obvious to the reasonable pagans who wrote before More, and this peculiarity too makes the doctrine out of place in his argument. My purpose in the present section is to challenge More’s claim in the preface that he wrote only “the easy Emanations of mine own mind,” not resting his argument on the authority of external sources (as Wilkins would do). His claim is that certain “known and unalterable ideas” will provide the rule by which the other two sources of information, Nature and history (which would include Scripture), are read for evidence of God’s existence
and providence. Having set cogitative reason up as the epistemological authority, More therefore need not adjudicate which external source of information is more authoritative and trustworthy. Here again, then, we see that there was no connection between the New Science in particular and More’s elevation of reason and diminution of revelation: the book of nature is merely one voice among others. I broaden my focus here from the consideration of Nature in Book 2 of *An Antidote* and look at More’s appropriation of older arguments, primarily in Books 1 and 3.

There is reason to suspect that More did set Old Science above New, however unnecessary such an ordering was to his overall method. As noted, he speaks slightly of empiricists in comparing them with more deductive thinkers; moreover, although he might eventually have arrived at his Neoplatonic philosophical system without ever reading Plato or Plotinus, the fact is that he did read Plato and Plotinus. We know, further, that the old education system venerating and resting on a body of Christian and Greco-Roman texts was under attack in More’s England, and that he opposed these reforms. More occasionally betrays his own veneration of these texts in *An Antidote*: breaking with his usual avoidance of name-dropping, he lists Socrates along with the prophets, apostles, and martyrs as men so “wise and good” that the world rejected them (106). In incorporating the New Science into his natural theology, I argue, More aims to add more color and perspective to the reason found in Plato, Aristotle, Cicero, Aquinas, and many others, not to erase them and start over.

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83 More reacted strongly against what he called the “high insolencies of the Universities” represented in the reformed and reforming William Dell, who had accused universities of making youth “more of the world than the world by Nature, through the high improvement of their corruptions, by their daily converse with the Heathens, their vain Philosophers, and filthy and obscene Poets.” The Cambridge Platonist reaction to this criticism was to reiterate the compatibility of pagan philosophy with Christianity (Mandelbrote 459-61).
Granted, More constructs his argument in such a way that “belief” is always an inaccurate way of describing one’s response to the wisdom contained in an old text. Instead, he points out that “all men in their wits” possess innate reason, and so naturally when men in their wits write philosophy, they will produce something worth reading. More himself writes “after no Copy but the Eternall Characters in the mind of man,” and therefore touches “upon the same heads that others have” (*An Antidote*, Preface). He would not have undertaken to write at all if such texts are useless because of their redundancy, however. On the contrary, they can serve as useful memory aids or even educational tools, especially for those plagued with “bedeading melancholy” or vain sensuality or any of the other reason-dampening ailments. More argues further that if a mind should encounter a true precept outside of itself (rather than already possessing that truth by “innate knowledge”), it will immediately acknowledge that precept to be true once the terms are clearly understood. He thus relieves the average human mind of the burden of arriving at knowledge in a vacuum and justifies his own recapitulation of a number of old arguments. But—and this is More’s central concern—a wise person will always test a text’s correspondence to the inner light of reason before approving it rather than the other way around.

The tightly intertwined nature of Reason and already penned philosophy comes to the fore in an almost comical passage two-thirds of the way through Book 1, when More mounts his argument for an innate idea of God in the mind of man. He includes a curious paragraph in which he takes the tone of a vexed teacher whose pupils have been inadequately prepared

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84 More writes:

But if this seem, though it be not, too subtile which I contend for, viz; That the Soul hath actuall knowledge in her self, in that sense which I have explained, yet surely this at least will be confess’d to be true, that the nature of the Soul is such, that shee will certainly and fully assent to some conclusions, how ever shee came to the knowledge of them. (*An Antidote* 18)
for the course’s content, explaining Aristotelian deduction with painful thoroughness.

“Notice that Necessity is a Logicall Terme,” he explains, “and signifies so firme a Connexion betwixt the Subject and Praedicate (as they call them) . . . .” He concludes the explanation, “Necessity of Being and Impossibility of Not-being, are all one with Aristotle, & the rest of the Logicians. But,” he sighs, “the Atheist and the Enthusiast, are usually such profess’d Enemyes against Logick” that he might as well not bother (21). More speaks very slowly and clearly, as if for a rather obtuse audience for whom logic is a foreign language. In short, Book 1 of An Antidote against Atheism is a kind of seventeenth-century “Ontological Argument for God’s Existence for Dummies.”

That is, the bulk of the book is substantially a review of “heads upon which others have touched,” including not only Plato and Aristotle but also Anselm and, in More’s own time, Descartes. The human soul, argues More, is programmed to perceive things that mere sense could never do: ratios and proportions, for example, are concepts that the mind imposes on what one sees rather than properties inherent in the perceived matter itself. These concepts, though not subject to empirical induction, are nonetheless agreed upon by all; one would therefore be stupid to conclude on the basis of lack of sense evidence that they do not exist. When humans find, then, that they have the notion of an “absolutely perfect being” imprinted on their minds, they are to conclude that such a being exists (existence being more perfect than nonexistence, and therefore a necessary attribute of this being), or else they do violence to their natural reason. More was aware of the recapitulatory nature of these arguments and took care to point out that he has not taken old assertions on faith:

Contenting myself with my own, [I] received nothing from the great store and riches of others. And what I might easily remember of others, I could not let passe if in my own Judgement it was obnoxious to evasion. For I intended not to impose upon the Atheist, but really to convince him. And therefore Des-
Cartes, whose Mechanicall wit I can never highly enough admire, might be no Master of Metaphysicks to mee. (*An Antidote*, Preface)

It is clear that More “easily remembered” a great deal. Besides Descartes’, he draws repeatedly on the Old doctrine that behind every shadow, there is a reality. The principle applies to religious belief, More says, arguing that the ubiquity of religious fear of a deity in humankind, however misplaced, is a convincing argument that there exists true religious fear, and a real deity (34-35, 98-99). He applies this thinking to apparitions and witchcraft as well, arguing that if there were no actual intrusion of a spiritual world into ours, there would be no attempts to counterfeit apparitions and visions and the like (108). But More does not limit himself to his favorite philosopher, or even to the most respected natural theologians of foregoing centuries: he also admits into *An Antidote* the arguments of Lucretius—not to scorn them, but in order to undergird his own (24, 57).

While these old philosophical arguments are admitted into *An Antidote* only after surviving a rigorous vetting process, another category of texts finds its way in with relative ease: what More calls the “records of history,” which serve as his source materials for Book 3. He sets these accounts of supernatural phenomena on par with the natural world as authoritative sources in order to complete his overarching argument that mechanism and a “Spirit of Nature” working in tandem can only ever provide a partial explanation for the reality of the world humans inhabit. More is thus free from the unquestioning devotion to reproducible results that would come to characterize the western world, allowing as much authority to the written and spoken testimony of others as to confirmable natural history of experiments conducted in the laboratory.85

85 A high-profile precedent to this argument is found in Augustine (*de Util. Cred.* 12.26; *De fide rerum invisibilium* 1.2). See Rist 29.
It is his willingness to accept testimony, and not his willingness to believe in ghosts in particular, that makes More’s thought seem old-fashioned. At times he considers a source authoritative until proven otherwise rather than the converse. Thus does he briefly mention in his dedication that “Prophets, Apostles, and Philosophers” agree that divinity resides in the human mind. Thus does he dedicate a chapter to the signatures of plants and another to the bird of Paradise, phenomena he makes no pretense of having explored himself (65-66). And thus does he rely on anecdotal evidence throughout Book 3. More begins his accounts variously: “Cardan tells a story,” “Suetonius relates,” “Caelius Rhodiginus profess’d,” or simply “A friend of mine told me this story,” or “I heard lately.” One story will “put [More] in mind” of another, which he will proceed to narrate. Especially interesting is his account of the pied piper, which he verifies by saying that the story

hath so evident proof of it in the town of Hammel . . . that it ought not at all to be discredited. For the fact is very Religiously kept amongst their ancient Records, painted out also in their Church-windowes, and is an Epoche joy’nd with the yeare of our Lord in their Bills and Indentures and other Law Instruments. (123-24)

More, who has compared the naturalist confronted with “sacred history” to a horse that is easily spooked, is willing to cite stained glass and holy days in defense of his argument. Such credulity seems to undermine More’s claim to thoroughgoing rational proof.

But as was the case with More’s mysticism and poetry, these more whimsical passages still fall under the umbrella of Reason. In the Preface he acknowledges that Book 3 will be the most difficult part of his argument for atheists to swallow (“I am well aware how ridiculous a thing it seems to those I have to deale with”), he shall include it anyway because of its pertinence to his project (preface). At the close of the book, he meets the atheists’ ridicule head-on:
But methinks I hear the Atheist replying to all this, That I have run a long division upon very uncertain grounds, and asking me . . . whether I believe that multifarious Fable I have rehearsed out of Bodinus and so much descanted upon. To which I answer, That I will not take my oath that the most likely passage in all Plutarch’s Lives, or Livies History is assuredly true. But however that I am not ashamed to profess, that I am as well assured in my own judgement of the Existence of Spirits, as that I have met with men in Westminster-Hall, or seen Beasts in Smithfield. (151)

More addresses his retort not only those who trust Plutarch or Livy, but finally—here he rests on Descartes’ interrogation of sensory evidence—also those who trust their senses, who believe there are men in Westminster Hall merely because they can see them.

The “confident ignorance” of the “meere naturalist” having been called into question, More explains how reason can allow, and even endorse, the contents of Book 3. He does not ask for a suspension of reason in favor of unquestioning faith in the agent(s) of supernatural events; instead, he asks for yet more rigorous application of reason, the relinquishing of unreasoned incredulity. He seeks to expose and purge from his audience the perception of an inverse relationship between intelligence and belief in the supernatural, declaring that it is “some vain-glorious Fool or Other” who seeks to appear “Atheisticall, that he might thereby forsooth be reputed the more learned, or the profounder Naturalist” (163-64). Here again a sense of resentment for the New Science creeps to the fore, but More’s complaint is simply that he foresees a tyranny of an epistemology that he believes should only be one voice in a democracy. He sets out reasonable criteria for acceptance of a story: it must be attested by multiple witnesses, must leave palpable (“real”) effects that cannot have been due to natural causes, and it must not serve the cause of the person who reports it (108). And with one exception, he consistently keeps an eye on these criteria, pointing out how each supernatural event he relates was witnessed by many, was repeated multiple times, left palpable effects, or

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86 There is harmony here with Wilkins’s concept of “indubitable” certainty (Shapiro 36-37; Wilkins chapter p. 112).
stood to profit the witness nothing, or even to damage the witness, in being told. However unconvincing these arguments were to his skeptical contemporaries, More himself remained convinced and still had not outgrown his belief in supernatural phenomena in 1680, when he edited Joseph Glanville’s *Sadducismus triumphatus*.

I close this study of More’s natural theology with a brief account of its reception. In spite of his high aspirations, the treatise was found no more “really convincing” than was Descartes’ or Hobbes’ or those of the philosophers who predate him: the second edition of *An Antidote*, which appeared in 1655, includes an appendix in which More answered a number of objections, aimed primarily against his ontological arguments in Book 1. His unusually sustained and detailed attention to the book of nature marked him as an innovator and father of natural theology, and his converse with Newton likewise earned him lasting recognition, while his attempt to maintain a place for the old philosophy and his claim to have produced a clear deduction of God’s existence and superintendence of the universe—the aspects of his natural theology he considered most important—proved far shorter-lived than the thought of his less logically coherent successor John Ray. Intellectual history made note of both his success in the philosophy of science and his failure in natural theology, and More came to appear as unwittingly helping to bring about the demise of his own Christendom by demonstrating the incompatibility of an empirical epistemology with faith. But we know that he saw that very incompatibility, that he kept faith (under the title of enthusiasm, credulous acceptance of revelation) on a short leash, and that he therefore constructed a more holistic argument for religion than subsequent readers have given him credit for. Rather than either nature or scripture, More assigned final epistemological authority to the “divine sagacity,” drawing on which he wrote *An Antidote against Atheism*. 
“Prudent Charity”: Richard Baxter’s *The Reasons of the Christian Religion* (1667)

*Life is short: and we are dull: and eternal things are necessary: and the souls that depend on our teaching are precious.*

_The Reformed Pastor_, 1656

Richard Baxter was, in his own view, a natural theologian insofar as he was a theologian at all. He spent his life industriously pursuing and defending right Christian doctrine and practice, declaring in his approximately 168 books what he called “great, necessary, and certain things” over less important points of doctrine, and emphasizing the centrality of those things, the necessity that Christians hold fast to them in their thought and conversation. These things, he held, were to be discovered and affirmed by humans using their God-given powers of reason; like More, he advocated more and better learning as the best means for buttressing one’s Christian belief against the onslaughts of doubt. Unlike More, however, he also maintained a robust theology of “things unrevealed,” as well as of human fallibility and the great impediment posed against reason by our sinful nature. For a natural theologian, Baxter gives a startling degree of weight to God’s sovereignty; in fact,
merely to consider seriously his arguments, the reader of Baxter must move to a vantage point from which differences among other natural theologies seem trivial, the natural theologies themselves, anthropocentric, and their authors, preoccupied with minutiae. In this move the distinction between Old and New Science is obscured as Baxter reverses the “zooming in” of Baconian anatomization of the sciences. Baxter’s strong emphasis on God’s sovereignty had much to do with the high permeability of the boundary between his theological writing and his devotional life.

Baxter’s life was marked by theological, political, and physical struggles. He never received a university education, but he more than made up for this by voracious reading through the whole of his life. In 1638 he was ordained a deacon, and he likely advanced to priesthood in the ensuing years. But he was simultaneously exploring his own theological convictions and becoming uneasy with conformists’ unconsidered inclinations both to dote on the Prayer Book and to deprecate good Christian Puritans. His forceful preaching and prolific writing evinced an unwavering commitment to the “word of God” above the established church and its prayer book, so that by the 1640s he had solidified his reputation as a dissenter. He could not expect a warm welcome from many reformed clergy, however, because he opposed the radical doctrines that led them to rebellion against tradition and authority—good things, Baxter thought, that were abused by those who held power at the time. He strongly opposed enthusiasm and antinomianism and, unsurprisingly, brought on

Notes

87 The lack of a university education was a source of some shame on Baxter’s part, which shame he attributed to his sinful desire to distinguish himself as an academic. The DNB notes his writing in 1681 that his ‘faults are no disgrace to any University; for I was of none, & have little but what I had out of books, & inconsiderable helps of Country tutors’ (Keeble and Nuttall, 2.225, qtd. in Keeble). Keeble further discusses Baxter’s voracious reading in Puritan Man of Letters 35-39.
himself charges of Arminianism, popery, and Pelagianism by Independents such as John Owen.\textsuperscript{88}

These tensions affected more than Baxter’s conscience. The boundary between theological differences and martial conflict was dangerously permeable in seventeenth-century England, and he found himself close to more uprisings, explosions, and gunfire than he would have wished. During his early appointments in the established church, rumors of his rebellious ideas were rampant, and after he accepted a post as chaplain to a regiment of Parliamentarian troops, his anti-radicalism made him unpopular with the leaders of that faction as well. Often on the move, often subjected to inclement weather and congregations, Baxter was seldom in good health. He had suffered from a staggering array of diseases from childhood, and his poor health would continue until his death at the age of seventy-six.\textsuperscript{89} In fact, a suspicion that he would soon die often drove him to write more, and edit less, than he would otherwise have done (Keeble, \textit{Puritan Man} 12). There can be little doubt that these difficulties exerted an influence on Baxter’s writing, and particularly on the way he deals with the topic of suffering in his natural theologies.

Although Baxter met with resistance to his work on every front, he did not write so prolifically because he wanted a diversion from unrest and illness, or because he wanted to

\textsuperscript{88} Keeble, DNB. Packer points out that for Baxter, “doctrine that did not demand and promote holiness was of necessity Satanic. By this criterion, Baxter judged Antinomian theology to be inspired by the father of lies, and he fought it tooth and nail all his life” (89). For more discussion of Baxter’s debate with Owen, whom he respected at a personal level, see Packer 89-96.

\textsuperscript{89} Keeble notes in the DNB that “The thirty or more different physicians Baxter was to consult during his life were unable to prescribe any sustained relief from ‘the same Symptoms as most men have about Fourscore years of Age’. Baxter suffered chronically from flatulency and gastric problems, ‘incredible Inflammations of Stomach, Bowels, Back, Sides, Head, Thighs, as if I had been daily fill'd with Wind’; from scurvy and from repeated haemorrhaging from ‘Eyes, and Teeth, and Jaws, and Joynts, so that I had scarce rest night or day’; he was prone to catch colds and chills, and he suffered regularly from headaches, from ‘terrible Toothach’, and from gallstones, in later life the severity of the pain leaving ‘scarce any part or hour … free’.”
make a reputation for himself as a worthy divine. He took no pleasure in the various controversies in which he became entangled: his writings demonstrate a keen desire to find allies in the Christian cause rather than to hunt down infidelity. The problem, from Baxter’s point of view, was that infidelity found him, and forced him to speak out against it, so that people could see false doctrines for what they were. He addresses repeatedly the folly of arguing over inconsequential controversies and declares that he shall ever concern himself with the central doctrines without which people perish. Addressing fellow clergy, he insists:

If we can but teach Christ to our people, we teach them all. Get them well to heaven, and they will have knowledge enough. The great and commonly acknowledged Truths are they that men must live upon, and which are the great instruments of raising the heart to God, and destroying mens sins. . . . It will take us off gawdes, and needless Ornaments, and unprofitable Controversies, to remember that One thing is Necessary. (The Reformed Pastor 120-21)

The nature of grace, the degree of human responsibility in salvation, were among Baxter’s “great, necessary, and certain things,” and he seldom strays from arguments in which salvation is at stake, except to argue that others should likewise avoid waging useless battles and focus instead on the war against the world, the flesh, and the devil.

This one necessary topic proved impossible to exhaust, and over the course of his life Baxter produced enough texts to populate a small library. In addition to the occasional nature

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90 A good example is his conviction that many Catholics were part of the community of faith, e.g. in his preface to Now or Never:

If a Papist or any other sectarian seriously love God, and his brother, and set his heart upon the life to come, give up himself to the merits and grace of Jesus Christ, and the sanctification of the Holy Spirit, to be fitted for that glory, lives by faith above the world, mortifies the desires of the flesh, and lives wilfully in no known sin, but presses after further degrees of holiness, I doubt not of the salvation of that person.

See also Reliquiae Baxterianae I.131, where Baxter records that he revised his early rejection of Catholics.

91 Baxter describes himself as one who “hath learned . . . to take Great, Necessary, Certain things, for the food of his faith” on the title page of A Treatise of Knowledge and Love Compared (1689). It is a formula he uses often.
of most of his works—he often needed to respond to particular attacks—there are two reasons for his at once profuse and tightly focused writing. First, many people need to hear the truth. Baxter hoped and sought that all Christians, rich and poor, should be able to read texts of practical divinity. This is a point on which he never wavered: anything that spreads the truth of Christianity is a good thing—even if the agent in question is a Jesuit missionary—and in his view a lack of literacy or leisure to read gave valuable ground to the devil.92 His second work, *The Saints’ Everlasting Rest*, was a work of practical divinity intended for working laypeople as well as clergy, and it proved tremendously popular, going into eight printings during the first eight years after its initial publication. This large quarto of some 850 pages takes its place among twenty-three of his own works Baxter earmarked as especially suitable for “the ignorant” (Keeble, *Puritan Man* 157-68). Nor did he expect that his own texts should make up the bulk of the ignorant person’s reading. Asked which “Books Especially of Theologie” should make up the poor man’s library, he lists around a thousand texts and adds that this “cometh short of a Rich and Sumptuous Library.” This, N.H. Keeble notes, “is a remarkable testimony to his expectations of a poor man” (*Puritan Man* 36).

The second reason Baxter wrote so prolifically on a few central doctrines is that the truth needs to be heard over and over. The goal of learning is to bring about spiritual growth, and this is not achieved by mere punctual acceptance of propositions. Commenting on his own reading of the natural theology of Vives, Grotius, and others, he records in the preface to *The Reasons of the Christian Religion* (1667):

92 “I have very Honourable and Grateful thoughts of the Labours of the Jesuits and Friars for the Japenians, Brasilians, Chinenses and other Infidel Nations . . . and I could wish that the world had a thousand Jesuits for every one, on condition they were employed in no other work” (*Grotian Religion* 8). Keeble discusses Baxter’s distress over excessive labor and illiteracy among husbandmen, and his conviction that “knowledge, by necessary helpes is the parent of all piety and virtue” (*Puritan Man* 44-45).
I found that truth must be so long retained, and faithfully elaborated by a
diligent and willing mind, till it be concocted into a clear methodical
understanding, and the Scheme or Analysis of it have left upon the soul its
proper image, by an orderly and deep impression; yea, till the Goodness of the
matter become as nutriment, blood and spirits to the Will, before it is truly
made our own.

Industrious study was for him a metonym for the life of faith, and he believed that it was
impossible to attain holiness without sustained attention to right thinking. He refers
repeatedly to the church as the “school” of Christ and to Christians as his “scholars,” ranking
these scholars from weak Christians “who have only the Essentials of Christianity, or very
little more” to the inhabitants of heaven, who have achieved perfection. He is clear about
the means by which one advances through these stages: “For it is the essential and common
truths, as I have often said, that we daily live upon as our bread and drink. And we have
incomparably more work before us, to know these better, and to use them better, than to
know more.” This is the end toward which Baxter studied the works of others, and the end
toward which he wrote his own. Essential truths cannot be rehearsed enough, and—
depending on one’s view of human reason—natural theology may be one of the best ways to
rehearse them. Baxter clearly thought that it was.

**Why Would a Puritan Write Natural Theology?**

Starting with Part II of his *Saints’ Rest*, Baxter took up the reasonableness of
Christian doctrine in a number of his works, notably *The Unreasonableness of Infidelity*
(1655), *The Reasons of the Christian Religion* (1667), *More Reasons of the Christian*

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93 The higher ranks, notably, have not added more material to their essentials, but rather have
“the Integral parts of Christianity in a considerable measure”: for Baxter the Christian grows in
quality, not quantity, of understanding (*Defense ii*, 91-107).

94 This appears in Baxter’s letter to the reader in *A Treatise of Conversion*. 
Religion and No Reason Against it (1672), Considerations on the Existence of God and the Immortality of the Soul (1676), The Divinity of the Christian Religion (1677), and Of the Immortality of Man’s Soul (1691). Baxter’s fundamental logic remains the same, and he cites earlier works (such as A Saint or a Bruit, 1662) in later ones. He also summarizes his general argument for Christian faith in Part II of The Life of Faith (1670). Among these works, The Reasons of the Christian Religion is the best developed and most compelling as natural theology. Baxter explains in the preface to Reasons that, although he had already “written much on this Subject,” the writing was “dispersed and buryed in the midst of other Subjects (except my Book of the Unreasonableness of Infidelity): And I thought it more Edifying to set it in order together by itself.” The basic organization is simple: Part 1 concerns extra-Scriptural evidences for God’s existence and attributes; Part 2 then turns to Scripture for evidence of the internal rational coherence of Christianity. The project was by many standards a success: Dr. Johnson called it “the best collection of the evidences of the Christian system”—not merely among Baxter’s writings, but universally (Boswell 202)—and subsequent readers have attested to its thoroughness and force.95 Part 1 of Reasons of the Christian Religion therefore forms the center of the following discussion of Baxter’s natural theology.

Baxter addresses his general justification of natural theology first to reformed Christians, not to scientists (Wilkins’s audience), infidels (Bentley’s audience), or infidel scientists (More’s audience). Like every topic he considers important, the necessity and goodness of rational consideration of Christianity arise repeatedly in Baxter’s oeuvre, but his

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95 Powicke calls the work “a monument of convincing Apologetics,” (Under the Cross II.65); J.M Lloyd Thomas calls it “very powerful” (xxiii).
case against his “antinomian” detractors in Part 2 of Reasons is fairly representative of his attitude toward those divines:

I know there is a sort of over-wise and over-doing Divines, who will tell their followers in private, where there is none to contradict them, that the method of this Treatise is perverse, as appealing too much to natural light, and over-valuing humane reason; and that I should have done no more but shortly tell men, that All that which God speaketh in his word is true; and that *propria luce*, it is evident that the Scripture is the Word of God; and that to all God's Elect he will give his Spirit to cause them to discern it: and that this much alone had been better than all these disputes and reasons: but these over-wise men, who need themselves no reason for their Religion, and judge accordingly of others, and think that those men who rest not in the authority of Jesus Christ, should rest in theirs, are many of them so well acquainted with me, as not to expect that I should trouble them in their way, or reason against them, who speak against reason; even in the greatest matters which our reason is given us for. As much as I am addicted to scribling, I can quietly dismiss this sort of men, and love their zeal, without the labour of opening their ignorance. (491-92)

Baxter’s defense here accomplishes two things. First, in his attack on the “over-wise” divines he engages in the kind of polemic Richard Bentley would later take up, exposing problems inherent in his detractors’ position. He points out that people who need rational support for their beliefs are being asked to “rest in” the authority of human theologians, so deplorable is it to appeal to natural light. Secondly, in ascribing to those divines the doctrine that “Scripture is the Word of God,” Baxter implies his own qualification of that pronouncement as the end of discussion. For him an unthinking devotion to the literal text of Scripture is bibliolatry, essentially different from faith in the unchanging truths of God’s Word.96

96 Packer explains: “that the Bible was the authoritative Word of God, [Baxter] also agreed; but the rest of [the antinomians’] account seemed to him to be full of mistakes. In the first place, the Word of God which is the object of saving faith is, as we have seen, the gospel embodied in the baptismal covenant and the three summaries, which can be proved and handed down unchanged within the living Church, and can be known and savingly believed by one who has never heard of Scripture. In the second place, Scripture is so far from being self-evidently such that Church tradition must be invoked to define its limits” (91).
Baxter’s emphasis on reason relative to the text of Scripture adds an important dimension to our consideration of natural theologies of the period. In More’s and Ray’s natural theologies in particular, I identify an inverse relationship between human reason and divine revelation. This relationship does not hold in Baxter’s thought: he simply, emphatically, places both impressively high, a move largely enabled by his drawing of a distinction between “God’s word” and Scripture. In so doing he complicates the tidy category of “rational theology” that, I have argued, helps to make sense of the longevity of what looked like an ill-fated early Enlightenment project. For we shall see that Baxter’s natural theology is in fact rational theology, sharing with Henry More’s a basis outside of Scripture,\(^7\) relying finally not on exegesis of that Text (as Ray’s does), but on principles available to all who possess reason. But while More accomplishes this circumvention of the necessity of blind faith by means of an elevation of human reason to divine heights, Baxter does so by an appeal to God’s own rational nature.

Baxter’s simultaneous elevation of revelation and reason is evident in a passage where he attempts, as John Wilkins would do seven years later, to bring the Christian virtue of faith together with reason. Wilkins, it will be seen, defines faith as an “act of the judgment in assenting to all divine truths, whether discoverable by Reason or by Revelation” \((Principles 190)\). Baxter’s treatment of faith sounds similar: “Faith is an act or species of knowledge, it is so far from being contrary to reason, that it is but an act of cleared elevated reason” \((259)\). But there is a great distance between these two assertions. Besides the

\(^{97}\) Baxter’s early relations with More were harmonious: regarding the Cambridge Platonists, “with Dr. Moore their leader,” he says that “their profitable preaching is used by God’s providence, to keep up the Publick Interest of Religion, and refresh the discerning sort of Auditors.” He paints in a good light their “having more charitable Thoughts than others of the Salvation of Heathens and Infidels” \((Rel. Baxt. 386-87)\), a view that places him at odds with his Independent contemporaries.
difference implicit in Baxter’s positing a need for “clearing and elevating” before reason is qualified to act as faith, one finds on closer scrutiny a complete reversal of means and ends in the two men’s treatment of faith. While Wilkins yokes faith and reason in order to justify faith to unbelievers, Baxter yokes faith and reason to justify reason to believers, and he is thus able to base his argument on the obvious fact of God’s wisdom. He points out that to define faith otherwise would be to call God irrational, and he believes (and presumes that his reader agrees) “that God is Intellection, Reason or Wisdom,” and that though human reason is “the lower derivative Reason of many, yet we have no higher name” with which to dignify God’s. “I must conclude therefore,” he adds, “that The Christian Religion must be the most Rational in the world” (259). The distance between this pronouncement of Baxter’s and many similar ones made by Henry More must not be missed. More meant that one should therefore accept Christianity; Baxter means that a Christian should therefore accept reason.

Baxter thus shares with Ray a belief in divine revelation that More would have spurned as enthusiasm. For Baxter counts himself among those who “number not our Divine Revelations with the Veresimilia, but with the Certain Verities” (More Reasons, preface). And in being certain about such revelations as rationalists find uncertain, he is uncertain about things they profess to know:

Secret things are for God, and things revealed for us and our Children, saith Moses. And when I presume most, I do but most lose myself, and misuse my understanding: nothing is good for that which it was not made for: our understanding as our Eyes are made only for things revealed. . . . I have oft wondered at . . . Mr Glanvill, that after his Scepsis Scientifica, he could talk and write of doubtful things with that strange degree of confidence.

(Placid Collation 110)

Joseph Glanvill was a Cambridge Platonist whose works on spirit and immortality professed, like More’s, to anatomize all that is, an undertaking that in Baxter’s view elevated human
reason to divine heights. Although Baxter is willing to subject the text of Scripture to verification by his reason, he is unwilling to subject everything to such verification, because human beings have not been given the means to do so. Revealed things must be taken on faith.

In short, when one reads Baxter’s works of natural theology, one begins to see that in him two seemingly antithetical schools of thought are married. J.I. Packer provides a lucid summary of this situation, asserting that it was a “fusion of Renaissance intellectualism with Reformation religion that had revived the Mediaeval synthesis and created Puritan culture” in the first place, making the Puritan ideal one “of uniting all knowledge under God.” Unfortunately, adds Packer, this proved a daunting task, and few were equal to it. By the time Baxter wrote, Puritanism had already begun to give rise to two schools: the Cambridge Platonists and their deist successors, who gave precedence to reason, and the Independents—many of them followers of John Owen—who asserted human fallibility to the point of believing that “an apologetic designed to prove Christianity true was a waste of time and trouble” (99-100). Packer makes his appreciation of Baxter in these circumstances clear:

But at least one Puritan had a mind sufficiently large and a love of truth sufficiently strong to sustain and develop the synthesis in its full, comprehensive sweep; to evaluate nature positively without under-valuing grace, and to assert grace without denying nature; to invoke reason’s authority in order to prove that the Church’s gospel and the Bible possess God’s authority; to take all arts and sciences for his province, so that he might himself construct the hierarchy of truth and show, according to the Puritan blueprint, how all that is comes from God and leads to God. The man in question was Richard Baxter. (101)

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98 Keeble echoes this view twenty-eight years later, saying that in Baxter “an absolute Christian commitment, which we recognize as Puritan, leads not to any narrowing of his sympathies, but to a responsiveness to the best in all men’s thinking and practice, and a passionate desire that by the development of all their faculties men may grow as moral and spiritual beings” (Puritan Man 47).
It is in Baxter’s natural theologies that we find such invoking of the authority of reason to prove the authority of the Church’s gospel and the Bible; significantly, Church, Bible, and reason are all subordinate to, and originate in, God’s own authority. The reader of Reasons need not know anything about Baxter to see this; it is evident on every page.

Baxter’s identity as a Puritan divine, then, dictates many of the features that distinguish Reasons of the Christian Religion from other natural theologies of the period: he is occupied with theological concerns as much as he is with epistemological ones (although for him this would be a false distinction). Thus he justifies his practice of natural theology in theological terms, and not as adhering to a particular scientific method, nor does he answer Bacon’s charge that natural theology is a misallocation of intellectual resources. Another distinctive feature is Baxter’s focus on soteriology and the general care of souls. The relationship between reason and salvation proves a tricky balance for Baxter. On the one hand, he holds that even small steps toward truth are worthwhile in procuring salvation. In a letter to Sir Henry Herbert regarding the rationalism of his notable brother Edward of Cherbury,99 he sets out the various belief systems available in his culture—atheist, theist, Christian—as an unbroken continuum along which one moves in degrees. Edward, Baxter judges, is “too low” relative to those who accept Divine Revelation (such as his other brother, George, whom Baxter cannot praise too highly), but “too high for the Atheistical

99 Baxter records the circumstances for his writing More Reasons in Reliquiae Baxterianae: “A Stranger, calling himself Sam. Herbert, wrote me a Letter against the Christian Religion, and the Scriptures, as charging them with Contradictions, and urged me to answer them, which I did: And his Name inviting my memory, I adjoyned an Answer to the Strength of a Book heretofore written, by Edward Lord Herbert of Cherbury, some-time Ambassador in France, the Author of the History of Henry VII. called de Veritate, being the most powerful Assault against the Christian Religion, placing all the Religion that's certain, in the Common or Natural Notices: I entitled the Book, More Reasons for the Christian Religion, and none against it: Or, a Second Appendix to the Reason for the Christian Religion.” (II.90.199) In the same place Baxter records fervent admiration for the third Herbert brother, George.
Sensualists of this age.” Baxter expresses hope that crasser atheists will learn the “Natural Certainties” taught in Herbert of Cherbury’s de Veritate.

On the other hand, Baxter holds an “all or nothing” view that seems to contradict this model of a gradually achieved salvation. He argues that smaller points of controversy are apt to stymie the intellectually curious and prevent their apprehension of the one thing needful, famously asserting that the only thing of real importance is whether one is a “MEER CHRISTIAN”:

Whosoever holds all that is necessary to salvation, and is serious and diligent in living according thereunto, shall be saved, whatever error he holds with it. For if he be serious and diligent in the practice of all things necessary to salvation, he hath all that is necessary to salvation. (*Now or Never*, preface)

This view seems at odds with the conviction expressed in his letter to Sir Herbert, for how can it be useful to help atheists asymptotically approach soul-saving truth? This problem caused John Owen and his ilk to assert that salvation is achieved only by a forceful irruption of the Holy Spirit into one’s life, until which time one is lost in darkness, and after which one stands firmly in the light (Packer 100). But Baxter’s very undertaking of natural theology sets him apart from Owen: one who asserts an utter disjunction between unbelief and belief cannot hope to move people by a reasonable progression from one to the other.100

Why does Baxter avoid following Owen? The answer surely lies in his commitment to practical holiness: as Baxter sees it, a theology that asserts a sudden and irresistible irruption of grace is antinomian, militating against the pursuit of right living that so obviously should characterize Christian life. Right thinking and right living are for him

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100 Although Baxter’s views on “unnecessary” controversies changed over the course of his life (“the elder I grew the smaller stress I layd upon these Controversies” coming eventually to value almost exclusively the central doctrines of Christianity [qtd. in Keeble 41]), his optimism about leading people to truth by degrees does not seem to wane in his later writings; his natural-theological bent persists through his discussion of epistemology and the nature of spirit until his death.
inextricably yoked, and one can ascend or decline in understanding only as quickly as one can ascend or decline in holiness. Cases of a discrepancy between a person’s doctrine and life are thus always temporary, and the person who follows Herbert of Cherbury’s imperative to live by natural law will necessarily come to an apprehension of the truth of Christianity, or else will revert to sensuality. Conversely, it is only a matter of time before the hypocrite descends into atheism. Baxter speaks of “atheistical sensualists” rather than “sensual atheists” because, in his view, wrong belief follows wrong behavior. “They that will not live as they profess to Believe,” he says with characteristic candor, “may most easily be drawn to Believe and profess, as they are willing to live” (Reasons, preface). This assertion is not unique among natural theologies—both Baxter and Richard Bentley inherit it from Augustine—but relative to Bentley Baxter is less concerned with sensuality’s power to weaken his own argument than he is with sensuality’s power to harm souls.

The role of right reason in salvation is thus one of Baxter’s key justifications for undertaking natural theology, for right reason is absolutely necessary in order to live a life of faith: “Though a man of knowledge may be the servant of the devil, yet no man without knowledge (that hath the use of his Reason) can be the servant of God,” Baxter argues, asking, “Can you love or serve a God that you Know not?” But conversion of servants of the devil into servants of God is not the chief aim of Reasons; another aspect of Baxter’s “theological” natural theology is his addressing his defense of Christianity to an audience that is already Christian.

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101 Atheists have, according to Baxter, “hired out their reason to the service of their appetites and lusts” (Reasons 243). Likewise Augustine (Rist 28) and Wyclif (Jeffrey 176-77).

102 Directions 34-35. See also Keeble, Puritan Man 41. We may note a resonance between this line of thought and Milton’s description of the “heretick in the truth” in Areopagitica.
Audience is of utmost importance for Baxter, who divides his readership into three groups at the outset of *Reasons*. The first group includes himself: the title page declares that the treatise was “first meditated for the well-settling of his own Belief; and now published for the benefit of others, by RICHARD BAXTER.” The two other groups are the unbelieving and the hypocrites, and Baxter makes clear that what follows is not primarily intended for them. To the unbelieving he says that he is writing for people who are willing to see the truth if it is shown to them: those who approach his text looking for holes, sure that he is wrong, will find what they are looking for. To the hypocrites he issues a call to begin living as the Christians they say they are, warning them of the dire consequences if they should not. The prefatory matter sets the tone for the entire work: intolerant of any philosophy that seeks to make gods of men, but pastoral and gentle toward those who consider themselves wanting and those who suffer.

Baxter’s letter to the Christian Reader gives several reasons for his writing *Reasons*, among them the proliferation of atheism, clergy’s over-concern with minutiae, and Christians’ inability to answer questions about their own faith. But the primary enemy of believers, he says, is not infidelity without; it is infidelity within. This poses the worst threat of all because shame prevents people from seeking a remedy for it:

> I perceive, that because it is taken for a shame, to doubt of our Christianity and the Life to come, this hindereth many from uttering their doubts, who never get them well resolved, but remain half Infidels within, whilst the Ensigns of Christ are hanged without; and need much help, though they are ashamed to tell their needs: And prudent Charity will relieve those who are ashamed to beg.

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103 Wallace notes that this was a brave move, not made by subsequent natural theologians (5).
Such doubt is rampant in the church, Baxter professes, often preying on the melancholic. He harbors deep concern for those who, surprised by melancholy, ¹⁰⁴ “are haunted with such temptations to Atheisme, blasphemy and unbelief, as make their lives a burden to them.” Baxter knows personally many such people: “One that hath heard so many of their complaints as I have done,” he protests, “is excusable for desiring to relieve them.” ¹⁰⁵ Such relief is not the ultimate end of reason, but it is certainly an instrumental good. “Prudent charity” captures well the synthesis found in Baxter: on one side lies the pagan virtue of using one’s reason to the utmost; on the other, the mysterious Christian virtue that begins and ends in God.

Other natural theologians—such as John Wilkins—eclipse the Christian virtue in focusing on natural light; other Christian teachers—such as Owen—dispense with the pagan virtue in asserting a doctrine of grace alone. In Baxter the two are not in tension but in harmony, with charity in the nominal position and prudence squarely in its province. This formula proves basic to Baxter’s natural theology: he uses as a premise that “the highest Love and Obedience to God, is never a work of imprudence or folly, nor ever to be Repented of” (Reasons 137). This thesis underlies all that Baxter argues: love of God and of one’s neighbor can never be imprudent; therefore, explication of how one best fulfills those great commandments is the fastest and surest way of thinking and acting prudently.

¹⁰⁴ Both Baxter and More describe melancholy as surprising—for Baxter this is an unpleasant thing, while for More it is “not unpleasant.”

¹⁰⁵ Baxter expresses gratefulness that he himself never descended all the way into melancholy—a pronouncement, Dr. Packer points out, that leaves one suspicious that he was fairly close at times.
What Does One Find in a Puritan Natural Theology?

*Philosophy is found to be but a searching and wrangling about things which no man reacheth; and yet an inquisitive desire we have.*

*Reasons of the Christian Religion* 147

On first glance, one finds that Baxter’s natural theology shares some surprising content with less “theological” natural theologies. He aligns with Wilkins both in espousing a variety of indubitable certainty (259-60), and in assembling a variety of “witnesses” to testify to the truth of Christianity. He resembles Henry More in announcing that he shall limit his references to previous authors in the first book, omitting Christian authors entirely and citing pagans only in his margins because some might be brought to conviction by evidence that the “wisest heathens” saw God’s character written in Nature (preface). Nor is he resistant to the New Science, although *Reasons* does not contain a teleological argument as the other four considered in the present study do. But as the “odd man out” in a number of ways, he theorizes and practices natural theology differently from his contemporaries. In the following discussion I hope to bring out two distinctive features: first, Baxter tends to collapse different kinds of human knowledge into a single species; and second, in addressing a Christian audience, his premises and conclusions are curiously reversed, producing what I call an upside-down syllogism.

Baxter does not view knowledge as a mere first-aid kit for the melancholic Christian. He has much to say on the scope and utility of human knowledge, and his firm conviction was that such pursuit is desirable, even requisite, in every classroom in the school of Christ. But he is no humanist, in Charles Taylor’s sense. The silencing of reason is foolish because it
is a recipe for spiritual disaster, not because knowledge is an end in itself.\textsuperscript{106} The soul’s wellbeing thus stands as the end toward which learning is properly directed; and even this end is not the ultimate. The ultimate end, the text of \textit{Reasons} makes clear, is the glorification of the Creator. The question of the relative value of various ways of seeking knowledge—empirical versus deductive, for example—becomes moot in such a theological system because more and better knowledge was never the goal in the first place, the facts themselves merely pointing to a deeper meaning.\textsuperscript{107} Showing some affinity with the logic of other natural theologies, Baxter opines that to take in sensory information without seeing God’s goodness

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is to gaze on the glass and not see the image in it; or to gaze on the image, and never consider whose it is: or to read the book of the creation, and mark nothing but the words and letters, and never mind the sense and meaning. A philosopher, and yet an atheist or ungodly, is a monster; one that readeth the book of Nature and least understandeth or feeleth the meaning of it. (\textit{Reasons} 108)
\end{quote}
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It is thus, as Packer argues, not the method by which facts are acquired, but the meaning of those facts that Baxter views as important.

This is not to say that Baxter was unaware of diverging schools of thought about how knowledge should or could be acquired. On the contrary, over the course of his life he spilled

\textsuperscript{106} Baxter makes his attitude toward knowledge clear in the first three chapters of part II of \textit{A Treatise of Knowledge and Love Compared} (1689): I. Knowledge is a means to a higher end, according to which it is to be estimated.; II. The end of knowledge is to make us lovers of God, and so to be known of him.; III. Therefore knowledge is to be sought, valued, and used, as it tendeth to our love of God.”

\textsuperscript{107} Packer describes a “hierarchy of knowledge” that characterized Puritanism, in which all art and science is good, serving God’s purpose for humanity, but is enabled only by grace because of reason’s fallen nature. “When the metaphysical physics on which Aquinas had rested it gave way to seventeenth-century experimental science,” Packer points out, “the doctrine of the hierarchy of knowledge remained unaffected. To the Puritan, the new scientific method was simply a fresh and fruitful way of interrogating Nature about its witness to God” (65).
a great deal of ink outlining the natural progress and pitfalls of education. Central to these lucubrations is the distinction between words and things, and the supremacy of the latter over the former: logical gymnastics, which had dazzled Baxter in his youth, soon came for him to be the worst kind of intellectual sin. Words are the necessary avenue by which pupils acquire knowledge, but it is all too easy to form logically coherent arguments that do not lead to truth, or even ones that lead away from it. Here, charging students to verify their syllogisms against the facts, Baxter demonstrates the harmony between the rhetoric of Protestantism and the rhetoric of the New Science. Indeed, the epistemological authorities to which he appeals are Scripture, Reason, and Sense—notably, the third leg of Hooker’s alleged “stool,” Tradition, has been replaced with sensory observation. Baxter’s friendliness to the New Science appears in other places: he knew Robert Boyle well (Bates preface), he recommended that students read Bacon and Boyle as part of their educational programme (Keeble, *Puritan Man* 43), and he was unusually familiar with atomic philosophy, which, while not new, was newly resurrected by contemporary scientists (Charles Harrison 9).

To say that Baxter expands “Reason” into sense and reason and displaces Tradition as a primary authority is not quite true: others were far more thorough in their displacement of Tradition, and still others were more thorough in distinguishing among kinds of science. The

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108 Hooker did not use this analogy, but Hooker does advise that the assent of reason and the church are required for right interpretation of Scripture (*Ecclesiastical Politie* III.8.6).

109 Bates reports eulogistically, “I cannot omit the mentioning, that Mr. Boyle and Mr. Baxter, those incomparable Persons in their several Studies, and dear Friends, died within a short space of one another. Mr. Boyle was engaged in the Contemplation of the Design and Architecture of the visible World, and made rare discoveries in the system of Nature . . . . Mr. Baxter was conversant in the invisible World: his Mind was constantly applied to understand the harmonious Agreement of the Divine Attributes in the Oeconomy of our Salvation, and to restore Men to the Favour and Image of God. They are now admitted into the inlightned and purified Society above: where the immense Volumes of the Divine Wisdom are laid open, and by one glance of an eye, they discover more perfectly the Causes, Effects, and Concatenation of all things in Heaven and Earth.”
first group, whose mantra was *sola scriptura*,\(^{110}\) falls well outside the scope of a study on natural theology. The second is central to such a study and includes not only Bacon but also John Wilkins and John Ray, both of whom preserve the category of sense/experience against cogitative reason with more rigor than Baxter, as will become evident in those chapters. Baxter lacked the focused empiricism that would characterize physico-theology. For him, as for Wilkins, fact could as well be gained by the study of history as from observation of phenomena (Keeble, *Puritan Man* 42-43). But Wilkins is clearer about whether he is arguing from history or from experience, treating these in separate sections of his *Principles and Duties* and making a sustained apology for his appeal to history. Likewise, Wilkins always keeps “Reason” and “Experience” separate when he enlists both in defense of a particular argument, while Baxter often treats “Sense and Reason” as a single unit.\(^{111}\)

This collapse of different categories within science reverses the “zooming-in” I have attributed to Baconian thought and widens the territory a reader of Baxter can take in view. In *Reasons* (and in Baxter’s thought generally), “the facts” are only a small part of the picture, a necessary but not sufficient means of gaining right understanding. What is right understanding? For Baxter, it is not knowledge gained in a particular way, but that which leads to holiness. This is evident, among other places, in his curious use of “advancement” throughout *Reasons*. Among the natural theologies considered in the present study, only Baxter and Ray ever use the word, and only Baxter refers to the advancement of knowledge.

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\(^{110}\) The phrase is Martin Luther’s, but by 1653 Luther’s vision for a Scripture-based faith had been realized to a degree that the original reformer did not anticipate, due to the work of Calvin and his followers. For a brief discussion of natural theology and the reformed tradition see McGrath, *Christian Theology* 167-69.

\(^{111}\) See Wilkins 347-356 for several arguments laid out in this way; in Baxter, see for example the preface, 203, 367, 414, 558.
or reason. There are two kinds of advancement in *Reasons*: “true advancement of Reason,” which, Baxter asserts, is “To love God with all the heart and might” (136), and the “advancement in Knowledge” that Satan promised in the temptation of Eve, which is no real advancement in knowledge or otherwise. “The advancements of Arts and Sciences” properly belong in the first category, for they are among “the means of increasing the Church” (487). Unsurprisingly, Baxter’s conviction that advancement in science will tend toward greater love of God leads him to reject mechanical philosophy as falling into the second category—not because he took issue with its logical coherence, but because he could see no way that it would enable people to love God better. “[I]t is] a fair advancement of Knowledge indeed,” he scoffs in his appendix to *Reasons*, “to cast away and deny all the noblest parts of the world, and to tell us, that all the rest is matter of various magnitude and figure, variously moved and placed” (512). With this scathing critique of the philosophy the Royal Society had already adopted in practice, Baxter simply reiterates his view that the person who reads a text without thinking of its meaning is a monster (*Reasons* 504-05). If mechanical philosophy could be brought into the service of God, he would consider it valid.

This analogy between natural theology and reading affords another way of understanding Baxter’s theory of natural theology relative to his contemporaries’. In

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112 Ray refers to “advancement” twice, quite unaffectedly, talking about mining and geographical exploration; Baxter uses it eight times, but one of these applies to mankind’s future elevation above the angels and can be discounted here.

113 For a discussion of the philosophy of the Royal Society with particular reference to More and Baxter, see Crocker (*Henry More* 152-56); Crocker points out that Stubbe’s history is somewhat biased. For a general discussion of the currency of the corpuscular versus scholastic explanations of being at the time, see MacIntosh (36-37).

114 Richard Bentley is yet more interested in the relationship between natural theology and reading, but I shall argue that for him the relationship between the two is rather metonymic than metaphorical.
different ways, Baxter’s hermeneutic of nature sets him apart from Henry More, Robert Boyle, and John Ray. More is the farthest from the other three: in *An Antidote* he argues in effect that the materialist’s book of Nature is fragmentary, reading like gibberish rather than words and sentences, and that his own metaphysical system provides the missing letters.

Baxter’s critique of materialism, on the other hand, runs deeper: a scientist might have every single character in the book before him, but until he reads meaning into the words, this is all for naught:

Object. “None of the parts of a clock can tell the hour of the day, and yet all set together can: and none of the letters of a book are Philosophy, and yet the whole may be a learned system: and no atoms in a Lute can make melody, as the whole can do.”

Answ. This is but to play with words. In all these instances the whole hath nothing of a higher kind in nature than the several parts, but only a composition by the contribution of each part. […] If you had proved that Clock, or Book, or Lute do make themselves, and order and use themselves, and know the time, or understand or delight in themselves, you had done something. (*Reasons* 514-15)

Baxter is not concerned about what must go into the book to form a coherent philosophy; instead, he questions whether such a philosophy would have a purpose without someone to understand it.

In this way Baxter aligns with Ray and Boyle, who likewise did not posit “gaps” in the natural order, miracles and supernatural phenomena, as necessary pegs on which to hang a natural-theological argument. Indeed, Baxter cites Bacon’s pronouncement: “God never wrought miracles to convince atheism, because his ordinary works convince it” (*Reasons* 13) before Wilkins did. As we shall see, however, differences arise in this camp.¹¹⁵ Ray differs from Boyle in attributing the ability to “read” nature to common people as well as scientists,

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¹¹⁵ The two camps I refer to here are Mandelbrote’s “wondrousness” tradition exemplified in the Cambridge Platonists and the “natural law” tradition exemplified in Boyle. Ray’s classification requires further clarification.
but both of them rhetorically identify the practice of empirical science with natural theology. In discussing the “book of creation,” Baxter agrees that science should tend toward admiration of the Creator, but he departs from both Ray and Boyle in emphasizing the potential for a divorce between science and natural theology, and he speaks generally of “philosophy” rather than just empirical science (Reasons 108).

Further evidence of Baxter’s epistemological “zooming-out” is the small amount of space he devotes to physico-theology. Compared with More’s Antidote, whose entire second book had explored the natural world for evidence of the Creator’s existence and wisdom, Reasons hardly touches on the argument from design. In little more than one page of the two-hundred-page treatise, Baxter mentions plants, birds, beasts, insects; human anatomy, psychology, and society; stars and planets. “Yea, if we could see all these comprehensively, at one view,” he concludes, “what thoughts should we have of the wisdom of the Creator? And what should we think of the Atheist that denyeth it? We should think Bedlam too honourable a place for that man” (23). While not undercutting physico-theology, then, Baxter could hardly be called a physico-theologian. He quickly subsumes that entire project under his argument for the Creator’s omnipotence (28), which is largely deductive. Here Baxter is at about the same level of magnification as Wilkins, who likewise spends relatively little time on physico-theology. But Baxter is not through zooming out. The reader holding the text is always aware that these two hundred pages explaining what can be known by natural light are the first third of a six-hundred-page work. The Second Part begins, “CHAP. I. Of the great need of a clearer Light, or fuller Revelation of the Will of God, than all that hath been opened before” (191). At least one contributor to the natural-theological revival can hardly be accused of paving the way for rational deism.
Yet the intellectual historian wishing to cast Baxter off as a relic of an older age must explain away his unremitting Puritan commitment to sense observation. Baxter apologizes for this strategy at the beginning of *Reasons*, again demonstrating his concern for practical holiness. “The Soul in Flesh is so much desirous of a sensitive way of apprehension,” he insists, “that we have great need of the [most frequent] evidence . . . not only to make us believe things unseen, but to make us serious, and practical, and affectionate about the things which in a sort we do believe; to keep drowsie hearts awaken” (7). Baxter is no enemy of experimentation: when tackling the mechanist hypothesis, he gives readers a glimpse of his own amateur scientific curiosity, mentioning his attempts to duplicate one of Gassendi’s experiments with light and glass (525-26). Furthermore, in an attack on philosophical proofs that the world existed from eternity, he comments tersely that “it is foolish to reason against sense and experience, or to deny that which is, because we think that it should be otherwise” (92). He sees sense as the means granted humans for fighting their own fallen nature, which too easily pollutes their reason.

Ever practical, Baxter thus judges it grossly irresponsible to ignore the “sensitive” evidence necessary to goad one into holy living. To be sure, he does not view sense as a particularly noble faculty (“If sensual objects be the chief, than [sic] Sense is the chief faculty with you,” he explains, asking, “Is not Reason a nobler faculty than sight?” [113]), but he does not buy into the scholastic Platonism of More. Nor does he agree with More on the issue

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116 J. Paul Hunter points out that, for the Puritan, “The book of nature now became not a reproduction of the spiritual world nor an exact index of the attributes of God but, rather, an imperfect emblem of the spiritual world—an emblem which needed careful interpretation but which led equally surely, if not equally easily, to truth” (409). Packer corroborates this view regarding Baxter: “The trustworthiness of the senses as a medium of perception was insisted upon, as the presupposition of all knowledge and as a damaging argument against transubstantiation. To the Puritan, it was axiomatic that ‘faith teaches nothing contrary to sense and reason’” (70).
of who requires sense in order to acquire knowledge. As we have seen, More expresses willingness to lower himself to the level of a “meere Naturalist” to pull naturalists out of the “ditch,” as it were, of their sense-bound thinking (Antidote 16, 21). Baxter, by contrast, believes that everyone—he himself included—is in the same ditch, and that there is thus no shame in seeking truth by means of sense. The shameful thing is to make sense the end, rather than the means, of the exercise.\(^{117}\)

Having considered the epistemology of Baxter’s natural theology, let us turn to the substance of his argument, which hangs on his phrase “analogical obedience.” Beginning with things seen, he asks readers to consider what they know about the relationship between themselves and animals, and then he turns to things unseen, the analogical (but certainly not identical) relationship between the Creator and mankind. The argument in Chapters 2 and 3 runs: if you consider yourself as having proprietary rights to your animals, and if you believe that they owe you such duties as you see fit, even to the point of dying to provide food, how much more does your Creator have such rights over you? An argument for a First Cause follows on this assertion, in Chapter 4, almost as a footnote for the especially foolish. Baxter holds God’s greatness in much the way Henry More holds the principles of logic, as self-evident facts that he is slightly irritated to need to explain. Creation exists, Baxter points out, in varying degrees of worth and intellect. Did it create itself? The worm must have been awfully self-denying to agree to be a worm! (11) Baxter carries on in the first person: I exist; I do not remember making myself (10); my parents did not create me (13). Given these circumstances, he reasons, one must be insane not to assume a first cause distinct from the world we can see (14-16). As was the case with More, arguments made by Aristotle and then

\(^{117}\) Baxter appeals to the horse and rider trope, pointing out the absurdity of holding that the soul exists for the body’s benefit rather than the other way around (88, 116).
Christianized over ensuing centuries are recapitulated in a few paragraphs before Baxter moves swiftly to an Augustinian discussion of His attributes, asserting in the space of the next chapter that he is a triune God, characterized by power, intelligence, and will. He builds the rest of his argument around these three divine faculties.

Baxter spends the bulk of *Reasons* on upside-down syllogisms. Arguments from patterns in the human mind and from the world’s fittedness for human use are conspicuously absent from the text; indeed, Baxter argues against fittedness more than for it. This omission highlights a key aspect of Baxter’s theology. Such arguments are anthropocentric; Baxter’s natural theology is theocentric. Others assign sovereignty to human reason; Baxter assigns sovereignty to God, and sees the human mind as fallen, the human heart, lustful and prone to sensuality. Others attempt to explain away suffering, malformation, and evil, or else let these stand as a foil to their arguments; Baxter keeps central to his argument that the world is broken and full of suffering.

Regarding patterns in the mind of man, Baxter is aware of the doctrine of “actual knowledge” innate in man’s mind, but he denies that this doctrine accurately describes man’s mind. The doctrine was famously asserted by More, who means by “actuall knowledge of eternal truths” “an active sagacity in the Soul, or quick recollection as it were, whereby some small businesse being hinted unto her, she runs out presently into a more clear and larger conception” (*Antidote* 13). In More’s quasi-Platonic scheme, ideas innate in man correspond directly to the reality without, rendering revelation unnecessary. Baxter contradicts this notion:

> It is true, that there is in the nature of Mans Soul a certain aptitude to understand certain Truths, as soon as they are revealed, that is, as soon as the very Natura rerum is observed: And it is true, that this disposition is brought to actual knowledge, as soon as the minde comes to actual consideration of the
things. But it is not true that there is any actual knowledge of any Principles born in Man.

(Rewards 70)

Baxter’s distinction between “disposition” and “actual knowledge” runs parallel to another distinction he makes between “axioms” and “grounds of axioms,” and both have the effect of reserving more authority for God. This move, which at first looks like the kind of logical gymnastics Baxter abhors, is actually an incisive way of dealing with a pastor’s dilemma in writing natural theology. On the one hand, if a human could comprehend the laws governing the universe, he would be a god; on the other hand, if a human—especially a melancholic human—should be frustrated in his attempt to discover natural laws, he will soon become a despairing closet atheist.

Baxter therefore maintains that humans can discover these basic truths, but posits that there is something even more basic, below the reaches of human understanding:

Whereas some say, that there is an eternall truth in such Axiomes as these
“Thou shalt love God above all, and do as thou would'st be done by, and the good should be incouraged, and the bad punished, &c.” I answer, God formeth not Propositions; And therefore there were no such Propositions from Eternity: . . . . But this is true, that from Eternity there were the grounds of the verity of such Propositions when they should after be. (69-70)

He further distinguishes these axioms, which are bound to the human mind, from natural law, which exists whether humans acknowledge their obligation or not (70). But even natural law does not reach down as far as these “grounds of verity,” which we cannot understand but can only infer from the fact that even the most enduring natural laws do not always hold. Baxter cites examples: the law of nature forbids incest and filicide, but the first children of Adam and Eve were obliged to practice the former, and Abraham was commanded to practice the latter. He extends the logic to the great commandment, pointing out that the obligation to love God dissolves as soon as one’s reason and free-will dissolve (72-73).
Conversely, as long as one is in possession of one’s reason, this obligation stands as the ultimate end of human existence. By consistently focusing on human obligation, Baxter inverts the logic implicit in other natural theologies, which focus instead on how creation exists for humans. Baxter is interested in what humans exist for, or rather, whom. “When self-love so far blindeth us, as to make our Interest the Standard to judge of the goodness of God, we do but shew that we are fallen from God unto our selves, and that we are setting up our selves above him, and debasing him below our selves,” he opines, exclaiming, “As if we and our Happiness were that ultimate end, and he and his Goodness were the Means, and had no other Goodness but that of a means to us and our felicity!” (91). He does not deny that some creatures are made for human use, but as we have seen, he uses this point merely as an analogy to illustrate God’s propriety over humankind. Thus does Baxter retain the axiom that “God . . . Maketh nothing in vain,” but applies it on a grander scale. Rather than focusing on what is of use to man, he declares that God

made not man in vain, nor his natural inclination to his own perfection. His will is signified by his works: As a man that makes a knife, or sword, or gun, or ship, doth tell you what he maketh it for, by the usefulness and form of it; so when God made man with faculties fitted to know him, and love him, he shewed you that he made him for that use, and that therein he would employ him. (140)

In short, anything that beasts or machines do for humans merely reflects the far greater service humans owe to God.118

That being the case, it is worth noting that Baxter thinks beasts owe humans quite a lot. Paradoxically, he takes a lower view of animal rights and dignity than do More and Ray,

118 Moreover, such analogies are far from sufficient: “But yet no similitude will reach the case, because all creatures themselves are but the continued productions of the Creator's will; and the virtue which they put forth, is nothing but what God putteth into them” (29-30). Machines and our beasts owe humans far less than humans owe God.
who both put forward lengthy arguments about the fitness of creation for human use. Both of those natural theologies protest—Ray quoting More—that lower animals are created not only to benefit humans, but to enjoy themselves (Antidote 81-82, Wisdom 129). Baxter does not deny this, but his emphasis is certainly different: we rule beasts “to order to their own preservation,” he says, “but especially for our use and ends.” After being his beasts’ owner, “Man is also (subordinately) their Benefactor, and their End: and they are more for Him than for themselves” (Reasons 5). The analogical implications of this regarding human submission to God are obvious.119

Because of this inversion of means and ends, the syllogisms forming Baxter’s argument often seem upside-down. It is not particularly unusual for a natural theology to contain chapters about a life to come, and rewards and punishments for holy or depraved living. But it is unusual for this argument to take up so much volume in a natural theology, and for the premises to be God’s omnipotence, omniscience, and beneficence. These are usually the conclusions drawn by the methods Baxter so assiduously avoids. In Reasons the reader finds a topsy-turvy theodicy in which God’s attributes and the fact of human suffering stand together to prove that retribution is coming. “If there were no life of retribution after this,” he reasons, “it would follow, that man is more to be feared and obeyed than God . . . : But the consequent is absurd and blasphemous: Ergo, so is the Antecedent” (145). Since God is powerful, just, and good, and since there is obviously suffering and evil in the world, there must also be a life to come with rewards and punishments. He refuses to raise the question of

119 “Therefore Gods Works must be more valued and studied, as they are the Glass representing the Image of his perfections, and shewing us his chief essential amiableness, than as they are beneficial and useful to us, and so shew us only his benignity to us” (107-08).
God’s supremacy or worthiness to be worshipped, but he does expend effort to establish the fact of unfairness, suffering and evil.

This discussion unfolds over several dozen rather discouraging pages. Good things happen to bad people; bad things, to good people.\(^{120}\) A righteous person cannot expect to avoid distress; referring to the miraculous salvation of Shadrach, Meshach, and Abednego, he says flatly, “If the King should forbid me praying as he did Daniel, or command me to worship his Image, as he did the other three witnesses . . . its ten to one but he would execute his wrath on me, and its an hundred to one God would not deliver me here” (145). Human governors cannot discern true righteousness and wickedness (127-128); one is ever plagued by one’s own base desires, and by sensual people who have given in to them (115-16, 125). And if this were not enough, there is the havoc wreaked by Satan and his minions, either in the obvious form of witchcraft and apparitions, or in “subtil importunate temptations,” both of which evince a kind of evil unexplained by mere human self-centeredness (147-53). Other natural theologians address the category of the supernatural as part of their demonstrations of Christianity; only Baxter uses these phenomena (which, he tells us, he has discussed in greater detail in *The Saints’ Rest*) as evidence of evil. And the discussion of subtle, importunate temptations is unique to Baxter’s natural theology. The man wishing to do evil, he declares, will find the course easy; the man wishing to do mere worldly good may proceed with few impediments; but “let him have any great design . . . in things that tend to destroying sin, to heal divisions, to revive Charity, to increase Virtue, to save mens Souls, . . . and his impediments shall be so multifarious, so far fetcht, so subtile, incessant . . . that he

\(^{120}\) *Reasons* 122ff; this point runs exactly counter to More’s assertion in Book III of *An Antidote*, which states that, for the most part, good deeds are rewarded and bad ones punished.
shall seem to himself to be like the man that is held fast hand and foot!” (151). Baxter provides anecdotes.

Although Baxter is unrelenting in exposing the bad and the ugly—or, perhaps, because of this—he remains gentle throughout toward people who find themselves victims of these realities. He does not insult such people by protesting that a clean conscience will make up for their suffering; instead, he gives a more agnostic view:

And as for the present Rewards of Virtue, to speak impartially, I verily think that if there were no life to come, Virtue and Holiness were rationally more eligible: But that is much because God is an End above our selves! And for our own content, in many, Holiness would give the minde more pleasure, than all fleshly pleasure, and worldly greatness could counterpoise. But with many others, whose afflictions are very heavy, and pains and poverty very great, and who are grievously tormented by cruel persecutors; and perhaps a Melancholy constitution may forbid them much delight, it is hard to say, that if they durst let loose themselves to all sin, which maketh for their fleshly interest, their Pleasure would not be much greater. (123)

What Baxter is providing in Reasons of the Christian Religion is prudent charity: he applies reason not to drive readers to despair, but to prod them into the holy life that he believes is the outworking of salvation. Where this end ceases to be served by a chain of reasoning, he declares himself to have strayed into “things unrevealed” and he returns to surer ground. He is not, however, prepared to relinquish the basic truth that “God is an End above our selves.”

This, then, is the Puritan natural theology: studious, exacting, unapologetically hazy on the particulars of “secret” things such as ontological subsistence; unapologetically certain about God’s sovereignty; resolutely bent on personal holiness and obedience. Baxter shares with More and Wilkins a conviction that “the truth will out”; he shares with Ray a conviction that God is the one who outs it, as the humble truth-seeker carefully reads the book of nature, of which he is a part, for its deeper meaning. His natural theology is unique among these, however, in the degree to which it is deliberative rather than merely forensic or epideictic:
the reader of *Reasons of the Christian Religion*, and indeed the reader of any of Baxter’s works, is being asked not only to accept that Christianity is true, but to get rid of every distraction and hindrance and live a life of holiness.
An Exercise in Mediocrity: John Wilkins’s *Of the Principles and Duties of Natural Religion* (1675)

In the foregoing chapter I considered Richard Baxter, who preached a prudent charity and seemed to find opponents wherever he went. In the present one I consider John Wilkins, who preached a Christianized prudence and found friends in diametrically opposed camps. Wilkins was an exemplary latitude-man, whose ethic of hospitality found its way into both his life and writings. He valued temperance in judgment and possessed a spirit of open-minded inquiry that has left an impression on succeeding ages. Following Aristotle, Wilkins observes in the opening chapters of his natural theology, “Now where the *Excess* and *Defect* do make Vices, or such things as ought not to be, there the *Mediocrity* must denote something that ought to be, and consequently must be a *Virtue*, and have in it the obligation of *Duty*” (37). Wilkins’s mediocrity is temporal as well as moral and intellectual: *Of the Principles and Duties of Natural Religion* was published at exactly the midpoint of our fifty-year epistemic shift, and occupies a middle position on every spectrum considered in this
study. He strikes a compromise between the scholastic and empirical traditions, between argument from the miraculous and from natural law, and between human reason and the authority of Scripture. In this way the text is much like Wilkins himself: he spent much of his life uniting those with differing viewpoints in the academic and ecclesiastical bodies over which he presided: Wadham College, Oxford; Trinity College, Cambridge; and eventually the diocese of Chester.

This chapter emphasizes Wilkins’s biography as a means for better understanding his natural theology. As a perusal of Wilkins’s life reveals him to be in the middle of a network of public intellectuals with interests in every mode of learning, as well as politics educational and ecclesiastical, so does a perusal of Of the Principles and Duties of Natural Religion reveal the text to be an attempt at intellectual peacemaking, which stakes out a middle ground among the existing natural theologies while registering a large-scale move in the direction of empirical epistemology. Here we will examine Wilkins’s ethic of “mediocrity” and finally ask whether there is in Principles and Duties any great exception to it.

Wilkins the Manager

A Doctor counted very able
Designes that all Mankynd converse shall,
Spite o' th' confusion made att Babell,
By Character call'd Universall.

from Joseph Glanvill’s “The Ballad of Gresham College” (1663)

Both Wilkins’s work and his life reflect a remarkable breadth of intellectual interests.

He was a clergyman, and in this profession he carried on a family legacy, for his grandfather

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121 I am not the first to notice this mediocrity: the 1911 edition of the Cambridge Companion to Literature mentions Wilkins among other divines of the later seventeenth century, distinguishing Wilkins as “a link between these [Restoration] times and those of the later latitudinarians” (Hutton 297).
was the Puritan divine John Dod. But he pursued a great many fields of inquiry besides theology: he was an avid amateur astronomer, and during the same year as his ordination he published *The discovery of a new world*, in which he sought to prove that the moon was habitable, to which he later added *Discourse concerning a new planet* in 1640. These works staunchly supported the new Copernican thesis; in fact, Wilkins is remembered among his other distinctions as a popularizer of that system.\(^{122}\) He was a notable figure in his age’s preoccupation with universal language, publishing *Essay Towards a Real Character and a Philosophical Language* in 1666, soon after much of the manuscript was destroyed in the Great Fire. He devised an early metric system, an undertaking that has likewise been acknowledged and praised by posterity.\(^{123}\) And to these more significant and time-consuming projects we may add a host of lesser ones, imagined or actually undertaken: humane bee-hives, a primitive telephone, distance-measuring devices, improved plows and telescopes, and a double barreled windgun. It is little wonder his friend John Evelyn called him “the most obliging and universally curious Dr Wilkins” (Shapiro 134-36)—curious, it seems, in both senses of the word. His broad-mindedness made him prone to conversation and peacemaking, and also to scheming. He gave the world some of its first science fiction, dreaming not only of extraterrestrial life, but also of the construction of a flying chariot. He was not thinking of modern airplanes; he was thinking of modern spacecraft. In 1640 he

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\(^{122}\) Barbara Shapiro puts matters strongly: “After a thorough examination of the popular works on astronomy, Miss [Marjorie] Nicolson has concluded that Wilkins was the most widely read of all such writers in the seventeenth century, and that he was probably responsible for the almanac-makers’ final acceptance of Copernicus. Wilkins’s works were probably more important than any until Newton’s in convincing Englishmen of the superiority of the Copernican hypothesis” 38.

\(^{123}\) One notable example is a video by BBC News in July of 2007, claiming that Wilkins’s invention of a metric system makes the system British and not, as is usually claimed, French.
wrote, “‘Tis probable for some of our Posterity, to find out a Conveyance to this other World,” meaning the moon.¹²⁴

Such was Wilkins’s curiosity. His obliging nature is more clearly seen in his biography than in his work: W.H. Hutton summarized him as “a scientific writer of eminence, an experimentalist and philosopher, and a man of humour to boot” (297). Unlike More, Ray, and Bentley, he was educated at Oxford rather than Cambridge, taking his BA at Magdalen Hall in 1631 and his MA in 1634.¹²⁵ He was ordained as priest at Christ Church Cathedral in 1638 at the age of 24. He ascended both the academic and ecclesiastical ladders at a steady pace, managing not to incur the disfavor of any political party during those turbulent times. In 1648 he took up the headship of Wadham College, only taking his DD a year later on special dispensation. In 1652 Richard Cromwell appointed him to a five-man committee that effectively ran Oxford University, and four years later Wilkins married Oliver Cromwell’s widowed sister, Robina. In 1659 he was appointed Master of Trinity College, Cambridge, a position he lost in one short year because of a legal technicality (Shapiro 147); in 1660 he was made dean of Ripon Cathedral; in 1668, he was consecrated Bishop of Chester. He was a founding member of the Royal Society, chairing its first meeting in 1660 and serving as secretary for the next eight years. During this time, Wilkins collaborated with his protégée Thomas Sprat to produce his famous work on the history of that institution.

Sprat was by no means unique in being counted among Wilkins’s colleagues. Wilkins surely owed his relatively untroubled career at least partly to his ability to make and maintain

¹²⁴ This is the title for a chapter added to the 1640 edition of A Discourse Concerning a New World.

¹²⁵ For a discussion of how the New Science fared at these two centers of learning, see Shapiro 143.
connections with a number of the prominent figures on both sides of political and theological divides.\textsuperscript{126} Many of these friends were in high places, moreover. He collaborated with Samuel Pepys on a compendium of naval terms; Robert Hooke supported his efforts toward a universal grammar; he supported his friend Isaac Barrow’s appointment to the Grisham professorship in geometry in 1662; and the list goes on: Seth Ward, John Evelyn, Christopher Wren, Robert Boyle, Matthew Hale and Samuel Hartlib all worked or corresponded with Wilkins during those years of the renovation of church and education in England. And his administrative skill was universally praised. When Wilkins resigned from Wadham College in 1659, even his detractors attested that “allmost all that was preserved and kept up of Ingenuity and Learning, of good Order and Government in the University of Oxford was chiefly owing to his prudent conduct and encouragement” (Shapiro 141).

Among Wilkins’s many friends are not only a number of people peripheral to the topic of the present study, but some who are central to it. Because of Wilkins’s gregarious nature and central position, an understanding of the interactions between himself and other natural theologians will be useful in the next section of this chapter, where I undertake to map out the philosophical justification and content of \textit{Principles and Duties} in relation to those of other natural theologies. During his mastership of Trinity College, Cambridge between 1659 and 1660 Wilkins became acquainted with More, Cudworth, and Ray, and proposed all three for members of the Royal Society.\textsuperscript{127} Ray returned Wilkins’s favor with interest, working industriously to restore and improve the \textit{Essay Towards a Real Character}

\textsuperscript{126} His career was not without obstacles, of course—his close connections with the Cromwells, combined with the financial difficulties common to all in the clerical profession following the destruction of over eighty churches left him in 1666 “not only without any Place, but also without probability of obtaining one” (Pope 53).

\textsuperscript{127} Shapiro 144; McMahon 154.
after its near destruction in 1666 and for years following its 1668 publication, and he often quoted from *Principles and Duties* in his 1691 *The Wisdom of God*. And Wilkins always maintained a cordial relationship with the Cambridge Platonists, who shared his interests in broad-church Christianity and a marriage of faith and reason, although (as we shall see) his philosophical differences with this group were many. Regarding Richard Bentley, there is no evidence that he and Wilkins (48 years his senior) ever met, but a certain equivalence between the two Newtonian astronomers impressed Wilkins’s 1910 biographer P.A. Wright Henderson, who wrote whimsically that

Wilkins left Wadham to become Master of Trinity College, Cambridge. He had been invited there by the Fellows, on whose petition he was presented by Richard Cromwell. Thirty years later Cambridge, as if in exchange for value received, sent Richard Bentley to Wadham, who left it to return to Cambridge as Master of Trinity, an interchange of which neither University can complain.

One could almost say that the two men did not need to meet.

Wilkins and Richard Baxter, on the other hand, had much to discuss. Briefly put, Baxter represented the Independent clergy elected in 1662 whom Wilkins sought to comprehend within the church by his moderate ecclesiastical legislation. The difference in temperament mentioned at the opening of this chapter came into relief in 1667, when Wilkins hoped to pass his Comprehension Bill. In his politically savvy way, Wilkins saw a need for circumspection in dealing with Baxter because “Mr. Baxter might well ruine our plans with temper and love of disputation” (Shapiro 172). And if Baxter’s obstinacy impressed Wilkins, Wilkins’s conciliatory nature impressed Baxter: these negotiations having met with disfavor from several quarters, in the early 1670s Baxter sought further dialogue with Wilkins in

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128 Shapiro points out that Wilkins was more an Aristotelian than a Platonist but adds “The relationship between Wilkins and the Platonists was not simply social. John Ray was in many ways a Platonist, and yet to a considerable extent he modeled his natural theology on that of Wilkins.” Mandelbrote echoes and expands on Shapiro’s pronouncement (457-58).
particular, suggesting that Wilkins come to the table accompanied by latitudinarians including More and Whichcote (Shapiro 175). Their religious and temperamental differences notwithstanding, then, Baxter and Wilkins maintained a cordial relationship: a testament, perhaps, to Wilkins’s diplomacy, or perhaps to a deeper concord between two people who sincerely undertook to harmonize faith and reason.

While Wilkins’s differences with Baxter are clear, he differs significantly from other natural theologians as well. John Ray, with whom Wilkins was the closest, was far less interested in administration and politics. Wilkins accepted and manned administrative posts with relish. Although Ray certainly valued collaboration, he preferred more leisure and less company in pursuing his natural history, and in 1677 he turned down the secretaryship of the Royal Society in order to focus on his work. Perhaps related to this difference is Wilkins’s relatively greater desire to comprehend and master, in several senses of those words. Although Ray helped Wilkins as he tried to devise a universal system of signification and did not object to the generally centripetal, unifying, laboratory science Wilkins practiced, he was himself a more centrifugal natural historian. Ray was fascinated by the diversity he saw in the natural world and in human language, cataloguing these more than seeking to master and universalize them. Ecclesiastically, Ray was less interested in comprehension schemes than was Wilkins (admittedly, it would be difficult to be more interested in them) and famously refused to sign the Uniformity Act of 1662. Paradoxically, the more managerial Wilkins had the more vivid imagination of the two, for he conceived of all sorts of machines,

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129 It should be noted that Wilkins’s project was not, as Glanville quips, an effort to recover the language lost at Babel, but a humbler attempt to categorize all that the New Science could uncover in as lucid a manner as possible, approaching as near and possible a one-to-one relationship between all words and all things (Mandelbrote 464).
some more fanciful than others, while Ray (like Bentley) spent nearly all of his scientific industry establishing as accurately as possible what was already extant in the Book of Nature.

The fascination with unrealized schemes and penchant for peacemaking that come into relief in comparing Wilkins with Ray and Baxter rise from the key philosophical difference between himself and other natural theologians of the period. Epistemologically, all of the other natural theologians considered here hold tightly to something. Henry More holds tightly to nearly everything, convinced of the rightness of both his physics and his metaphysics, and he incurs annoyance from both pious theologians who suspect his theology and from Robert Boyle, whose studies of air More tried to co-opt in the service of his theory of spirits. Richard Baxter, while not interested in quibbling over details, persists in urging a few very offensive doctrines with such doggedness that he more than counterbalances this broad-mindedness. Richard Bentley, like More, spreads his dogmatism over more ground, and he meets the same fate as More: he alienates his hero Isaac Newton, and nearly loses his fiancée, in his mission to reconcile scripture-prophecy with the natural world. John Ray, eminently humble before the Book of Nature, comes the closest to Wilkins in open-mindedness, but he too falls short on account of his tenacious acceptance of the “authority of Scripture.” The one principle Wilkins holds tightly, by contrast, is that one should never hold a principle so tightly that it cannot be let go in light of more or better evidence. He holds his convictions about the physical and the metaphysical worlds loosely, preferring always to reserve judgment in cases where two reasonable people hold different views. This leads to a singularly fruitful scientific imagination and a singularly tolerant ecclesiology; it also leads to a singularly schizophrenic natural theology.
To say that Wilkins was a mere sell-out would be unfair.¹³⁰ In *Principles and Duties* he makes clear that his peacemaking role was rather active than passive, having as its end not the mere avoidance of conflict but the establishment of a morally sound and stable university and church—and, at an individual level, the “chief happiness” of a blessed state in the hereafter spoken of in Christian Scriptures. But he saw the recognition of universal principles as a key means to that end, and universality is an ever-receding goal, the meeting of which depends on the gathering of every piece of testimony in the cosmos. Wilkins was therefore naturally inclined toward probability rather than certainty; and he had no wish to make trouble on account of principles he had always been willing to admit were subject to emendation. Wilkins emphasizes what he calls “moral certainty” over the more mathematical, compulsive certainty espoused by More, Hobbes and others.¹³¹ He is nothing if not pragmatic: at points he levels a Pascalian wager,¹³² weighing the potential benefits in the hereafter of Christian belief against its potential disadvantages, and he devotes the entire second book of *Principles and Duties* to an exposition of the practical duties humans naturally owe their Creator.

¹³⁰ There would be some truth in the accusation: Shapiro and Mandelbrote both point out that Wilkins, as well as Cudworth, were pressured by changing sympathies in the universities to take more reformed stances than they had before; but Mandelbrote’s diagnosis of these men as having malleable consciences seems a bit of a low blow (Mandelbrote 57, Shapiro 23: “Wilkins’s career at Wadham . . . makes clear his firm preference for religious compromise over perfection if perfection involved persecution”).

¹³¹ Because “moral certainty” is the only kind of certainty that applies to some precepts, Wilkins argues deftly, these should not be thought “meerely probable,” as though any higher degree of certainty were possible (31). The concept of moral certainty is not exclusive to Wilkins: Tillotson and Stillingfleet both employ it as well, as a means of arguing for God’s existence without having to formulate airtight logical proofs.

¹³² Pascal’s *Pensees* appeared in French in 1670 but was not translated into English until 1688. While the Catholic philosopher incorporated miracles into his (as Wilkins did not), the men shared an interest in natural religion.
Wilkins is aware that this methodology represented a departure from other natural theologies, and he apologizes for it. In the opening chapters of *Principles and Duties* he lays out exactly what kinds of evidence readers may expect to find in the pages that follow. What they will not find is what Wilkins calls “infallible certainty,” because this kind of certainty only applies to physical and mathematical things, and God does not fall into either of those categories (6-10). Instead, Wilkins will establish “indubitable certainty,” which applies to everything more complicated than physical objects and mathematical propositions. This kind of certainty he defines as “that which doth not admit of any reasonable cause of doubting, which is the only certainty of which most things are capable” (9). He maintains throughout the text a metaphorical relationship between these different kinds of reasoning and the different senses: the fact that one cannot hear colors, he points out, does not imply that colors do not exist (57). He also spends considerable time establishing that, when one can establish only probability rather than mathematical certainty, the wise man will always plan for the more likely of two outcomes, or else the one that minimizes the chance of danger. He establishes firmly the concept of the “man whose judgment is free from prejudice” because, he argues, this is the person for whom his arguments will be persuasive. In so conceiving of his audience he falls somewhere between Baxter and Ray, who write for Christians, and More, who claims to be able to convince anyone who is not suffering from a humoral imbalance. This move makes Wilkins’s task less ambitious than More’s. He need not provide absolutely airtight proof; he needs only to demonstrate that he has a stronger case than anyone else’s and, like Baxter and Bentley, he is quick to blame the hearts of his readers if his argument fails to convince.
Nor is Wilkins bound to show how he can intuit each of his premises, absent any outside help. He tellingly describes himself in *Principles and Duties* as a “manager” of his material: “I shall not pretend to the invention of any new arguments,” he says as he sets out to trace God’s existence and nature, “but content my self with the management of some of those old ones, which to me seem most plain and convincing” (40). Henry More spurned to take input from others and constructed geometric proofs from principles innate in his mind to the certain conclusion that there is a providential God. Wilkins, by contrast, sorts through the available material on the topic to assemble enough evidence to convince an unbiased person that it is more likely than not that a providential God exists. As his incorporation of ancient wisdom and reason mounts, he reiterates the distinction: “I do not pretend that these Arguments are *Demonstrations*, of which the nature of this thing is not capable,” he says, “But they are such strong probabilities, as ought to prevail with all those, who are not able to produce greater probabilities to the contrary” (76). Toward establishing such probabilities, he uses evidence of all kinds. Henry More had drawn inferences from nature, but grudgingly, preferring innate reason; John Ray would confine himself to such inferences, accusing More of paying too little attention to what was right in front of him; ever in the middle, Wilkins appeals to the natural world, ancient testimony (in which category he includes Scripture), and innate reason with equal ease. He does not expect any one of these types of evidence to be absolutely convincing, but each need not be. Taken together, he argues, they ought to be enough.
Democracy

All options and opinions become equal in a democracy where, as Kierkegaard wickedly said a century and a half ago, truth is determined by vote.

Ralph Wood

Wilkins wrote The Principles and Duties of Natural Religion in 1675, as if in defense of the reasonable equanimity he had long evinced in the pulpit and toward propagation of a similar reasonableness in others. He had already published a natural theology, Discourse Concerning the Beauty of Providence, in 1649, and this work was popular enough to go into four printings by 1672 (Mandelbrote 462). By the mid-1670s Wilkins had largely recovered from the loss of the Cromwells’ protection as well as from the fire of London, his latitudinarian efforts had met with mixed results, and the groups of virtuosi in which he had played a crucial part had coalesced into the Royal Society. He had been Bishop of Chester for eight years and was acquainted with a number of people who would carry on the work of physico-theology after his death: John Evelyn, Edward Stillingfleet, John Tillotson, John Ray. His earlier natural theology, which emphasized God’s providence, evinces a degree of open-mindedness to divine superintendence in the ordinary running of the cosmos that his early scientific writings did not allow. Principles and Duties is more systematic and contains a distillation of the lengthier and more complex Origines sacrae (1662) of Edward Stillingfleet. The work was more influential than recent criticism reflects: it went into nine printings up through 1734, playing a significant role in the education of clergy for the next

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133 Evelyn did not write a natural theology himself, but took a share in the enterprise as part of the four-man committee who chose Boyle Lecturers such as Bentley and William Derham (Dahm 173).

134 For introductory comments on Wilkins’s natural theology, see especially Mandelbrote 459, Shapiro 233ff., and Rivers 579.
century, and was an interlocutor for Hume’s 1779 *Dialogues concerning natural religion* (Rivers 577, 581).

Upon opening *Principles and Duties*, one notices first Wilkins’s strong taxonomical impulse. Like Baxter, he repeatedly begins a new strand of argument by laying out its constituent parts, always with an awareness of his sources of authority and the various faculties of his audience. Thus:

Illustration 1. From Wilkins’s *On the Principles and Duties of Natural Religion*.
Interrupting the text of Wilkins’s natural theology are taxonomical charts of the kind that have in recent years proven of interest to historians and philosophers of science. In the page reproduced above, Wilkins rearranges More’s taxonomy of knowledge in two significant ways: first, he shifts More’s tripartite structure of cognition, sense, and testimony into bifurcating levels in which both cognition and testimony are subsumed under “understanding,” which is distinguished from sense. Second, he reorders the hierarchy of faculties. As Stephen Jay Gould has pointed out, a judgment of worth is implicit in the placement of such bifurcated units higher and lower on the page (118-19), and Wilkins honors the simple evidence of outward sense.

Wilkins reorders Baxter’s taxonomy of epistemological authorities as well, in a more subtle way. Baxter, we have seen, changed the formula of “tradition, reason, and Scripture” to “sense, reason and Scripture,” making allowances for human weakness by recourse to the objective evidence available to sense. Wilkins too refers by turns to Scripture, reason and experience. Both men likewise construct their arguments in two parts of which the first is a standard treatise on natural religion. But some differences stand out against the backdrop of these similarities. Unsurprisingly, Wilkins makes a Baconian distinction between reason and experience that Baxter does not work out as fully: Wilkins numbers his points according to which kind of appeal he is making, while Baxter often treats “Sense and Reason” as a single unit. Baxter instead organizes his argument around the three aspects of God’s character—power, intelligence, and will—diverting the reader’s attention from her own ability to judge the argument at hand and placing attention on God instead. Wilkins’s lines of argument begin

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135 See for example Gould 118-27.

136 See Wilkins 347-356 for several arguments laid out in this way; in Baxter, see for example the preface, 203, 367, 414, 558.
with Scriptural passages and culminate in experience. Baxter does not scruple to cite
Scripture throughout his argument, and when he does separate reason from sense, he places
reason higher, working upward from this basest faculty to higher ones. When he finally
closes his natural theology, on the very next page he begins, “CHAP. I. Of the great need of a
clearer Light, or fuller Revelation of the Will of God, than all that hath been opened before.”
The end of the natural-theological first part of Wilkins’s *Principles and Duties*, we shall see,
is more epistemologically troubled.

The beginning is promising enough. Wilkins makes good on his claim to “manage”
texts already extant on the topic and systematically reviews various arguments: “From the
*Universal Consent* and agreement of *Mankind*”; “from the *Original* of the *World*”; From the
admirable Contrivance of Natural things”; “From *Providence*, and the Government of the
World.” Here again it is clear that Wilkins is a New Scientist and not an old one. He calls
sense perception the “first and highest” means of apprehending information, and
significantly, the argument for God’s existence as an idea innate in the human mind is
embedded within a chapter about universal consent. The Cambridge Platonists drew on
geometry to deduce this innate idea; equally unoriginally, but quite differently, Wilkins
observes that humans everywhere believe in a deity to whom they owe reverence (53-56). He
likewise concludes that such an idea indwells humans, but he arrives at that conclusion
empirically. This empiricism is hardly surprising: such an epistemology suits a good
administrator, who is interested above all in what *works*. Wilkins’s treatment of the innate
idea is also a prime example of his mediocrity: situated between the Cambridge Platonists
and Locke, he is not ready to abandon the innate idea completely, but he is squeamish about arguing for it geometrically.\footnote{Shapiro notes: “Wilkins retains elements of the concept of innate ideas, but he is obviously moving in a Lockean direction. His work tends increasingly to view natural notions as shared learning based on common psychological operations, rather than ready-made concepts implanted directly in each individual mind.”}

Wilkins’s repeated arguments from common assent stand or fall depending on how many assenting voices he can find, and so his natural theology reflects a sustained effort to get a majority vote, because the majority have a claim to prudence that no single man can claim. Wilkins, known by both friends and enemies as a prudent administrator, gathers the testimony of all sorts of witnesses. He gives more and less weight to particular voices according to how wise they are, moreover, the measure of their wisdom in turn being measured by the proven utility of their claims and, circularly, the common ascent those claims have received over time. The strength of his overall argument does not rest in the infallibility of any particular assertion, then, but in a web of constituent arguments vetted by the forces of probability: listen to enough opinions, the logic runs, and the misguided ones will drop out as outliers always do. In short, *Principles and Duties* is a democratic natural theology, but his is not the completely egalitarian democracy of which Kierkegaard is so derisive.

Let us examine the variety of witnesses Wilkins allows to testify to God’s existence.\footnote{When Wilkins uses the term “testimony,” he refers to the “testimony of other [humans]” as distinct from the “nature of things” and from “experience”; here, I use the term more generally to refer to all of these.} For in *Principles and Duties* each different kind of witness—inward and outward sense, cognition, and the literal testimony of other people—corroborates the testimony of the others. He therefore appeals to as many of these as possible in making each
assertion, and when the nature of a particular argument excludes one or more, it is with
apology that Wilkins focuses his attention more narrowly. As mentioned, he has given a
general apology for such narrowing in Book I, Chapter 4, when he points out that certain
information is available only to certain faculties (and thus one cannot hear a color). On a
particular topic, then, he may be limited to testimony because laboratory science has no
access to the relevant information. The lack of that “witness’s” testimony should not
therefore be counted against Wilkins, because no opponent could produce an empirical
argument either.

One group of witnesses Wilkins handles with special care is the vulgar. Many natural
theologians of the period appeal to the unenlightened at some stage in their arguments: More
references the creativity of natives of the Americas in using coconuts, and Ray speaks in his
preface of the simple farmer who can easily see God in a pile of grass. Wilkins’s relationship
to the vulgar is somewhat inconsistent. The general opinion of the masses, he says, can be of
great authority when it supports that held by the learned; however, when the two contradict
each other, one should listen to the learned, who have had the leisure and desire to spend
themselves seeking understanding (50-52). Such a principle of adjudication is
straightforward enough; Wilkins stresses on two occasions, however, that the “illiterate
Vulgar” more firmly believe “the notions concerning the Existence and Nature of God” than
do “several of the philosophers, who by their art and subtilty were able to invent disguises,
and to dispute themselves into doubts” (41-42, 155). In such cases, of course, Wilkins rules
in favor of the masses. By what means one discerns which philosophers are “disputing

139 See for example pp. 69-70, where Wilkins, after mentioning Greek philosophers and
poets, adds “Nor hath it been thus only amongst the more civilized Nations; But the Barbarous
Indians likewise have owned this Tradition [of creation by a deity], and professed their belief of it.”
themselves into doubts” and which are “the most considering and wisest men in all Ages and Nations” is not entirely clear, but Wilkins does offer some help. The key, he says, is to take into account mankind’s tendency toward sensuality. When anyone, learned or vulgar, argues against a superintending providence, against moral obligations, against rewards and punishments, and for license, that voice is to be mistrusted on the suspicion that reason has been silenced in favor of base desires. The learned silence reason with subtlety; the vulgar, with superstition. This is circular reasoning: one listens to those sources who argue toward the conclusion Wilkins knows he will reach. But circular reasoning is licit in Wilkins’s project, so long as enough witnesses are called to the stand.

The vulgar having been given their say, three witnesses remain: nature, ancient testimony, and Scripture. He works through these with great efficiency. The part of *Principles and Duties* that looks like natural theology in the modern sense—teleological argument from the order and beauty in the natural world, and various quasi-empirical essays toward determining the origin and age of the earth—comprises by volume only three percent of the text. Wilkins works swiftly through a rebuttal of Aristotle’s *ex nihilo nihil fit* on the grounds that “the fewest difficulties do lye” on the side of the world’s having a beginning, and this hypothesis should therefore be accepted. His treatment of “that other *Opinion*, concerning *Epicurus* his Atoms” might be thought an unfortunate spot on his otherwise untarnished reputation as an open-minded man of science. He dismisses the theory as “so extravagant and irrational” that it is not worth his time. Here too, however, he asserts that the majority is on his side, pointing out that it has been “abundantly confuted by others” (77).

Then Wilkins turns to the “admirable contrivance of Natural things” for a mere six pages. Arguments made in detail by More he does not bother to make again: he simply
 mentions in rapid succession “the several vicissitudes of Night and Day, Winter and Summer, the production of Minerals, the growth of Plants, the generation of Animals according to their several Species; with the Law of natural instinct, whereby every thing is inclined and enabled, for its own preservation,” concluding that all are “arguments to the same purpose” (79). On those topics he finds nothing wanting from More’s account, and, presumably, he considers More’s own text recent and popular enough not to need the kind of repetition he gives to older sources. This New Scientist’s lack of a sustained teleological argument is paradoxical, but not necessarily inconsistent. Bacon himself advised economy in natural theology on the grounds that everything needful had already been said, and we will find in looking at Ray’s Wisdom of God that sustained attention to the Book of Nature adds nothing to the logical rigor and coherence of an argument. Still, the brevity of Nature’s time in the witness box is perplexing. Perhaps it presents further evidence of Wilkins’s preference for imaginative scheming over painstaking research—he was always more inclined to design a flying chariot than to spend years breeding peas—but this explanation too falls short of satisfying.

In any case, one should not take Wilkins’s brevity for scorn. His attitude towards the voice of nature is certainly more positive than More’s: More defended his appeal to nature as a necessary concession to readers’ preoccupation with such low matters, but Wilkins is himself an empiricist and makes no apology for his inclusion of these arguments. Wilkins also updates More’s work, dispensing with remaining vestiges of old science such as plant signatures and including a discussion of recent discoveries made by means of the microscope. Like Ray, he cites Hooke’s observation that, while artificial things appear increasingly ugly and disordered as one looks more closely at them, natural things appear
increasingly ordered and beautiful (80-81). Further evidence for Wilkins’s significance to physico-theology is his frequent appearance in Ray’s *Wisdom*, which would combine More’s extended empirical arguments with Wilkins’s high opinion of empirical science. Indeed, the reader of Ray might be inclined to think the two natural theologies more similar than they are when Ray quotes Wilkins’s summary pronouncement, “the most Sagacious man is not able to find out any blot or error in this great volume of the world” (78). As it turns out, Wilkins expands on the aphorism only marginally, and Ray directly contradicts it. The harmony between Wilkins and Ray does not lie in their philosophical convictions but in their common zeal for the enterprise of natural science.

Nature, then, speaks in *Principles and Duties* briefly but loudly, and then steps away from the witness stand. Still unanswered is the central question of natural theology’s bounds, of where (if anywhere) reason falls short and revelation is required. If one is to find Wilkins’s answer to this, one must examine carefully the largest part of the text, in which he draws on “testimony” as he defines it, the testimony of others. Having dealt with the opinion of the vulgar masses, Wilkins turns to written texts: works of pagan and Christian authors, and Scripture itself.

Wilkins’s venerated “*Heathen Philosophers*” and “wise men” make a relatively long list, as suits a good democracy. Greeks and Romans, pious and atheists, each have a say, but Wilkins does refer to some more than others. He favors Aristotle, Epictetus, Cicero, and Seneca. He also cites Lucretius (and through him, Epicurus), however, and that not uncharitably. Like a number of natural theologians, Wilkins sometimes cites Lucretius precisely because points conceded by the opposition carry all the more weight. But sometimes Lucretius is just another ancient authority: when Wilkins explains, for example,
that the brevity of recorded history “was that which convinced Lucretius, that the World could not be Eternal,”\(^{140}\) Wilkins finds necessary neither to defend the “Epicure” Lucretius as an acceptable authority, nor to insist on a caveat that much of Lucretius’s thought—though not this—is to be rejected (71). Wilkins’s frequent references to Seneca, “Tully,” and Epictetus are less surprising: these authors provide precedent for his arguments about a universal notion of a deity, and for the wisdom of that deity, among other natural-theological mainstays.

Wilkins’s penchant for multivocity notwithstanding, one source stands out as his particular favorite: Aristotle, that champion of Athenian democracy. Wilkins repeatedly cites Aristotle, “The philosopher” (40).\(^{141}\) The ideal reader Wilkins describes in his opening chapters corresponds well to the “prudent man” of the *Nicomachean Ethics*: such a man weighs his options, considers the number and credibility of various sources, and acts to maximize future benefits and minimize future troubles (23 ff.). He walks the line between excess and deficiency; he is not too quick to judge. This centrality of prudence is peculiar to Wilkins: *Principles and Duties* alludes to prudence and the “prudent man” thirteen times. Baxter, as we have seen, always yokes and subjects prudence to love, mentioning the classical virtue only four times in *Reasons*. Henry More and Richard Bentley mention it a mere three times in passing, and John Ray only twice, both of which references actually

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\(^{140}\) It should be noted here that Wilkins misrepresents Lucretius, who argued that *this* world could not be eternal, but maintained emphatically that its constituent parts had always existed.

\(^{141}\) This might seem a counter-intuitive position for a New Scientist to adopt, but, as Shapiro points out, Wilkins could easily make the humanists’ distinction between Aristotle himself, a man of science, and the schoolmen’s abstruse descants on Aristotle. (50)
Having made Aristotelian principles of democracy central to the first half of his project, Wilkins will base the “Duties” half of the text on Aristotelian ethics, further underscoring his debt to and reverence for the philosopher.

A significant prejudice of Wilkins’s is worth noting as we consider his appropriation of the ancients. This administrator was suspicious of poetry. To be sure, he cites verse sources: Lucretius, for example, and the Psalms; but for Wilkins poetic form does not seem to have been a point in their favor. Where other natural theologians intone “Poets” with reverence, referring to them on the beauty of creation, for example, Wilkins at most includes “poets” in a list of voices unanimous on a particular argument. He is not embarrassed to cite atheists, but he does seem embarrassed to cite poets. Lucretius, the atheist poet-philosopher, is a particularly interesting test case of Wilkins’s attitude toward poetry relative to that of other natural theologians of the period. Richard Bentley, whom we will see cites Milton as well as the ancient poets, enlists poets as his allies for their peculiar ability to convey truth to the vulgar (Folly 277, 40) and cites Lucretius’s own mistrust of poetry as evidence of atheists’ fear that they are wrong. Ray acknowledges Lucretius as “the Poet,” sets down

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142 Ray’s first mention of prudence ascribes it to atheist philosophers, who “prudently broke off their Systems of Natural Philosophy” at the point at which they needed to explain human generation (217). The second is his allusion to the ant’s “seeming prudence” in storing up grain, which he adds he has never been able to observe himself (99). For Ray, it seems, mundane prudence deserves to be treated with sarcasm next to the real subject of divine wisdom.

143 Intriguingly, the suspicion ran both ways: a number of literary men, including Jonathan Swift, Sir William Temple, and (later) Horace Walpole took issue with Wilkins’s 1668 Essay Toward a Real Character (Shapiro 221). Joseph Glanville therefore chose a particularly galling medium for his jibe at Wilkins in the epigraph of the last section.

144 “And this [Paul] confirms by the Authority of a Writer that lived above 300 years before; As certain also of your own Poets have said, For we are also his Off-spring. This indeed was no Argument to the Epicurean Auditors; who undervalued all Argument from Authority, and especially from the Poets. Their Master Epicurus had boasted, that in all his Writings he had not cited one single Authority out of any Book whatsoever. And the Poets they particularly hated; because on all
his hexameters, and then ridicules their content with no reference to their form. Wilkins, by contrast, simply calls him by name and lays out his quotations as prose.

For Wilkins too sees the capacity of poetry to sway the vulgar, but like Lucretius, he does not think it typically inclines them toward the truth. He accuses “the loose and vitious Poets” of having “debaucht the understandings of the Vulgar,” making them superstitious and polytheistic (48). One of these “loose and vitious poems,” the fabled theogony of Orpheus, receives Wilkins’s particular censure for its “impious folly,” and here Wilkins emphasizes that the work is a “Poem,” and claims that it was Homer’s misfortune that he “too often follow[ed] Orpheus in these fictions” (111). Commenting on heathen writings on the afterlife, Wilkins uses “poetical” as an insult of sorts: “It must be granted, that this state as to the manner of it, is by them described in such a Poetical way, as is more fit to amuse and make impression upon the vulgar, than to satisfie the reason of the judicious” (151). The prudent man, Wilkins’s fit audience, finds poetry amusing but gives epistemological authority to philosophy. Wilkins’s near-exclusion of the poets from his republic has noble precedent, but like his scant attention to the natural world, this selectivity is difficult to reconcile with his claim to democracy.

A further limit to democracy is set by a witness’s historical situation. As mentioned, Wilkins cites classical authors generously and widely; alongside these pagan sources he includes the ancient text of Scripture itself and the church fathers. As is the case in Bentley’s occasions they introduced the Ministry of the Gods, and taught the separate Existence of humane Souls” (Folly of Atheism 40).

Wisdom 14-15; Ray likewise cites the Psalmist without comment on the poetic form of those lines.

Baxter does not take up poetry at all in Reasons: he has little time for fiction generally, but he praises the devotional poetry of George Herbert.
Folly of Atheism, in Principles and Duties all of these Christian texts are to carry the same
erk authority as pagan ones, being subject to the same tests of credibility. He mentions Augustine
most frequently, but at various points he also appeals to Lactantius, Justin Martyr, Clement
of Alexandria, and John Chrysostom. But—intellectual historians will not be surprised to
learn this—several centuries of Christian thought are not called to witness. The most
conspicuous absence is Thomas Aquinas, who set out to do precisely what Wilkins does in
rationalizing Christianity by recourse to Aristotle.\footnote{A close second is Augustine, whose writings on the authority of testimony as well as the
need to distinguish among authorities, giving them more or less weight (e.g. De util. Cred. 12.26, De vera Relig. 2.4.45), are obviously reflected in Wilkins’s own method.} About Wilkins’s personal feelings for
Aquinas’s natural theology one can only speculate: the Doctor of the church was no poet,
and—even if he went about the enterprise in the wrong way—he had shared Wilkins’s desire
to marry faith and reason. On the other hand, Aquinas was just the sort of “Popish
Interpreter” of nature and Scripture whose abstruse logic-spinning the New Scientists sought
to oust.\footnote{This label is Wilkins’s own in Ecclesiastes (1651), on Aquinas’s interpretation of
Scripture (65).} Many who urged these kinds of educational reforms wanted to do away with
natural theology along with all the other features of the old science.\footnote{Mandelbrote cites in particular John Webster (1611-82) and William Dell (c.1606-69),
who share Hobbes’s critique of “Aristotleity” in the universities, and who wish to promote the New
Science and place narrow bounds on natural theology (459). Webster spends a chapter of his 1654
Academiarum Examen explaining “the Vanity, Uselessness, and Hurtfulnesse of [natural theology]
in some clear arguments” (10), after which he sets out an essentially Baconian programme of
learning. Bacon too had criticized natural theology, though not as strongly.} Taking a moderate
stance as usual, Wilkins shared with educational reformers a desire to make space for
Baconian philosophy, but he departed from them in their censure of natural theology. He thus
had reason to obscure any likeness between his project and those of Aquinas and the more
Platonic Anselm, both of whom bore much of the blame for the intellectual mire in which Cambridge and Oxford had by this time found themselves.

Several limits to Wilkins’s democracy have by now come to light: the vulgar may speak only when they speak for God’s existence; the poets may speak only once they have been rendered prosaic; and those voices whose ethical appeal has been severely damaged are silenced. Still to be considered is the question most important to the present study: whether Wilkins allows democracy to the extent that *Principles and Duties* can be considered a rational theology. In other words, if the voices of these witnesses taken together were to contradict revealed doctrine, would they outweigh revelation? For the most part, Wilkins shows himself to be the true father of the eighteenth-century deists, subjecting Scripture to the same standards of evaluation he would apply to any other source:

> Now the History of Moses, hath been generally acknowledged, to be the most ancient Book in the world, and always esteemed of great Autority, even amongst those Heathens who do not believe it to be divinely inspired: And there is no man of learning, but must allow to it (at least) the ordinary credit of other ancient Histories. (64)

Here Wilkins purports not to draw upon revelation at all: if he uses Scripture, it is because Scripture has proven a reputable witness. The “Great Autority” he ascribes to Scripture is therefore qualitatively different from the kind of *auctoritas* that needs no such apology, on which understanding of the word Anselm and Augustine drew in proclaiming *credo ut intelligam*. At least on the topic of Scripture, Wilkins says instead *intelligo ut credam*, allowing it only the credit allowed to other ancient histories—and in so doing partially spares himself the difficulties Ray and Bentley would face in trying to reconcile the Bible perfectly to the natural world.
Wilkins’s pragmatic interest in duty dictates the nature of the challenges he faces in trying to make his arguments without any recourse to revelation. He does not face the common problem of rationalizing those peculiarly Christian doctrines of the Trinity and hypostatic union; instead, he focuses on rationalizing the Christian virtues. As his argument moves from God’s existence and attributes to human virtues, citations of pagan authors begin to drop in frequency as Wilkins relies increasingly on Scripture. He makes clear that this shift is not an implicit argument for Scriptural authority, however, but for the appropriateness of Scripture as a source for certain kinds of truth:

[Heathen Philosophers] do in their Writings, speak but sparingly, concerning those kind of virtues which are of a more spiritual nature, and tend most to the elevating and refining of the mind. And on the other side, the Scripture doth most of all insist upon the excellency and necessity of these kind of graces. Which is one of the main differences, betwixt the Scripture and other moral Writings. And for this reason it is, that in speaking of these graces and virtues, I do more frequently allude to Scripture expressions. (199)

In pages following this apology, Wilkins attempts to demonstrate the excellency of these spiritual virtues as rationally as is possible. First he yokes faith and hope under the heading of “affiance” and sets out to demonstrate affiance’s universality. The effort is successful to a point: Wilkins observes that Hope’s presence at the bottom of Pandora’s box is evidence of pagan awareness of a need for her. He goes on to make a pragmatic argument that sounds

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150 Wilkins opens his chapter on faith with the following introduction:
Concerning Affiance; by which I mean an acquiescence of the mind, whereby it is supported against all unnecessary doubts and fears, upon account of the Divine All-sufficiency . . . . This Grace, according to its different relations, is usually distinguished into these three branches: 1. As it respects an act of the judgment in assenting to all divine truths, whether discoverable by Reason or by Revelation, so ’tis styled Faith. 2. As it imports a resting of the will and affections in the Divine goodness, whether discovered to us by the light of nature or by revelation, so ’tis styled Trust; . . . 3. As it relates to the expectation and desire after some future good which we stand in need of, or the escaping of some evil we are obnoxious unto, so ’tis styled Hope. But I shall treat of these promiscuously, because they agree in the general nature of Affiance. And how reasonable and proper this affiance in God is, will appear from these considerations. (189-91)
rather Hobbesian: “faith and hope and trust are altogether necessary to the state of men in this world; and that they must always be in an unsafe, unquiet condition, unless they have somewhat to support and relieve them in their exigences” (192). He omits to comment on whether the necessity of something makes it a virtue.

Wilkins is philosophically less successful when he looks more closely at the Christian virtue of faith. Squinting at the epistle to the Hebrews, the typical Christian source for a definition of faith, \(^{151}\) he calls faith “an act of the judgment in assenting to all divine truths, whether discoverable by Reason or by Revelation” (190). Wilkins’s desire to have faith both ways parallels his careful use of “authority” mentioned earlier. Both faith and authority in the Christian tradition pertain to simple belief rather than scrutinized knowledge, \(^{152}\) so that an evacuation of meaning takes place when he tries, for example, to cite the plight of the Jewish nation as proof “for the authority of Scripture” (89).

Wilkins faces the same problem when he turns from “affiance” and devotes a chapter to love. As was the case with faith, here the heart of the Christian virtue is missing, for Wilkins focuses exclusively on human love for God. \(^{153}\) He establishes, with much citation from Scripture and a little from St. Augustine, that a proper understanding of God’s character—and humans’ utter misery without him—will naturally excite in humans the love they owe God. This love, he says, should be so much greater than human love for anything

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\(^{151}\) “Now faith is the assurance of things hoped for, the conviction of things not seen.” Heb. 11:1 ESV

\(^{152}\) For a discussion of Christian conception of authority up through the seventeenth century, see Jeffrey 168-174. Of Augustine Rist says, “[he] gives authority a certain priority: he tells us (C. Acad. 3.20-43) that he will never depart from the authority of Christ, but that he will investigate his beliefs with the most sophisticated reasoning in the hope of advancing to understanding” (27).

\(^{153}\) Comparison with Baxter’s Reasons of the Christian Religion highlights this omission, for Baxter places divine love at the front and center of his discussion of the love humans owe to God (see for example 25).
else that one’s regard for others seems as hate next to it. The argument accords with Scripture as far as it goes, but it falls short, for it fails to provide any serious discussion of caritas. Wilkins’s single mention of charity in this section is timid and partial:

[The first of two ingredients of love is] An Estimation of the judgment; a due valuation of those excellencies which are in the Divine nature, whereby we look upon God as the supreme Being in genere boni: From whom all created goodness is derived, and by conformity to whom it is to be measured. And this notion is the proper importance of the word Charity, whereby we account a thing dear or preitious. (200)

A “due valuation of excellencies,” as Wilkins terms it, is in certain views (particularly Augustine’s) a characteristic of Christian love, but this definition certainly does not cover all the territory covered by charity. The term first of all denotes the love that proceeds from God to his creation—irrespective of the object’s prior worthiness to receive it—and which Christians are charged to pass on to their fellows by grace.154 Such benevolence has no place in Wilkins’s argument because it is not rational, and he prudently moves quickly away from the term “charity” to focus on “Estimation” and “Choice,” the two ingredients in love as he defines it.

**Conclusion: the Tyranny of Scripture**

"'Many religions are moderately true.' You fellows up on the mountain must be a lot of wise guys to have thought that out. You're right, too. I’m dead certain of it."

"But we," responded Chang dreamily, "are only moderately certain."

James Hilton, *Lost Horizon*

All this points to a Wilkins who is a rational theologian like Henry More, unwilling to grant the necessity of revelation because to do so would undermine his central argument about the reasonableness of Christianity. But there remains a gulf between More and Wilkins. To begin with, Wilkins admits into his text a consideration of sin and suffering, 154 For a succinct discussion of love in Christian theology, see Woodhead.
starting with the fact of suffering and proceeding from there not, as More does, to an argument of *concordia discors*, but to the Christian doctrine of fallen human nature and desert of punishment. He uses only Scripture to support his position in this section, nor does he apologize for that use as being of convenience rather than necessity (257-60). The most epistemologically humble part of Wilkins’s text, however, is his last chapter, “The Conclusion of the whole, shewing the excellency of the Christian Religion, and the advantages of it, both as to the knowledge and practice of our duty, above the meer light of Nature” (394). This pronouncement still gives more credit to reason than Baxter allowed, but Wilkins presses on, insisting that he has not intended by his project to “derogue from the necessity and usefulness of Divine Revelation,” adding that “there is great want of clearer light” than mere reason on account of “the dark and degenerate state into which Mankind is sunk” (394-95). One can almost see the latitude-man wince as he writes “necessity” and hastens to add “usefulness.” Wilkins and reader alike are surprised to find that he has not renounced completely the reformed doctrine on which he was raised in favor of the more liberal ideas he has come to cherish.

His successors, however, are less ambivalent. *Principles and Duties* was an unfinished work, published posthumously by Wilkins’s dear friend the future Archbishop John Tillotson. “A considerable part of it wanted his last hand,” Tillotson explains in his Preface, “yet neither could I be so injurious, to deprive the world of it, because it was less perfect than he intended it; nor durst I be so bold, to attempt to finish a Piece designed and carried on so far by so great a Master.” Tillotson nevertheless cannot resist the temptation to gloss Wilkins, perhaps in an effort to render more consistent the unedited “considerable part,” which the reader learns is Chapter 13 onwards. (It is in Chapter 13 that Wilkins begins
to rely on Scripture heavily, sometimes exclusively, to make his arguments.) Tillotson summarizes Wilkins’s accomplishment:

It is indeed an unspeakable advantage which we who are Christians do enjoy, both in respect of the more clear and certain knowledge of our duty in all the branches of it, and likewise in regard of the powerful motives and assistance which our blessed Saviour in his Gospel offers to us, to enable and encourage us to the discharge of our Duty: . . . And if [the Law of Nature] were but well consider'd, it would be an effectual antidote against the pernicious Doctrines of the Antinomians, and of all other Libertine-Enthusiasts whatsoever: Nothing being more incredible, than that Divine Revelation should contradict the clear & unquestionable Dictates of Natural Light.

This is the natural theology of a rational theologian, and indeed, Henry More’s term “antidote” has crept into Tillotson’s rhetoric. In his view Christ’s role is that of an ethical exemplar, motivating and assisting the believer, and good consideration of rational principles is effectual to combat the enemy, who here suffers from enthusiasm, another term that Wilkins himself never uses.

Wilkins probably let the subject of enthusiasm alone partly because of his desire to be inclusive: the Puritan as well as the Laudian would be welcomed alike into Wilkins’s ideal Church of England. But desire for inclusivity does not wholly explain Wilkins’s epistemological humility relative to Tillotson’s, for not only does he not attack reformed Christianity; he also concludes Principles and Duties with that tension-ridden chapter on the excellency of revelation, in which he too addresses the role of Christ in human life:

Although, before God was pleased to make this Revelation of his Will to mankind, men were obliged to the practice of moral duties by the Law of Nature . . .; yet now that God hath in so much mercy revealed his Will so plainly to mankind, it is not enough for us who enjoy this Revelation, to perform those moral duties which are of natural obligation, unless we also do them in obedience to Christ as our Lord and Lawgiver. As we are Christians, whatever we do in word or deed, we must do all in the name of the Lord
Jesus; and by him alone expect to find acceptance with God. (395-96)\textsuperscript{155}

Here the message of *Principles and Duties* differs fundamentally from Tillotson’s summary of it. Where Tillotson calls revelation a help and Christ an encouragement, Wilkins finally proclaims that revelation is necessary and salvation is through Christ alone. This pronouncement not only clashes with Tillotson’s; it contradicts Wilkins’s own assertions earlier in the text, about the effectiveness of reason to prove the authority of Scripture and Scripture’s status as a mere helpful shortcut to the truth at which wise men would arrive on their own. He is simply inconsistent, and Tillotson passes over one of the Wilkins’s two voices and gives readers a composite that is more certain of Reason than the one who wrote *Principles and Duties*.

In fact, it seems that Wilkins grew rather humbler than more certain about the efficacy of reason as the text and his own life approached their respective conclusions. At the outset of *Principles and Duties*, he effectively claims to present a fully convincing argument, pointing out that a relatively convincing argument must fully convince a prudent man. But as his focus moves from the knowable cosmos to the hereafter, various witnesses fall silent in turn—first empirical observation, then poetry and vulgar opinion, then pagan philosophy—and reason’s authority wanes. Just before its strained concluding chapter, *Principles and Duties* has become an exegesis of biblical texts on the state of the blessed after death (389-90). The subject matter dictates this exclusivity: pagan texts cannot provide Wilkins information about the Christian heaven, and there is only one way to acquire the information empirically. Seeing this great limitation, and having committed his papers to Tillotson’s care, Wilkins famously declared from his deathbed that he was “ready for the great experiment.”

\textsuperscript{155} In the notes corresponding to this passage, Wilkins makes two scriptural references: Romans 2:14-15 and Col. 3:17.
God’s Naturalist: John Ray’s The Wisdom of God (1691)

The Phi Sigma Society’s Biologist Magazine ran an article about John Ray in 2008, which begins: “The landscape of twenty first century biology owes an enormous debt to Ray, the seventeenth century natural historian whose life was spent in rationalising the understanding of the living world” (21). While applauding this desire to give credit where it is certainly due, I argue in the present chapter that rationalizing—in Henry More’s sense—is precisely what Ray does not do in his natural theology. More recoils from the “quaint,” which acts upon a reader’s fancy rather than the higher faculty of clear reason. John Ray, by contrast, revels in the quaint. A natural historian rather than a philosopher or a laboratory scientist, Ray maintains unrelenting humility before the text of the Book of Nature, which he seeks chiefly to describe rather than to master. Notably, he maintains the same stance toward more literal texts as well: while More asserts the homology of every assertion of “all men in their wits,” and Wilkins attempts to reverse the effects of Babel by seeking a universal language, we find Ray traveling around the Cornish countryside collecting “English words not generally used,” for, among other reasons, “they may . . . afford some diversion to the
curious.” Finally, and above all, Ray maintained humility before the Book of Scripture, beginning his natural theology with a profession of faith rather than only concluding with a profession of the reasonableness of faith.

Written at the end of the time period under investigation in this study, *The Wisdom of God* is the most empirical of our five natural theologies. Ray did not turn to the natural world in order to find fodder and support for his preconceived arguments; he started with the natural world and reasoned from there, from observation to axiom just as Bacon had prescribed. This deference to nature seems to support the case that the New Science did indeed stand to dethrone religion, but it is evident in his natural theology that Ray did not classify those things revealed in Scripture as “preconceived arguments.” Rather, in *Wisdom*, while the New Science sets bounds on Old Science, this New Science itself is then bounded by Scriptural revelation. As is evident in its title, and in contrast with other natural theologies of the period, Ray’s natural theology foregrounds God, not the enterprise of natural theology itself, and not the flawed arguments of the atheists. Ray makes little effort to produce a logically airtight answer to these arguments, which are still largely deductive and therefore as exemplary of the kind of arrogance Bacon had attacked as their Christian counterparts. By keeping his admiration for the book of Nature in focus, Ray managed to produce a natural theology that has continued to have many appreciative readers over many years—for he practices, rather than theorizing about, the apprehension of God through nature.

“Forementioned Authors”

Ray had produced a number of other works before writing *The Wisdom of God*, but these were not philosophical or theological. He wrote a number of natural histories: *Catalogus plantarum circa Cantabrigiam* (1660); *Catalogus plantarum Angliae* (1670),
Synopsis methodica Animalium Quadrupedum (1693), the posthumous Synopsis methodica Avium et Piscium (1713). This series of texts catalogues the flora and fauna in successively wider regions spreading out from Ray’s Cambridge. Ray is best remembered for the strides he made toward a scientifically sound taxonomy of plants (and, to a lesser extent, animals); he was Linnaeus’s inspiration and predecessor. Modern natural history therefore owes him a great debt, as his biographers are quick to point out. A prominent natural historical society in England still bears his name. Ray’s untiring and illuminating work in natural history impressed his contemporaries as well: he was elected into the Royal Society in 1667 on John Wilkins’s recommendation, and was later asked to be secretary of that institution but declined because it would take him from his work.

But he did not, as Linnaeus would, separate taxonomical endeavors from the investigation of natural processes: between 1668 and 1671, for example, he conducted a sustained study of how trees nourish themselves (Derham 25-28), and his curiosity about how things work permeates nearly all of his natural history. John Ray’s biographer and twentieth-century acolyte Charles E. Raven contrasts Ray with Linnaeus on this count: “Always content ‘to suppose that the highest and only worthy task of a naturalist was to know all his species by name,’” he says, Linnaeus “never made a single important discovery throwing light on the nature of the vegetable or animal world’” (453). Ray, on the other hand, “never fell into the error of his great successor,” instead turning “from the preliminary task of identifying, describing and classifying to that of interpreting the significance of physical and physiological processes” (452-53). Ray certainly saw significance: the strongest

NOTES
Citations of Ray’s are all from *The Wisdom of God*. Pages in Ray’s Preface are not numbered.

156 Mandelbrote seconds Raven in this estimation:
impression one gains from an examination of his scientific writings is a sense of the exuberance with which he set out to find and describe the order and beauty in nature, always with an awareness that the order and beauty are God’s work. These aims, central in *The Wisdom of God*, surface much earlier, in his preface to Francis Willoughby’s posthumous *Ornithology* (1678).¹⁵⁷

Further, while posterity remembers Ray almost exclusively for his natural history and perhaps his natural theology, he was not exclusively a natural historian. At Trinity College he distinguished himself early in Greek and Latin, and his first biographer, William Derham, insists that his profession was always “divinity,” his natural histories being “somewhat alien” to that profession (62). Ray himself points out in the preface to *The Wisdom of God* that he hopes the work, which he locates in the genre of “divinity,” will fulfill his duty to serve the church with his hand in writing, himself “being not permitted to serve the Church with my tongue in Preaching.” He alludes to his being barred from ministry in the Church of England on account of unwillingness, like Baxter and some 1800 others, to subscribe to the Uniformity Act of 1662, a move that shows him to be a man of strong religious conviction if not a typical dissenter.¹⁵⁸ His published works likewise reflect interests outside of biology:

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¹⁵⁷ “Considering that the publication of [Willoughby’s observations] might conduce somewhat 1. To the illustration of Gods glory, by exciting men to take notice of, and admire his infinite power and wisdom displaying themselves in the Creation of so many *Species* of Animals . . . I resolved to publish them, and first took in hand the *Ornithology.*” Reasons two and three are the aid of the enterprise of natural history and the glory of England.

¹⁵⁸ For discussion of Ray’s Anglicanism and unwillingness to subscribe to the Act, see McMahon.
besides *The Wisdom of God*, these include sermons, a devotional, dictionaries of classical and English words, a collection of proverbs, and a natural-theological treatise on the “dissolution and changes of the world,” which went into several printings during his lifetime. He also translated into Latin John Wilkins’s *Essay Towards a Real Character* (1688)—perhaps as his own essay in that direction, but more likely a gesture of kindness towards his friend, whom he cites regularly in *Wisdom* as the Bishop of Chester. Ray’s taxonomical impulse is evident in a number of these writings: it has been remarked that his compendium of proverbs shares traits with his catalogues of birds, plants, and fishes.\(^\text{159}\) It is also evident throughout this corpus that Ray took a great interest in getting things right: he published his *Nomenclator Classicus* (1672)\(^\text{160}\) for the instruction of Francis Willoughby’s orphaned sons, because of the “Multitudes of Errors” in existing dictionaries. Ray’s interest in giving things their correct names extended even to himself—in 1670 he changed the spelling of his name from Wray to Ray because “this he took to be the truest way of writing it” (Derham 30).\(^\text{161}\)

The man who wrote *The Wisdom of God*, then, was a polymath with an insatiable desire to get his facts straight; and such forensic zeal produced in him a desire to hear every side of a story. He therefore brought to his natural theology a familiarity with scores of other, related texts, which he cites with a freedom that was foreign to More. Ray draws frequently and explicitly on other natural theologies, contemporary scientific texts, the ancients, and the

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\(^{159}\) Duran 121: “Significantly, Ray published a compendium of proverbs in table form to show that these linguistic materials could be classified by the same principles used to arrange organisms such as plants, birds, fishes, and fossils.” See also Gould 35.

\(^{160}\) The DNB records the publication date as 1675; I follow Derham’s account, as well as his use of this title rather than *Dictionarium Trilingua*, under which it was first published.

\(^{161}\) Ray wrote to Martin Lister that his reason for the change was that his forefathers had used “Ray,” Derham records.
Bible. In his preface, he acknowledges a debt to the natural theologies of More, Cudworth, Stillingfleet, Samuel Parker, and Boyle; and indeed, he cites and quotes these as well as Wilkins’s *On the Principles and Duties of Natural Religion* (1675) throughout *The Wisdom of God*. So great is his debt, in fact, that he justifies his undertaking more as a convenient and inexpensive collection of what has already been written than as the product of his own mind.162 In his preface he explains that the book was originally several sermons given at Cambridge, which he has since “enlarged with the Addition of some Collections out of what hath been since Written by the forementioned Authors on [his] subject.” This willingness to rely on the work of others manifests itself in his natural history as well: having published his catalogue of British plants, he received an influx of corrections and additional materials from his readers, which he incorporated into the edition of 1696 with due acknowledgements (Derham 61-62). In *Wisdom*, we shall see, Ray keeps ever in view the fact that the tasks of natural history and theology (which are intertwined) are too great to be carried out by one man.

Given Ray’s acknowledged method of bringing together extant observations and arguments in order to compile *Wisdom of God*, it is useful to consider his natural theology through its appropriation of others. Among other natural theologies—the “forementioned Authors”—Henry More is the most obvious presence in *Wisdom*. He provides by volume more of Ray’s material than any other source: Ray cites More twelve times by name, still more as “the Doctor,” and three times he quotes from *An Antidote* at lengths spanning pages. Cudworth is the second most quoted, followed by Wilkins and Boyle. Wilkins’s *Principles*...

162 “All the particulars contained in this Book, cannot be found in any one Piece known to me, but lye scattered and dispersed in many, and so this may serve to relieve those Fastidious Readers, that are not willing to take the pains to search them out: and possibly, there may be some whose Ability . . . will not serve them to purchase, nor their opportunity to borrow those Books, who yet may spare Money enough to buy so inconsiderable a Trifle.”
and Duties and Boyle’s Disquisition about Final Causes (1688) both set out to establish natural theology as a legitimate activity, and Ray takes these as a point of departure, assuming rather than asserting that one can take nature as a starting point for the consideration of God. Cudworth and Stillingfleet are of less use to Ray: philosophically closer to More than to Wilkins and Boyle, their texts are consumed with providing a response to the materialistic atomists with a Cartesian certainty that Ray did not attempt. Such arguments, moreover, foregrounded the innate idea, which Ray explicitly brackets in his preface as obscure and unhelpful. As preceding works in his present genre, however, each of these sources appears in Wisdom, alongside Aristotle, Cicero, and Pliny, and Boyle, Hooke, and Leeuenhoek, as secondary texts always do in the work of a meticulous scholar.

Sometimes Ray cites scientists in support of points he cannot investigate firsthand; sometimes he cites older scientific authorities only to counter or correct them. In his careful perusal of these texts, Ray strives to understand better the primary text of the book of Nature, which he venerated to an extent that More would have found reprehensible.

Besides Henry More’s An Antidote against Atheism, then, the “texts” on which Ray relies most in composing The Wisdom of God are none other than the old “two books”: Nature and Scripture. The bulk of the work comprises his attempt to read and interpret the first of these. Because Ray is a naturalist, bent on understanding the world as it really is, he sees his accomplishments in this area as the chief asset he can bring to the Christian enterprise of knowing God. But his justification comes from Scripture, the only book he sets above the natural world. In a way, Ray treats Scripture with a degree of deference that outstrips even that of Baxter. For Ray failed to make the distinction Baxter made between the literal text of Scripture and the “Word of God,” a move, as we have seen, that spared Baxter
from having to treat the Bible as a science textbook. Like Bentley, Ray did to an extent treat the Bible as a science textbook; that is, he made an effort to reconcile the natural world described in Scripture with the one he and others observed. But while Bentley was driven into serious doubt by this exercise,\footnote{See p. 179.} Ray remained unperturbed. In \textit{Wisdom}, when he occasionally finds that Scripture and Nature contradict each other, he evinces a willingness to concede authority to Scripture, or at least to confess that the failure is of his own mind.

\textbf{More, Ray and “Wonder”}

In maintaining such an epistemological hierarchy, Ray differs fundamentally from his predecessor More, and this fundamental difference works itself out in a number of ways. Most obviously, the matter of More’s Books 1 and 3 is missing, and only that of Book 2, the “arguments fetched from external nature,” remains for Ray to sift through and rework into his own book.\footnote{Ray deals with each of these omissions briefly. He calls proof “taken from the innate Idea . . . but an obscure [Demonstration], not satisfying many of the learned themselves, and being too subtle and metaphysical to be apprehended by vulgar Capacities” (23). He is kinder to the argument from the supernatural, another of More’s hallmarks, but still firmly declines to use it himself (preface).} Within these empirical theologies, moreover, the two men take very different views of the nobility of matter: what for More was a concession to coarse and sensual empiricists is for Ray a humble submission of one’s own reason to the facts of nature. More’s anxiety to give a completely impregnable case for God’s existence and providence is also absent from Ray’s work: Ray makes space for suffering and unfitness where More did not, and on several occasions he admits the limits of human understanding and the scientific enterprise. He also explicitly acknowledges the effects of the Fall on human understanding, which (as we saw) More could not do except to the detriment of his argument.
These differences make evident why Ray’s natural theology was the longer-lived of the two—it is easier to discredit an argument that must be absolutely convincing on all points in order to stand—but it also raises the question of whom Ray set about to persuade if he assumed so much common ground with his audience. An atheist could easily remain an atheist after reading *Wisdom*, which assumes the authority of Scripture and the major tenets of Christian doctrine before it even sets out.165

Before considering more closely this litany of differences between the two men, we should pause to consider their similarities and the debt Ray owes to More. His organization in *Wisdom* follows that of Book 2 of *An Antidote*, moving from inorganic matter (including the order of the cosmos) to plants to animals to humankind. Ray adopts many of More’s teleological arguments wholesale, quoting him on cosmology, the fitness of the eye, the seeds of plants, and animals’ right to enjoy themselves without reference to human benefit, with little or no emendation. He also follows More and other Cambridge Platonists in asserting a “plastic nature” to explain the creator’s indirect activity in the natural world, although his tone here is not as certain as was More’s regarding the “Spirit of Nature.”166 Finally, Ray reiterates More at length in arguing that many objects which are not fitted for use by man are fitted to be made fitted for use by man: in foresight and beneficence, having given man industry and skill, the creator gives man opportunity to exercise these (Ray 112, More 54,

165 I am not the first person to notice this circular reasoning in Ray: John Hedley Brooke points out, following Raven, that Ray “posits a prior belief in God, which a natural theology could corroborate” (209, quoting Raven 466).

166 For a brief discussion of the similarities and differences between Ray’s “plastic nature” and those of More and Cudworth, see Raven 456.
Not without reason did Charles E. Raven suggest that the sermons composing *Wisdom* “were originally an exposition of and comment upon the theme of the second book of More’s treatise” (458).

The two natural theologians’ common subject matter is not merely accidental, moreover: they share a methodology that sets them apart from other natural theologians of the period. In his illuminating taxonomy of late seventeenth-century English natural theologies, Scott Mandelbrote yokes More and Ray and sets them in contrast with Wilkins and Boyle. Wilkins and Boyle and their successors, Mandelbrote points out, seek to combat atheism by demonstrating how God’s power is evident in the lawful operation of the universe. More and the other Cambridge Platonists, by contrast, as well as Ray after them, emphasize God’s wisdom and seek to combat enthusiasm “by an appeal to the wondrous activity found in nature, of which regularity was only ever a part, and which required the constant, creative involvement of a hierarchy of spiritual agents” (“Uses” 452). Ray’s plastic nature, it is true, has no place in the empirical theology of either Boyle of Wilkins, and Bentley would later treat plastic nature as an ineffectual argument of the atheists. Ray, on the other hand, can see no way that mechanism alone can account for certain natural processes, particularly of generation and birth in animals and humans, and therefore there “appears a necessity of bringing in the agency of some Superintendent intelligent Being, be it

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167 Both Mandelbrote and Brooke note that Ray’s cosmos is less anthropocentric than More’s, although Brooke argues (contra Keith Thomas) that Ray’s demotion of humankind is rather hollow.

168 Wilkins omits all mention of the plastic nature; Boyle attacks the doctrine in his *Free Enquiry* (1686): “And whereas Philosophers presume, that she, by her Plastick Power and Skill, forms Plants and Animals out of the Universal Matter; the Divine Historian ascribes the Formation of them to Gods immediate *Fiat*” (49). Bentley scoffs at atheist’s attribution of fossils to “a Plastick faculty of Nature” as “sportfull” (*Folly of Atheism* 129).
a *Plastick Nature*, or what you will” (59). Thus was the intelligent design argument born in the natural theology of the Cambridge Platonists and Ray.

But just as More and Ray begin to look most alike, their differences rise to the surface. Noting that Ray was less interested than was More in nature’s utility to humans, Mandelbrote explains further the “wondrous activity” detailed in *Wisdom*:

> It was linked to the suggestion that a cause and a consequence of the impulse of natural theology was the desire to worship the creator through a proper appreciation of the form of his creation . . . . For many eighteenth-century readers, the curiosity and wonder provoked by Grew and Ray, rather than any sense of the lawfulness of nature that they inspired, provided the theological value of their books. (“Uses” 468)

Ray’s “wonder” differs at least in emphasis from More’s, and there may be a more substantial difference. The most obvious case of the “wondrous” in *An Antidote against Atheism* is not More’s treatment of the form of creation, but his discussion of witchcraft, apparitions, and good genii in Book 3. Significantly, Ray does not pooh-pooh assertions of the supernatural, but he declines to appeal to these himself, on the grounds that they are “not common to all Persons or Times, and so liable to Cavil and Exception by Atheistical Persons” (Preface). Ray focuses on natural processes and generally treats unexplained phenomena as areas for further investigation, not evidence for a spiritual world. Supernatural phenomena certainly provoke wonder, but it is the wonder expressed with a question mark. Focusing on the things all people can observe, Ray seeks instead to provoke the wonder expressed with an exclamation point.¹⁶⁹

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¹⁶⁹ Here too Ray’s natural theology is more Baconian than that of More. Bacon had already opined in 1605: “The contemplation of God’s creatures and works produceth . . . knowledge, but having regard to God, no perfect knowledge, but wonder, which is broken knowledge.” Earlier he calls wonder the “seed of knowledge” (5-6).
It is somewhat ironic, then, that Ray is far more comfortable with unanswered questions than were the Cambridge Platonists, another trait that distinguishes him from More. More, as we have seen, works marvelous phenomena into his overarching argument that God must exist, keeping his own reason sovereign. He rhetorically asserts that he has as much claim to certainty of supernatural phenomena as the atheist has to certainty of sense perception and closes the matter there. Ray, moving in the world of probability rather than certainty, keeps his readers aware of the level of trustworthiness of his information.

Regarding the beginning of lung function in newborns, a mystery that forces him to posit a plastic nature, he is clearly perplexed and would wish to understand the process better: “Why could [the diaphragm and lungs] not have rested as well as they did in the Womb? What aileth them that they must needs bestir themselves to get in air to maintain the Creatures life? Why could they not patiently suffer it to die?” He goes on to outline the weaknesses in the mechanists’ account of the process and ends by saying he is “not subtil enough to discern” how such an explanation can stand (61). His tone is far from that of the sarcastic rhetorical questions leveled at the same philosophers by Richard Bentley a year later regarding the source of consciousness in humans.

Ray’s curiosity and willingness to admit ignorance are not confined to this single example. In his preface he promises, “I have been careful to admit nothing for matter of Fact or Experiment but what is undoubtedly true, lest I should build upon a Sandy and Ruinous Foundation; and by the admixture of what is False, render that which is True, suspicious.” He makes good on this promise, always admitting when he has not examined the evidence for an assertion himself. “Some fetch an argument of Providence in the variety of Lineaments in the Faces of Men,” he says on one occasion, reckoning, “Were Nature a blind Architect, I see not
but the Faces of some men might be as like Eggs laid by the same Hen” (168). Some phenomena he omits entirely on account of his ignorance: “I confess my self not sufficiently to understand the nature of Sounds to give a full and satisfactory account of the Structure and Uses of all the parts of the Ear,” he says simply and closes that topic as he makes his way through the senses (186-87). The larger argument here is not that we should assume there is a wise, providential God because we cannot understand auricular function; it is that we should try to understand auricular function so that we will better know God’s wisdom and providence.

To these careful admissions of his own uncertainty Ray adds emphatic pronouncements of ignorance, stacking up evidence of his scientific humility relative to More. He “cannot certainly nor very nearly conjecture” how many species of fish there are (5), nor can he “give any probable guess” as to the number of “Elements, Meteors and Fossils” (149). (This humility does not sound as remarkable now as it did then, when such estimates were fairly commonplace.) “For ought [he] knows,” he adds, stones may be elemental, and sheep may instinctively know wolves (67, 94). He knows “not but that Parrots may be an exception” to the rules that seem to govern European birds’ beak types (110). And the means by which certain fish regulate their buoyancy is “as yet unknown to us” (9). There are some confusing phenomena he clearly wishes to investigate further: he spends two pages discussing why humans are without a nictating eye membrane, offering some suggestions but concluding, “But still we are to seek why” many quadrupeds have this advantageous structure and we do not (183-85). He is also puzzled about mules: “Why such

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170 In fact, parrot beaks turn out to be peculiarly intriguing: Paley gives them sustained attention in his *Natural Theology*, and Paley’s consideration in turn spurs a young Charles Darwin to look closer, a point Brooke highlights in his presentation at the International Conference on Natural Theology in Oxford in June, 2008.
different Species should not only mingle together, but also generate an Animal, and yet that that hybridous Production should not again generate,” he says, “is to me a Mystery and unaccountable” (219). And he wonders “what use the Paps in Men should serve” as well, offering a few suggestions and then shrugging the question off (156). This scientific humility sets him at a great distance from More, who confidently asserts what succeeding generations would find laughably fabulous, such as the aerial generation of the bird of paradise, without any reference to whether he has observed these phenomena himself. More does, however, spend a great deal of effort arguing against the equally dubious doctrine of spontaneous generation, because this doctrine stood to undercut rather than support his argument of the necessity of an immaterial creative force.

Because he does not claim sovereignty for human reason, then, Ray’s selection of what he shall include in his argument for providence is based less on what will convince his readers—More’s selection principle—than on how sure he is that his information is empirically verifiable. In the course of their works, both natural theologians make these differing grounds for omission explicit. More says on one occasion that he will not insist upon a point (the availability of grass for feed as evidence of Providence) because this provision seems “rather necessary than of choise,” and therefore cannot prove anything, as “Counsell most properly is there implyde where we discerne a variety and possibility of being otherwise, and yet the best is made choise of” (Antidote 71). Ray, discussing the purported self-medicating behaviors of various animals, similarly elects to “make no inference from them,” but in his case, this is “because I am not fully satisfied” of the truth of such assertions. In short, More insists on what he deems absolutely compelling to his readers’ reason, while Ray insists on what accords with sense evidence and experimental science.
Complementing the two men’s views of the efficacy of human reason are their respective attitudes toward the natural world. More (as we have seen) considered empirical reasoning almost a nuisance, a concession to those who ignored their better inner light. Ray, by contrast, derides Descartes’s low estimation of sense perception, arguing that the eye is “the best medium we have to demonstrate the Being of a Deity” (22-23). He evinces a Bacon-like exuberance about the intellectual trend towards employing it:

Let us then consider the Works of God, and observe the Operations of his Hands. . . No Creature in this Sublunary World is capable of so doing beside Man; and yet we are deficient herein: We content our selves with the knowledge of Tongues, and a little skill in Philology, or History perhaps and Antiquity, and neglect that which to me seems more material, I mean Natural History and the Works of Creation. (122-23).

In these much-quoted lines, Ray puns on “material” and implicitly challenges the assumptions underlying More’s use of mucky images in describing matter. Elsewhere he explicitly criticizes the deductive reasoning of his esteemed predecessors. Having quoted Cudworth at length, he concludes, “Thus far the Doctor, with whom for the main I do consent. I shall only add, that Natural Philosophers, when they endeavor to give an account of any of the Works of Nature by preconceived Principles of their own, are for the most part grossly mistaken and confuted by Experience; as Des Cartes. . .” (28). He could level the same critique of More, whose first book enumerates just such preconceived principles. Ray and More agree that finding God in nature is a worthy enterprise, but they stand on opposite sides of the Scientific Revolution, and they do not shy away from acknowledging the breach.171

Significantly for the present study, it is the representative of New Science who places scientia lower and revelation higher.

171 The most often quoted passage in all of Wisdom emphasizes Ray’s empiricism. Having suggested that contemplating God’s works is likely “part of our business and employment in Eternity,” he adds, “Let it not suffice us to be Book-learned, to read what others have written, and to
Ray’s diminution of *scientia* relative to More is evident in his treatment of the unfit: the obnoxious, painful, and hostile. More’s argument, we recall, essentially explained these things away by a *concordia discors* argument, for humans need something to contend with, or else the “fire of mans spirit would be half extinguish’d” (*Antidote* 65). This was a necessary move on More’s part because, if a reasonable person could excogitate a world free of pain and suffering, and if that world were really better than the present one, then his entire argument that ours is the best of all possible worlds would fail. He even escalates into a paean on the “not unpleasant surprise of melancholy” produced in the pious viewer of “the more miserable objects in this present scene of things,” which, like beautiful but mournful notes of music, argue for Providence (Ward 69-70). Ray takes a different tack, for personal as well as philosophical reasons. Like Baxter, Ray was less a spectator than a miserable object himself: throughout his life he suffered from various illnesses. In 1669, he was forced to turn down two hundred pounds for a research expedition because “he thought fit to spare his weakly Body, and stay at home.” This was followed by “a feverish disorder” in 1671 (Derham 31-32), after which he began to be “vexed by diarrhea” after he settled at Black-Notley in 1679 (Derham 53, 58). When he was writing *Wisdom*, Derham records, “being much advanced in Years, and much afflicted with Pain and troublesome Ulcers in his Legs, he chose rather to put out his Things hastily in his Life-time,” than to leave the work to others and perhaps risk the kind of revision that had befallen Wilkins (66). Ray’s dedicatee, Francis Willoughby’s sister the Lady Lettice Wendy, likewise suffered from what he calls “the greatest of Temporal Evils, bodily Pain and Anguish,” and Ray spends the majority of the dedication praising her for her fortitude. He proceeds to declare that “there never was take upon trust more Falshood than Truth: but let us our selves examine things as we have opportunity, and converse with Nature as well as Books” (124).
such a wise Man . . .” as could have truly sustained the “Stoical vaunts” about the sage’s happiness in the midst of bodily injury—although, he says, a good man cannot be pushed so far as to blaspheme God. In his final section, Ray reiterates that physical health is “the principal blessing of this Life, without which we cannot take comfort in any thing besides” (225).

Such a hard look at unpleasant aspects of nature may compromise the integrity of Ray’s argument for an all-wise and beneficent God and therefore undermine his claim to rational proof. However, like Wilkins, Ray never made a claim that the present world is optimal; he believes, on the contrary, that the world is fallen—and not only the world, but also, perhaps especially, humans. He refers not only to “our frequent excesses,” a fact More would explain in terms of a humoral imbalance, but also explicitly to the “pravity of man’s nature” (225, 235). As he was of human art, he is suspicious of claims to human uprightness, figuratively and literally. Commenting on the well-known argument that humans’ erect posture enables us to look up and contemplate heaven, he pronounces tersely: “I do not see what advantage a man hath by this erection above other Animals, the Faces of most of them being more supine than ours” (141). 172 Convinced that all humans are fallen, he accordingly places little weight on the natural-theological claim that one can see Providence in the fact that good things happen to good people; bad things, to bad people. Ray argues instead that one can see evidence of Providence in the fact that humans fare as well as they do, not being done in immediately by “Dangers and sad Accidents, which do so beset us on every side, that the greatest circumspection in the World could not secure us” (225).

172 So ends Renaissance theologians’ anxiety about penguins.
Ray thus gives humans less agency and less capacity for virtue than does More, who omits to mention dangers and sad accidents and argues that a morally upright person can rest secure: “It is also very naturall for a man that follows honestly the dictates of his own Conscience, to be full of good hopes, and much at ease, and secure that all things at home and abroad will go successfully with him” (Antidote 30-31). In fact, in More’s cosmos there are no real accidents. Every single aspect of creation must be justified as the fittest possible, because both he and his readers possess this power of excogitation and are responsible to use it so that their metaphysical beliefs are the result of reason rather than enthusiasm. The particularities of natural structures and phenomena are thus of interest to More only insofar as they are clearly better designed than they could have been, or when they seem to contravene his argument and thus need further explanation.

In case the reader should remain unclear about whether Ray follows More in asserting that humans intellect is capable of passing judgment on God’s ways in creating the cosmos the way it is, Ray gives the following summary of human nature:

He is a dependent Creature, and hath nothing but what he hath received, and not only dependent, but imperfect; yea, weak and impotent . . . one Vertue is counter-balanced by many Vices; and one Skill or Perfection, with much Ignorance and Infirmity. (134)

In sum, Ray asserts that man’s faculties are not only fallen, but from the first were received rather than earned, just as revealed truth is. The assertion has profound implications for the kind of work he sees natural theology as doing. Ray delights in such particularities in themselves, and relies on Scripture to fill the gap voided by the absence of rigorous logical bridges between his observations and his overarching claim of God’s existence and providence.
The Book of Nature

Accordingly, Ray is profoundly suspicious of claims that cogitative activity makes humans little gods. These claims were fairly common in Ray’s England: not only were the Cambridge Platonists busy celebrating human art as an extension of God’s activity in the universe; theologians were coming to think of science as able to restore mankind to his prelapsarian state. Ray refuses to elevate reason in either of these ways. Following Wilkins, he observes “concerning the curiosity of the Works of Nature in comparison with the Works of Art” that the innovation of the microscope has uncovered a vast difference between Natural and Artificial Things. Whatever is natural beheld through that appears exquisitely formed, and adorned with all imaginable Elegancy and Beauty. . . . Whereas the most curious Works of Art, the sharpest and finest Needle doth appear as a blunt rough Bar of Iron, coming from the Furnace or the Forge: the most accurate engravings or embossments seem such rude, bungling and deformed Work. (41)

Far from carrying out God’s activities after him, humans can achieve only a superficial resemblance to the awe-inspiring work of the Creator. The situation is the same when it comes to thinking his thoughts after him, a trope that Kepler had made famous. To be sure, contemplation of God’s works is part of the business of the Sabbath day, but the kind of “excogitation” that would have made the same universe, or anything remotely like it, is absent from Ray’s natural theology. Writing on the order of stellar and planetary motion, he

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173 In this way Ray is closer to Boyle than he is to the Cambridge Platonists: as Mandelbrote points out, Boyle argues, “I consider that there is that infinite distance between the incomprehensible creator and the least imperfect order of his creatures, that we ought to be very cautious how we make parallels between him and them and draw inferences from his power and manner of acting to theirs” (Free Enquiry 145).

174 See Peter Harrison 56-63.

175 This is not to say that Ray despised human industry: on the contrary, he writes that “the bountiful and gracious Author of Man’s Being and Faculties . . . is well pleased with the Industry of Man” (153-56).
says that these “argue them to be ordained and governed by Wisdom and Understanding; yea so much Wisdom as Man cannot easily fathom or comprehend” (45). By contrast, it was just such comprehension of the wisdom governing the universe that was More’s aim.

One final point of comparison between More and Ray will serve to introduce the following consideration of the interaction between Nature and Scripture in *The Wisdom of God*. Subsequent readers of both natural theologians have been guilty of Whig history, giving credit where it is not due and withholding it where it is. In More’s case, as we saw, twentieth-century critics attributed to his work an empirical epistemology that he did not in fact profess, while his thoroughgoing commitment to rationality was obscured by his willingness to broach fanciful mystical topics. John Ray, who avoids many of More’s embarrassing mistakes, is therefore credited with an even greater degree of scientific rigor, which he did not in fact maintain in the *Wisdom of God*, a fact Mandelbrote brings out in his placement of Ray in the “wondrousness” tradition.

Because Ray was a natural historian by profession, posterity’s account of his accomplishments paints a not-inaccurate picture of a man with an empirical epistemology, and often praises him for this. His chief twentieth-century biographer, Charles E. Raven, whose lengthy study on Ray (1950) is still widely referenced in criticism on Ray, summarizes his contribution to humanity thus: “His greatness is that in a time of transition and universal (no pun intended) turmoil he saw the need for precise and ordered knowledge, set himself to test the old and explore the new” (12). The standard against which Raven measures Ray is that of modern science, which rejects commonly held notions about the natural world if the observed facts should demand that. Raven thus apologizes for Ray’s continued acceptance of much that was handed to him:
The ablest minds of the time, Descartes and Malpighi not less than Locke and Newton, hesitated to move out of their ancient intellectual home and had no intention of doing so. . . . It was in fact impossible even for the most independent intellect to emancipate itself from the postulates of contemporary thought or to realize the scope of the changes for which mankind was being prepared. (454)

Ray should not be blamed for the fact that he did not reject the young earth and the six-day creation hypotheses, or for the many other scientific inaccuracies he allowed to stand; instead, he should be recognized as having been, relative to other able minds of his day, “singularly free from the limitations which the old order imposed” (454). And insofar as the “old order” means the old science of scholasticism, Raven is right. But Raven paints with too broad a brush in asserting that Ray subjects all other sources of information to sensory observation.

Raven’s study proceeds as one would expect, taking stock of the many observations Ray made that still accord with the conviction of scientists today.176 He highlights Ray’s canny rejection of alchemy and plant signatures, for example, and his enthusiastic acceptance of Copernican astronomy (462-64).177 Raven’s summary of The Wisdom of God moves from the less to the more “valuable” observations made by Ray: “Ray was not an expert physicist . . . the chief merit of these chapters is their avoidance of the cruder fancies of the tradition,” he says, but “when he proceeds to the examination of geological, botanical, and zoological

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176 Mandelbrote makes short work of Raven’s biography, but he captures well the sense that Ray sought to emphasize the liberated, scientific aspects of Ray’s thought: In the twentieth century Ray’s most effective biographer, Charles Raven, co-opted him in an attempt to heal the perceived breach between science and religion, deploying the concept of organic design to suggest the unfolding of divine purpose through evolution. That is, Raven cast Ray, perhaps not with total accuracy, as an early Christian adherent of evolutionary biology.

177 Raven points out More’s credulous acceptance of plant signatures, and Boyle’s and Newton’s acceptance of alchemy (462-63).
phenomena his record increases in value” (463). On botany “his thought becomes rich and suggestive,” that is, his conclusions coincide more closely with those of modern science than do his contemporaries’. “Still more interesting” than his botany is his zoology: Ray managed to make a number of accurate observations and debunk several myths (463-64). His was “an acute and inquisitive insight into the problems of form and function and a genius for . . . asking the right questions” (70-71). The worth of Raven’s John Ray lies in the fact that he reached accurate, scientific conclusions by accurate, scientific methodology.

Understandably, although critics are now less concerned to justify Ray by the standards of modern science, these standards have certainly not dropped out of criticism completely. The only book-length treatment of John Ray written since Raven’s is Stuart Baldwin’s commemorative John Ray: a Summary of His Life, Work and Scientific Significance. The text is largely a summary of previous biographies (notably Derham’s and Raven’s) and, as the title makes clear, it retains the latter’s emphasis on Ray’s legacy as a scientist. Mandelbrote’s summary of Ray’s works in the Dictionary of National Biography points out places where Ray’s taxonomy is “marred” by adherence to old categories, says that some aspects of his botanical works are “less satisfactory” than others, and that even in the most satisfactory of his works he made “frequent errors.” And critical appreciation for Ray’s scientific accuracy by today’s standards is matched by a critical respect for his ability to land on scientific questions that continue to puzzle today’s scientists.178 In a 1991 study of modern biology and natural theology, Alan Olding quotes from Wisdom and then addresses his readers, “We might smile indulgently at these supposed examples of ‘Art and

178 Brooke 208: “As Raven recognized, Ray chose for his examples [of the wondrous] many of the marvellous phenomena of nature that would prove most resistant to rationalization—the migration patterns of birds, for example.”
Contrivance’ that Ray thinks should ‘convince and silence all Atheistick Gainsayers’ (Ray 1691:20). We now know, do we not?, that the mechanic philosophy can explain the formation and organisation of living things.” After contradicting Richard Dawkins’s claim to have taken the mystery out of biology, Olding concludes, “Old John Ray’s challenge is with us still” (xii). In all these cases Ray stands or falls based on the correspondence between his own work and contemporary science.

At a deeper level, these various appraisals indicate a tacit celebration of Ray’s scientific uncertainty, a critical tradition carried on even in the present study. It was Ray’s open-mindedness that made him singularly free from many of the preconceptions and biases of his day, Raven points out, and the foregoing consideration of his willingness in Wisdom to admit ignorance further supports Raven’s view. Neal C. Gillespie considers Ray’s uncertainty a defining characteristic, contrasting his sublunar biology, which only ever claims probability, with the mathematical astronomers’ claims to certainty. The rhetoric (ironically) elevating this humbler science above astronomical physico-theology with its claims of certainty, Gillespie points out, was alive and well in the seventeenth century, and it is still used today. One 2005 book about pre-Darwinian natural theology praises Ray as well as Paley and others, calling these men at once daring and cautious: daring because “science begets change and change always threatens the status quo ante, whether in rival fields within science or in religion . . . . No scientist ever became famous for reporting that what we knew in 1870 or 1940 was best”; cautious because they were not quick to presume

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179 Gillespie 2ff. Bacon is the highest-profile example (see Brooke 208-9). Scott Mandelbrote discusses this thread of rhetoric with particular reference to John Webster (1611-82), summarizing Webster’s conviction that “the danger of the scholastic philosophy practiced in the universities was that it exaggerated the role of human reason in divinity”; Webster urged instead the use of New Science to restore man’s intellect to its pre-fallen state (453-55).
what many others did (Thompson 23). Ray’s uncertainty regarding things that were “known” in the late seventeenth century is precisely what has impressed the readers surveyed here.

And so it should. However, the present study of Ray departs from these recent celebrations—and aligns with Mandelbrote’s more nuanced article—when they make Ray’s scientific uncertainty the final word on his natural theology. As many intellectual historians have seen, such open-mindedness will result in an unending pursuit of nature’s judgment on all things and create a generation of T.H. Huxley-like agnostics. Ray has thus been cast as authoring the demise of his own cause. Commenting on the remarkable influence of *The Wisdom of God*, Raven traces the work’s intellectual descendants: “It was imitated, and extensively plagiarised, by Paley in his famous *Natural Theology*; and more than any other single book it initiated the true adventure of modern science.” Moreover, Raven adds, the book is an ancestor of even *Origin of Species* (452). Intellectual historians point out Darwin’s willingness to credit Paley as one of his influences, which gratefulness was later obscured as Draper’s model of perpetual conflict between science and religion gained a hold on popular imagination. Since the nineteenth century, readers of Ray have focused on his perplexity concerning fossils, a notorious bugaboo for pious natural historians in the seventeenth-century and thereafter. Fossils’ testimony to the extinction of species would eventually render untenable Ray’s own belief that all species exist just as they were created six thousand

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180 Another aspect of *Wisdom* identified as leading to the natural theology’s downfall is that identified by Mandelbrote, the tendency of his and More’s argument for a plastic nature argument to lose its force as more and more phenomena came to be explained by empirical science. Brooke identifies the same problem, citing Dillenberger as well as Buckley (208).

181 Upon publication in 1928 of a number of Ray’s letters to the Ashmolean’s keeper Edward Lhwyd, a reviewer calls Ray’s discussion of fossils “a very valuable addition to what might be called the prehistory of paleontology” (Sarton 327).
years earlier. Far from proving God’s existence, the very discoveries Ray made would, it seemed, come to provide evidence against it.

“I May Well Conclude with the Psalmist”: the Book of Scripture

These readings of Ray’s natural theology imply that *Wisdom of God* took the same aim as his natural history, namely, fidelity to the observable facts. As we have seen in the preface to Ray’s *Ornithology*, the converse is true—he justified his natural history on account of its efficacy to illustrate God’s glory—but Ray would hardly have minded having his science judged by modern empirical standards. He sought accuracy with impressive industry and was the first to admit when he was in error. The problem with judging *Wisdom* by the standard of scientific open-mindedness is that to do so is to make a category mistake. Ray was far from open to the possibility that nature would prove God unwise, and he writes not primarily for open-minded agnostics but for Christians whose faith could use edification. Starting with a certainty of the truth of Scripture, Ray seeks in *Wisdom of God* to promote wonder at the ways Scriptural truth is borne out in the natural world. Ray’s elevation of faith is evident in a number of ways, some of which have already been touched upon: he classes *Wisdom* as a work of divinity in his preface, and he makes space for human depravity and suffering in his teleological argument, at the expense of logical coherence. But most of the evidence of Ray’s faith remains to be considered. First, he distinguishes his own view of the extent and limits of the scientific enterprise from that of Bacon. Secondly, he appeals to Scripture too frequently and with too much credulity for these appeals to be considered lip.

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182 An example of self-revision crops up in *The Wisdom of God* when Ray discusses the transmutation of metals. An authorial interjection reads, “This was written above Thirty Years since, when I thought I had reason to distrust what ever had then been reported or written to affirm the Transmutation of Metals one into another” (71).
service, and on rare occasions even addresses areas of apparent contradiction between nature and Scripture, in which cases Scripture holds sway. And finally, the speed and laxity with which he draws theological conclusions from natural phenomena are unscientific, and Ray would have known that. In closing I will suggest, in light of Ray’s failure to “rationalise,” an alternative theoretical basis for his natural theology.

Ray’s unscientific faith begins to become evident in his preface. He seems to be arguing for a rational theology when he claims that God’s being must be “Demonstrated by Arguments drawn from the Light of Nature . . . For as all other Sciences, so Divinity proves not, but supposes its Subject, taking it for granted, that by natural Light, Men are sufficiently convinced of the being of a Deity.” But a closer look at this pronouncement in its context shows that Ray does not mean by it that he intends to prove God’s wisdom scientifically.

First, Ray is here recalling a Baconian assertion of the limits, not the merits, of natural theology. In 1605 Bacon had written that natural theology “sufficeth to convince Atheisme; but not to informe Religion” (22). In the passage, which Ray knew through Wilkins if not from the source directly, Bacon aims to discourage the practice of natural theology, adding that those who have not already been convinced by natural light are not likely to be. It is likely that Ray agreed with Bacon on this point: as we have seen, he claims in the same preface that he is undertaking a long-overdue exercise in divinity, the very science that “proves not,” and there is much evidence in Wisdom that the work was indeed written for those already “sufficiently convinced.” But Ray clearly departs from Bacon when Bacon

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183 There is also here a reminder that no science, including empiricism, is justified from within. Cf. Richard Hooker, Ecclesiastical Politie III.8.6: “No science doth make knowne the first principles whereon it buildeth.”

184 Wilkins quotes this passage in his Principles and Duties (91), frequently referenced by Ray in Wisdom.
goes on to pronounce that the task of natural theology has already “been excellently handled by diverse.” True, the most rationally compelling arguments had already been made, but Ray nonetheless labored to write a natural theology.

And if Ray took a higher view of natural theology than did Bacon, he also took a lower view of human science. In *The Advancement of Learning* Bacon takes pains to address the critique of human learning purportedly leveled by Solomon in Ecclesiastes:

> And although hee doth insinuate that the supreme or summarie law of Nature, which he calleth, The worke which God worketh from the beginning to the end, is not possible to be found out by Man; yet that doth not derogate from the capacitie of the minde; but may bee referred to the impediments as of shortnesse of life, ill coniunction of labours, ill tradition of knowledge over from hand to hand, and many other Inconueniences, whereunto the condition of Man is subject. (preface)

In other words, one should read Solomon’s pronouncement not as a limiting of the scientific enterprise itself, but as an injunction to carry out this enterprise humbly to make up for the limitations with which individual humans are beset. Human knowledge generally, if not the knowledge of any particular human, “may comprehend all the universall nature of thinges,” argues Bacon. Ray’s interpretation of the same passage diametrically opposes Bacon’s. Following Seneca, Ray declares that “to Trace the Footsteps of his Wisdom in the Composition, Order, Harmony, and Uses of every one of [God’s works] . . . would be a Task far transcending my Skill and Abilities; nay, the joynt Skill and Endeavours of all men now living, or that shall live after a Thousand Ages, should the World last so long”\(^{185}\) and proceeds to quote the verse: “For no Man can find out the Work that God maketh from the beginning to the end. Eccl. 3.11” (8). Their very paraphrasing of Ecclesiastes is telling:

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\(^{185}\) For a discussion of Ray’s conversation with Seneca in this quotation, see T.P. Harrison 450-51.
Bacon sees the great scientific labor as comprehending “all the universall nature of thinges,” while for Ray it is tracing “the Footsteps of his Wisdom.”

Bacon is therefore able to separate the activity of investigating creation from theology in a way that Ray cannot do. Fraught with philosophical trouble natural theology may be, but for Ray the possibility of tracing God’s footsteps is nonetheless the only reason one would undertake natural history in the first place. When Bacon cautions his age to render unto reason the things that are reason’s and to faith the things that are faith’s, then, he argues in effect for a compartmentalization and subsequent focus by scientists on the “reason” compartment. Ray, in this respect resembling Baxter more than any other natural theologian, asserts that everything is “faith’s,” for what Bacon cordons off under the heading of “faith” is nothing less than the glorification of God toward which the Book of Nature was written in the first place. Acknowledging this high aim, he accordingly takes the biblical passage as saying that the task will never be done, even by the combined efforts of all people of science.

As important as the content of Ray’s assertion is its Scriptural source, for Ray’s use of Scripture forms the second site of evidence that his natural theology is not intended to be an open-minded scientific inquiry. He saturates *The Wisdom of God* with biblical references, and the Psalms in particular, without More’s anxiety that he will alienate an atheist audience and without the scrutiny of Scripture’s trustworthiness found in Baxter, Wilkins, and Bentley. I have said that Henry More is the author most frequently quoted by name in *Wisdom*; he is not the most frequently quoted. Ray cites the Psalmist twenty-seven times, more than twice as often as he cites More. This high number is not accidental: Ray explicitly casts himself as writing in the tradition of the Psalmist. “The Holy Psalmist is very frequent in the Enumeration and Consideration of [God’s] Works,” he says his preface, “which may
warrant me in doing the like, and justifie the denominating such a Discourse as this, rather Theological than Philosophical.” Recalling Ray’s assertion that theology cannot prove God’s being, it again becomes clear that proof is not his aim, but rather “Enumeration and Consideration.” The following brief treatment of Scripture in some ways creates a false dichotomy, for Ray was convinced that Nature’s witness always really agreed with Scripture’s, but it is nonetheless possible to discern a hierarchy between the two Books, and Scripture finally holds the higher position.

One place where this hierarchy is revealed is in Ray’s habit of justifying natural theology with reference to Scripture rather than vice versa. He quotes Psalm 111.2, whose words, “The works of the Lord are great, and sought by all who take pleasure therein,” are emblazoned over the doors of Cambridge’s Cavendish Laboratory, adding, “Which though it be principally spoken of the Works of Providence, yet may as well be verified of the works of Creation.” The adverb “principally” leaves no doubt about his ordering of Scripture-history and the Book of Nature (125). Next he argues that students of divinity would greatly enrich themselves by supplementing their studies with natural history: “Neither yet need those who are designed to Divinity it self, fear to look into these Studies,” he insists (127). He asserts that contemplation of the works of creation is prescribed by Christianity, that it may well be “part of our business and employment in eternity” and is certainly “part of the business of a Sabbath-day,” just before he goes on to urge readers not only to be “Book-learned, to read what others have written,” but also “our selves to examine things as we have opportunity, and converse with Nature” (124).¹⁸⁶ The proper end of this examination is not a

¹⁸⁶ This is Ray’s most often quoted assertion. It is nearly always taken out of context, with the unfortunate result that his elevation of Scripture over “what others have written” is obscured. Ray qualifies or corrects other texts whenever these fail to accord with empirical science, but he does not do this to the Bible.
conclusion that the things asserted in Scripture are true, but worship, the business of the
Sabbath and the end toward which examination of Scripture also aims.

In setting out to discern Ray’s view of Nature relative to Scripture, one naturally
searches for sites of potential disagreement between the two. Such sites are few: as Baxter
does with reason and sense, Ray often simply yokes Scripture and reason, and on the rare
occasions when he teases the two apart, the two sources are nearly always in agreement.
After mentioning an objection to one of his arguments, for example, he declares that he
“shall answer in two Words. First, the Testimony of Scripture . . . . Second, it is most
reasonable” (132). Here Scripture has the priority, although the order is not important in
deciding the matter at hand. At other times Ray appeals only to Scripture because natural
science offers no useful information. In this vein he confesses that the development of the
fetus is “a Subject too difficult for me to handle,” citing the Psalmist’s claim that he was
“curiously wrought in the depths of the earth” and pointing out that his ignorance is therefore
just what Scripture predicted (Ps. 139.14).

Only twice in the text of Wisdom does Ray raise the possibility that Nature might,
while not really contradicting Scriptural truth, appear to do so. The first site of confrontation
is well known: the Copernican solar system. Ray clearly accepts the newer view, gives his
reasons, and expostulates on the providential beauty and order of these revolutions. Before
closing the subject, however, he gives two possible objections to the new hypothesis: first,
that it is contrary to sense, and second, that it is contrary to “some Expressions of Scripture.”
He dismisses the first quickly by pointing out how easily senses can be fooled, but he lingers
over the second, arguing (like Bentley) that those passages in Scripture are not meant to
convey “any thing Doctrinally concerning these Points,” but are merely accommodating
themselves to the “received Opinions” of the day. “Howbeit,” he adds, because there are sincere, pious Christians who see a conflict between the Bible and the Copernican hypothesis, he “shall not positively assert it, only propose it as an Hypothesis not altogether improbable” (141-42). Ray did not make the concession merely to accord with the spirit of his age: More’s Antidote asserted the Copernican view half a century earlier and took no pains to accommodate readers who still held the older view. Ray simply considers the empirically observable fact of a pious detractor a piece of compelling evidence, a conviction that distances him from Bentley. Ray’s tentativeness here also qualifies his famous pronouncement that the good scientist should value sense evidence over “what others have written.” For him, “books” and “Scripture” are different categories.

The second collision between Scripture and nature in Wisdom is far smaller in scale. The passage deserves quotation in whole, because in it we find all of Ray’s sources of authority together:

Another Insect noted for her seeming prudence, in making provision for the Winter, proposed by Solomon to the Sluggard for his imitation, is the Ant, which (as all Naturalists agree) hoards up grains of Corn against the Winter for her Sustenance: and is reported by some [Ray cites Pliny] to bite off the germen of them, . . . which I look upon as a mere fiction; neither should I be forward to credit the former relation, were it not for the Authority of the Scripture, because I could never observe any such storing up of Grain by our Country-Ants. (99)

The first point—the hoarding of grain—is asserted by Solomon, backed up parenthetically by the contemporary scientific community, and refuted by Ray’s own observations; the second—the biting off of the germen—is asserted by an ancient source. Ray dismisses the ancient text with no compunction; it is the point about storing up grain that he finally

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187 More does insist that his argument stands whether one accepts a Ptolemaic or Copernican system, but he does not bring Scripture into the discussion.
“credits” contra his own senses, the very instruments he has been so eager to encourage others to use. Surprisingly, even the agreement of “all naturalists” is not sufficient to overturn his own observation. The only authority to which he will bow is the “Authority of the Scripture.”

Besides his departure from Bacon and his deference to Scriptural authority, there is evidence against Ray’s scientific open-mindedness in his scientific closed-mindedness regarding the question of God’s wisdom. This closed-mindedness is particularly visible in Ray’s consideration of the human body. As he begins his consideration of humans’ lack of eye membranes, which presents a problem for his fitness argument, he makes his position clear: “Neither is it to be esteemed any Defect or Imperfection in the Eyes of Man,” he opens his eventual declaration of ignorance (183). He is unwilling to explain away this unfitness as More did, but he is equally unwilling to esteem the lack a defect. He simply lets his own ignorance take the blame for this inconsistency. Regarding male nipples, he ends, “However it follows not that they or any other parts of the Body are useless because we are ignorant” (156). Ray does not justify these perplexing phenomena as affording a necessary opportunity for mental calisthenics; unlike More, he points out that they are a useful reminder of the limits of human intelligence. So limited, Ray is paradoxically free from the constraints to which Henry More was subject, and he relinquishes some of the odder-looking aspects of More’s argument for an optimal world such as his praise of instruments of war.

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188 It is also just possible that Ray means “the Eyes of Man” to function as the subject of the observation as well as its object, in which case we have a demotion of the New Science at two levels. We may also note in passing here that the eye is a very common locus for contemplation of God’s contrivance, and that this concern about somewhat inadequate defenses is picked up famously in Milton’s Samson Agonistes of 1671.
But when a teleological argument can be made, Ray presses on with no regard for the fact that he has already compromised the logic underlying that argument. After admitting his confusion about eye membranes and male nipples, he goes on to point out how many clearly useless body parts Providence has wisely not given humans: “a large Wen upon our Faces,” for example, “or a Bavarian Poke under our Chins, or a great Bunch upon our Backs like Camels, or any the like superfluous excrescence.” We therefore “must needs be mad or sottish if we can conceive any other than that an infinitely good and wise God was our Author and Former,” Ray opines (156). It is just the sort of circularity one would expect from a syllogism that is missing its major premise. And this is what John Ray’s natural theology is. The minor premise and conclusion run, “Fittedness and order in nature; therefore, God.” But the major premise, present in Book 2 of More’s Antidote—“If we should find fittedness and order in nature, then there is a God”—is missing from The Wisdom of God. 189

How, then, does Ray hope to convince anyone of God’s being as he claims to set out to do in his preface? He makes a crucial appeal to common sense, in both senses of “common.” He assumes that he shares common assumptions with his readers, and he justifies this assumption by reference to the common man:

For you may hear illiterate Persons of the lowest Rank of the Commonalty affirming, that they need no Proof of the being of a God, for that every Pile of Grass, or Ear of Corn, sufficiently proves that. For, say they, All the men of the World cannot make such a thing as one of these; and if they cannot do it, who can, or did make it but God? To tell them that it made it self, or sprung up by chance, would be as ridiculous as to tell the greatest Philosopher so.

Ray makes the ludicrous claim that everyone, from the humblest farmer to the greatest philosopher, agrees with his chief argument before he sets out to argue it. This claim

189 As A. Rupert Hall explains, More’s “opposition [to mechanical philosophy] was not theologically argued. He said: this notion of the natural philosophers . . . can be proved to be false, for it is absurd, therefore its potential danger to religion is nullified” (7).
resonates with the old Cambridge Platonists’ assertion of an inner light, but it lacks the Cambridge Platonists’ methodical exposition of this doctrine, Ray mirroring the content of his assertion with its very baldness. Readers of his preface are expected to locate themselves within this all-encompassing group, agreeing with Ray that it is ridiculous to say the world sprang up by chance.

In his paradoxical attribution to “illiterate Persons of the lowest Rank” of the ability to “read” nature, Ray departs from Boyle, who had argued in 1663 that

> the Book of Nature is to an ordinary Gazer, and a Naturalist, like a rare Book of Heiroglyphicks to a Child, and a Philosopher: the one is sufficiently pleas’d with the Odnesse and Variety of Curious Pictures that adorne it; whereas the other is not only delighted with those outward objects that gratifie his sense, but received a much higher satisfaction in admiring the knowldg of the Author, and in finding out and inriching himself with those abstruse and vailed Truths dextrously hinted in them.” (4)

While Boyle is highly invested in the project of natural theology, his pronouncement has the unfortunate side-effect of implying that only a naturalist can read nature. Ray’s method in *Wisdom* is predicated on the assumption that anyone, told what nature is really like, will understand the message clearly enough. The text of *Wisdom* is therefore primarily descriptive rather than argumentative, full of uninterrupted natural history, and it is certainly the most narrative in character of all five considered in this study. Occasionally Ray breaks off the narrative for a declaration of God’s providence, which he uses to segue to the next subject. This pattern that proves metonymic for *Wisdom* as a whole, whose final chapters are an injunction to praise God for his work in and for humankind. The following are unexceptional excerpts from the body of the text:

> The keeping up constantly in the World a due numerical Proportion between the Sexes of Male and Female, doth necessarily infer a superintending Providence. (92)
Another thing worthy the nothing in Seeds, and argumentative of Providence and Design, is that pappose Plumage growing upon the Tops of some of them, whereby they are capable of being wafted with the Wind. (82-83)

If the number of Creatures be so exceeding great, how great nay immense must needs be the Power and Wisdom of him who form’d them all! (8)

Ray’s strategy here is either remarkably deft or lamentably obtuse. Next to other seventeenth-century natural theologies, which take care to answer the atheist’s presumed objections at every turn, such logical leaps stand out as reckless. Bentley would spend pages buttressing his argument about the genders mentioned in the first quotation; More would have spent time arguing that the evidence of design mentioned in the second is optimal rather than merely necessary; and Ray’s emphasis on the number of creatures as an argument for God is unique, for necessity or chance could produce many creatures as well as few.

In sum, although Ray was committed to the New Science, he was not the scientist posterity has claimed he was. He flouted Bacon’s taxonomy of science; he subjected the Book of Nature to the Book of Scripture; he rejected any evidence that told his senses he was not made by a wise Creator; he leapt to theological conclusions with little regard for ideological differences between himself and his audience. How, then, was his natural theology so popular and influential? Two or three answers could be proposed, the easiest of which—that two generations of readers were simply blind to these “problems” with his argument—seems the least thoughtful. Later advocates of Ray’s science either ignore these failings or to point out that his assets, scientifically speaking, outweigh them. His empirical rigor might have flagged from time to time, but he was without a doubt a proponent of New Science over Old and was “singularly free” from the prejudices of his age, and this freshness can partly account for the longevity and appeal of Wisdom. I offer a third explanation, and in
so doing I turn briefly to the discipline of literary theory for models of reading that parallel Ray’s “reading” of the book of nature.

A long and interesting book could be written—perhaps it has been written—on the parallels between the renovation of science in the seventeenth century and that of literary hermeneutics in the twentieth.190 This is not that book, and so I confine my consideration of Ray’s natural hermeneutics to brief mention of two models that appear particularly suited to the situation. Ray’s leaps in logic and bald assertions strike the reader as reckless in the same way Stanley Fish was struck by a certain recklessness when he read St. Augustine, another thoughtful Christian who set strict bounds on human knowledge. It was this observation that led Fish to postulate the “interpretive community”:

In his *On Christian Doctrine*, Augustine begins a sentence by declaring, “No one would be so stupid as to say,” or “It is obviously absurd to assert,” or “It is utter madness to believe.” . . . What invariably follows, however, is an assertion that has been found reasonable by millions, and one wonders what Augustine means by a reasonable person. The answer is that a reasonable person is a person who believes what Augustine believes and who, like Augustine, can hear assertions contrary to that belief only as absurd. (248)

Augustine’s proclamations resonate with Ray’s in their irrational dogmatism and not just their Christian content: as mentioned, Ray has asserted that everyone from the humblest farmer to the loftiest philosopher can plainly see that there is a wise God. Living at the dawn of modernism, Ray probably did not foresee its (at least partial) collapse, but he could hardly have buttressed his argument better against it if he had.

Stanley Fish’s interpretive community thus helps explain the continued widespread interest in Ray’s argument in a shifting intellectual climate, but does not explain why *Wisdom* appeals so strongly to members of that community. For that I turn to a concept at

190 That book might begin by comparing Derrida’s declaration of the nonexistence of the transcendental signified with Donne’s declaration in *The First Anniversarie* that correspondence is lost. Generally, both revolutions involved an evacuation of meaning from the “text” concerned.
least as old as Plato, but which was revived in the twentieth century by Erich Auerbach and T.S. Eliot. Briefly put, in focusing on narration of natural history and detailed description, Ray follows the old practice of mimesis or of the “objective correlative,” showing rather than telling. Rightly crafted, the theory goes, a story will produce in its listeners a particular emotion. Emotion seems an odd end for a natural theology, which should (by the Baconian definition) merely convince one of the truth of a proposition: the being of a deity. But Ray wrote *Wisdom*, as we have seen, in order to produce wonder and worship in his readers; and while these spiritual activities may be at several removes from “emotion” as it is popularly understood, they may still be better thought of as affective than merely intellectual.

In the end, then, in writing *The Wisdom of God* Ray makes good on his claim to write in the tradition of the Psalmist. Like Baxter, he wrote primarily for the already converted, and the text is intended as an aid and spur to devotion. The deliberative aspect of Ray’s argument comes to the fore in his final section, where (like Wilkins) he shifts his focus from evidence of God’s wisdom and providence in the natural world to the duties of the Christian in light of these facts. Unlike Wilkins, who recapitulates pagan ethics, however, Ray focuses on the duty of worshipping the Creator. Paradoxically, in asserting this one point Ray allows himself to speak universally and with certainty, sounding for a moment like Henry More. Again addressing the difficulty of finding an obvious end for every single thing in the cosmos, Ray argues that all of these “may be some way or other useful to us, at least to exercise our Wits and Understandings, in considering and contemplating of them, and so afford us Subject of Admiring and Glorifying their and our Maker” (129).

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191 What the Christian should do is almost, but not quite, completely absent from *An Antidote*, twice: the two exceptions are More’s observation that it is the duty of man to act as the “priests” among God’s creatures because he has been endowed with reason, and a passage in which he takes up the question of whether it is permissible to pray for one’s own good genius.
The previous chapter closed with John Ray’s 1691 assertion that all creatures are useful to humankind, at least insofar as they present an opportunity for humans to contemplate the providence of the Creator and render him praise. On December 5 of the next year, Richard Bentley (1662-1742) took up the same argument as he opened the eighth and final of the inaugural Boyle Lectures. An avid Newtonian, Bentley looked up at the stars rather than down at flora and fauna, considering a question that will sound familiar to those who have read John Milton’s *Paradise Lost*. “If you say,” Bentley reasons, that the innumerable stars “beget in us a great Idea and Veneration of the mighty Author and Governour of such stupendous Bodies, and excite and elevate our minds to his adoration and praise; you say very truly and well. But”—and here Bentley sounds not a little like Milton’s Adam—“would it not raise in us a higher apprehension of the infinite Majesty and boundless Beneficence of God, to suppose that those remote and vast Bodies were formed, not merely upon Our account to be peept at through an Optick Glass, but for different ends and nobler
purposes?” Like Wilkins, Bentley was fascinated by the idea of life on other worlds, a possibility (he hastens to point out) that would change theology not one whit, but which affords much rich fodder for the imagination that is keyed to use any new knowledge toward the admiration of the creator. Bentley’s natural theological enthusiasm is often obscured by his polemicism, however; unlike Ray, he always keeps an eye on the atheists’ alternative systems, and in *The Folly of Atheism* (1692) we find nearly all of the argumentation that would come to characterize physico-theology as it rose to its zenith.

Like any work of natural theology, *The Folly of Atheism* can be positioned on the two spectra we have been considering throughout this project: the deductive/empirical spectrum and the reason/revelation spectrum. In what follows, I shall have much to say about where Bentley fits on the latter of these spectra in relation to the other natural theologies we have seen, bearing in mind Mandelbrote’s observation that in Bentley we find the a prime example of an early design argument. Bentley is more willing than are Ray and Baxter to subject divine things to intellectual scrutiny, and he is far more sanguine about the prospect of providing compelling proof. Still, three major characteristics distance his natural theology from the confident rational theology of Henry More on the one hand, and from eighteenth-century natural theologians such as Samuel Clarke on the other. First, he rejects the claim that humans have an innate idea of God imprinted on their minds. Second, as a result of this conviction, *The Folly of Atheism* has a distinct moral dimension: humans are fallen, Bentley

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Notes

192 This required a keen eye, for “atheism” was far from monolithic in seventeenth-century England, comprising various forms of deism and agnosticism as well (Hunter 442).

193 “[Bentley’s, Clarke’s, and Derham’s] development and modification of the teleological style of the argument that Wilkins and Boyle pioneered exemplified much of the natural theological argument of eighteenth-century Britain” (467).
argues, and they are capable of convincing themselves that they live in an atheistic or deistic cosmos, the weight of evidence to the contrary notwithstanding. Third, and related to the matter of the final section of this chapter, Bentley frames and interrupts his natural-theological argument with exegesis of Scripture, perhaps an odd thing to do when one is subjecting Christian doctrine to scientific scrutiny.

While Bentley thus provides a necessary part of the picture of English attitudes toward reason and revelation as the century came to a close, merely to consider the features of *The Folly of Atheism* that speak most clearly about epistemological assumptions would mean ignoring the most intriguing aspect of Bentley’s particular approach to natural theology. A philologist first and last, he follows to the letter the old practice of treating nature as a book, complementary to the book of Scripture—but his method of dealing with that “text” is as different from the Old Science as his philology is from *lectio divina*, the old practice of ascribing multiple layers of meaning to a single passage of scripture. For Bentley and his colleagues in the humanities and sciences, written texts and the natural world have one right interpretation, and a sufficiently skilled reader will find this interpretation through careful study.194 This harmony between philology and physico-theology is often obscured in critical work on Bentley’s science, his popularization of Newtonian physics and philosophical critique of the atomists, which tends to bracket his identity as a philologist. However, such studies omit something Bentley himself clearly thought was important, if the amount of time he spends on philology in *The Folly of Atheism* is a measure of his priorities.

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194 This collapse into one layer of meaning in both natural sciences and literary hermeneutics forms the central argument of Peter Harrison’s *The Bible, Protestantism, and the Rise of Modern Science*. The present study is in complete harmony with Harrison’s argument and presents Bentley’s natural theology as a case study in the larger shift he describes.
Bentley against the Atheists

In 1692, a committee of four Trustees named Richard Bentley, aged 29, the first Boyle Lecturer. The endowed lecture series was intended by its late patron to “prove the Christian Religion against notorious infidels” without descending into disputes among Christians themselves (Bentley, dedication), and as such was harmonious with the latitudinarian movement within the Anglican Church at the time. The choice of Bentley seems to have depended in particular on his friend the Bishop Thomas Tenison, the only member of the clergy among the four trustees (Monk 38). Bentley’s eight sermons, delivered between March 7 and December 5, 1692, were published individually during the ensuing year at John Evelyn’s suggestion and then bound together and published under the title The Folly of Atheism in 1699. It is in some ways surprising that young Bentley should have been chosen out of all the clergy in England to give these lectures, and Bentley felt the compliment. The lectures were tremendously successful, a fact verified by Bentley’s having been invited to deliver a second series only two years later.

195 Dahm suggests that Boyle had perhaps intended these lectures to be less closely affiliated with the Anglican Church than they became, summarizing Gerald R. Cragg’s judgment that “the Boyle lectureship became the favorite platform for English Latitudinarians in the eighteenth century” (174).

196 de Quehen is less certain of Tenison’s hand in Trustees’ selection of Bentley, ascribing possible influence to Isaac Newton and John Evelyn.

198 Two years later, Bentley would write to Graevius, “Nunc me exercent praelectiones nuper a me habita adversus Religionis X [i.e. Christi] hostes, quae mou prelo subjiciendae sunt. Hae obeuntur ex testamento nobilissimi et plane divini illius Herois Roberti Boylei, fama super aethera noti. Ad hoc munus primus omnium delectus sum abhinc triennium.” (Correspondence 87); also, Monk 38.

199 Monk records: “The success with which Bentley unmasks the tenets of the atheist, grapples with his arguments, and exposes his fallacies, has never been surpassed, and scarcely equalled, in the wars of controversy” (Life, 39). William Whiston, too, recalls that Bentley “demonstrated the Being and providence of God, from Sir Isaac Newton’s wonderful discoveries, to
Though relatively early in his career, Bentley had already acquired the disposition and intellectual resources needed to level a forceful and well-fortified argument. The year before he gave the Boyle lectures, he gained notoriety for both philological ingenuity and tenacious prosecution of philological accuracy in a published letter to John Mill, principal of St Edmund Hall. The publication, which contained a dispute with one Humphrey Hody over the correct Latinization of the name of an obscure Greek author, gained Bentley praise from notable classicists on the continent. Along with this scholarly tenacity, Bentley brought to his natural theology an almost incredible facility with ancient, and particularly biblical, languages and texts. Before he was twenty-four he had compiled a three-hundred-page alphabetical index of every word in the Hebrew Bible, cross-listed with their translations in Accadian, Syriac, Vulgate, Latin, Septuagint, Aquila, Symmachus, and Theodotian (Monk 14, quoting Bentley). With such a formidable intellect, Bentley predictably ascended both ecclesiastical and academic scales over the course of his life: he was Bishop of Worcester from 1689 to 1699 and Master of Trinity College, Cambridge from 1699 until his death in 1714.

One can easily imagine that Bentley’s perspicuity, academic rigor, and combativeness would dispose him toward a project aimed at combating the deistic philosophies that were coming into vogue in his England. As J.H. Monk reasoned in the nineteenth century, a Richard Bentley was bound to be more popular than a Ralph Cudworth or Richard

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200 The ancient author in question is Joannes Antiochenus Malelas, whom Hody referred to in the edition as “Malela.” Monk records that “from that moment the eyes of every scholar in Europe were fixed upon his operations. Great as is the number of persons who have since appeared with success in this department, it would not be easy to name a critical essay, which for accuracy, ingenuity, and original learning, can take the place of the ‘Appendix to Malelas’” (31).
Cumberland: these fashionable ideologies were bound with fashionable classical texts, unearthed and polished by continental humanism, and their disciples needed to hear them challenged by a reputable classical scholar. This intellectual-historical context is one reason for the intrusive textual criticism I shall address in the second section of this chapter. Another is the harmony between the methodology of new textual criticism and physico-theology. In a pivotal passage at the beginning of Bentley’s consideration of the origin and frame of the world, he makes an uncharacteristically first-person pronouncement:

But we are all liable to many mistakes by the prejudices of Childhood and Youth, which few of us ever correct by a serious scrutiny in our riper years, . . . What we have always seen to be done in one constant and uniform manner; we are apt to imagine there was but that one way of doing it, and it could not be otherwise. This is a great error and impediment in a disquisition of this nature: to remedy which, we ought to consider every thing as not yet in Being; and then diligently examin, if it must needs have been at all, or what other ways it might have been. (244)

Bentley is remembered in the history of classical scholarship as the man who questioned centuries-old assumptions and in so doing nearly single-handedly reformed the discipline in England. Whether he was reading an ancient text or the book of nature, Bentley strove to correct the mistakes of prejudice by serious scrutiny.

The overlap between the skills of a physico-theologian and a textual critic notwithstanding, one might well question Bentley’s fitness to speak on the book of nature with the kind of authority he commanded regarding ancient texts. He was not a scientist or mathematician by training, and his competence in the latter of these disciplines was called into question the very year before he delivered the first Boyle Lectures (Guerlac and Jacob 313-14). For someone with a sufficiently positivist view of intellectual history, Bentley’s

201 I paraphrase here: Monk spoke of the “metaphysical refinements” to which Hobbists had recourse, pointing out that, unlike Cudworth and Cumberland, “Bentley encounters them on their own ground” (40).
primary subject area might seem an eminent disqualification: his passion was for old texts, after all. Naturally, establishing what a given author wrote is not the same thing as assuming the accuracy of that author’s assertion, but it is true that Bentley cites ancient philosophers alongside contemporary scientists, and he certainly attacks ancient opponents at least as often as he does contemporary ones. Still, it is most accurate to say that Bentley merely allowed both ancient and modern philosophers an equal chance at proving their assertions correct by the new standards of empirical science. If he relies on ancient sources, he does so only when they still hold accurate in the light of new discoveries. Taking up the topic of mass and weight, for example, Bentley sets forth the “ancient Doctrine of the Epicurean Physiology,” adding that the doctrine, “but yet precariously asserted, . . . is lately demonstrated and put beyond controversie by that very excellent and divine Mr. Isaac Newton” (204). It is probable that the very excellent and divine mathematician himself supported Bentley’s appointment as the first Boyle lecturer; in any case, Bentley corresponded with Newton four times as he composed the sermons, and Newton expressed happiness that his work could help advance belief in God. According to some intellectual historians, Bentley would return the favor of a heightened profile to Newton: his sermons began the work of popularizing

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202 Both [Bentley and Matthew Hale] rejected . . . the exclusion of God from the processes that formed the first animals and humans. Gassendi’s reformed version of atomism addressed all these issues, yet his ideas are seldom mentioned directly and generally ignored. Thus, while one could conclude that Hale and Bentley were successful in arguing why Epicurean atomism gave an unsatisfactory and unacceptable explanation for the origin of the first humans, it is equally true that they did not successfully eliminate the possibility that a Gassendist form of atomism could provide an acceptable explanation” (Goodrum 222). Bentley’s frequent use of the term “first cause” also springs to mind as a backward-looking aspect of his natural theology.

203 In his first letter to Bentley, (10 December 1692), Newton claims, “When I wrote my treatise about our systeme, I had an eye upon such principles as might work with considering men for the beleif of a Deity” (Correspondence of RB 47, Correspondence of IN 3.233; see Guerlac and Jacob 311). Edwin McCann’s designation of Bentley as “Newton’s acolyte” perhaps exaggerates Bentley’s dependence on the scientist for his natural-theological argumentation (224).
Newton’s theories, a work that would be carried out more thoroughly by Voltaire, Henry Pemberton and John Theophilus Desaguliers in the decades following the publication of the *Principia* (Guerlac and Jacob 307).

In fact, Bentley’s classical scholarship peculiarly qualifies him to attest that the best that has been thought and said about the natural world, absent the light of empirical investigation or Scripture, is often unsatisfactory or even ridiculous. Lucretius’s answer to the question “where did atoms come from?” Bentley translates somewhat strongly, “no body knows why, nor when, nor where” (nec regione loci certa, nec tempore certo *DRN* 2.259-60) and allows Lucretius’s ostrich-like deflection speak for itself, pointing out only that it “contented supine unthinking Atheists for a thousand years together” (216). For an example of the ridiculous, he directs readers to the “ingenious opinion of the great Empedocles,” who thought “that Mother Earth first brought forth vast numbers of Legs, and Arms, and Heads, and the other members of the Body, scatter’d and distinct, and all at their full growth” (104). This specimen of ancient thought he dismisses as “more wisely contemn’d than confuted” (105). As we shall see, Bentley spends the bulk of the lectures challenging various atheisms, particularly old atheisms, with competence and lucidity. In the same way that he had put Hody in his place regarding the correct reading of Malelas, he puts these natural philosophers in their place regarding the correct reading of the Book of Nature.

Such a strategy takes a natural theologian to a certain point and no further, however: before considering Bentley’s treatment of atheisms in the first Boyle Lectures, let us pause to look at the case of his second lecture series of 1694, and the evidence it provides of his reliance on reason rather than revelation. The lectures, John J. Dahm suggests, never saw print because of their heterodox nature. The pressure to keep them out of print seems to have
come from within rather than without, however: William Whiston recalls that the subject
matter of these lectures sprang from Bentley’s fear that he had
done harm to Christianity by those [first Boyle] sermons; as occasioning these
sceptics or infidels to divert from their denial of a God and a providence,
from which they might be always driven with great ease, to the picking up of
objections against the Bible in general; which would certainly afford them a
much larger field for contradiction.” (93) 204

Accordingly, Bentley set about to prove “the Bible in general” (an undertaking that,
incidentally, Whiston purports to have accomplished). The results were disappointing:

Bentley applied to William Lloyd, later his successor to the bishopric of Worcester, for
guidance in this project, which he proposed to conduct by demonstrating the accuracy of
prophesies in Daniel and Revelation. To his dismay, Bentley discovered that Lloyd was
prone—as were Grotius and other natural-theological heavyweights—to the sloppiness of
“depending on the double sense of the prophesies for the truth of Christianity” (Whiston 98).

The struggle to verify the literal accuracy of Scripture seems to have been sincere and at
times agonizing for the studious Bentley: on one occasion, he nearly lost his devout future
wife by complaining that the dimensions of Nebuchadnezzar’s golden statue were unrealistic.

Concludes Whiston: “Which made the good lady weep” (95).

Bentley’s dogged pursuit of the proof of scriptural accuracy did not alienate only his
intended. Thomas Tenison, who had urged Bentley’s appointment as Boyle lecturer and who
became Archbishop of Canterbury in 1694, particularly wished to see the second sermons
published and apparently was never fully reconciled to Bentley after he declined to do so. 205

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204 Monk inadvertently advertises the limits of Bentley’s success in exploding the range of
“atheisms” extant in England, when he records with approbation Bentley’s pronouncement that “the
atheists were ‘silent since that time, and sheltered themselves under deism’” (Monk 43).

205 See Bentley’s correspondence with John Evelyn between 14 January 1696 and 20 January
1697 (Correspondence 110-34; Dahm n. 11, 174). It seems that Tenison’s choice of the relatively
unknown Francis Gastrell to give the 1697 Lecture was a slight to Bentley. Whiston and Dahm imply
Isaac Newton, who had eagerly supported his efforts in the first lectures, came to resent Bentley after he pressed the issue of how a day in the prophesies could be interpreted as a year with any fidelity to the observable behavior of the world (Whiston 94). In short, he ascribed epistemological authority to the New Science, and when scientific investigation failed to verify assertions in Scripture, he became skeptical of the Scripture in question. Further evidence for Bentley’s elevation of reason comes in his explicit statement, familiar from More’s preface, that he is avoiding revealed doctrine because his audience would not accept that as authoritative. Monk sees him as having succeeded, pointing out that these “sermons” were really “popular lectures, of which the doctrines of revealed religion formed no part” (Life 46).

Bentley did find one way to justify Scripture even as scientific scrutiny sometimes called its accuracy into question, however. He recognized that a speaker in the text might be making recourse to scientifically inaccurate language if his audience were incapable of understanding anything else. After fretting—to the extent that his hair stood on end—about Jesus’s apparent ignorance in attributing the book of Daniel to Daniel himself, Bentley reasoned that Jesus was making a concession to the Jews to whom he was speaking, who were under that misapprehension (Whiston 95-96). In our text, The Folly of Atheism, he applies the same logic to the Pentateuch. Speaking on the issue of spontaneous generation, he raises Moses’ assertion that manna bred worms on the second day and insists that one “must allow Moses to speak in the language of the Vulgar in common affairs of life” (126). After all, Bentley adds, although we now accept the Copernican model of planetary motion, we still speak colloquially of the “rising” and “setting” of the sun. Bentley seldom takes such a
defensive stance in the first Boyle Lectures, but passages such as this one hint at the trouble that was brewing for these first proponents of the kind of physico-theology that relies on human *scientia* just as Henry More’s rational theology had fifty years earlier.

In sum, it is important to keep Bentley’s failure to prove the truth of Christianity in view as we examine his success in challenging atheisms, as well as the features of his natural theology that distance it from More’s, and later from those of more thoroughgoing positivists such as Clarke and Tillotson. Next to John Ray, however, Bentley’s high fidelity to human reason comes into clear relief. Ray writes in the tradition of the Psalmist: he enthusiastically conducts natural history, observes the structure of living things, and exclaims in awe that they are wonderfully contrived. Bentley turns to mathematical cosmology—no easier for him to pick up at that stage than natural history would have been—in order to construct a more logically compelling natural theological argument. (In fact, it might be said that Bentley turned to both Newtonian physics and natural theology in order better to conduct his textual criticism.\(^\text{206}\)) Ray, unworried about the particulars of atheistic philosophies, wrote primarily for a faithful audience who simply needed to know that the workings of the natural world *can* be reconciled to the existence of a wise, providential God. Bentley sought to demonstrate that such a God *must* exist, and must have a hand in the day-to-day survival of human life and the cosmos.\(^\text{207}\) He wrote his first Boyle Lectures with a strong conviction that he was taking part

\(^{206}\) It has been suggested that Bentley’s sudden desire to understand Newton’s *Principia* in 1691 had little to do with theology and much to do with his plans to produce an edition of Manilius’s *Astronomicon* (Guerlac and Jacob 314). Monk, too, conveys the sense that textual criticism was a passion from which Bentley would never turn for long (*Life*, 34).

\(^{207}\) Bentley is at pains to combat deism rather than just atheism; he raises the distinction between the two only to assert that they are essentially the same thing. See also Dahm 180 and Hunter 442.
in a centuries-long debate over the correct reading of the book of nature, and he wished to put to rest the corrupt readings once and for all.

So sustained was Bentley’s scrutiny of opposing world-views that the best way into the body of The Folly of Atheism is through some consideration of atheistic tradition he confronts. The school to which he devotes the most energy is Epicurean atomism and its (to his mind) pernicious new incarnation in Hobbesian materialism: he famously wrote to Edward Bernard that “not one English Infidel in a hundred is any other than a Hobbiest.”

Hobbes, in turn, is largely Epicurean: both philosophers are atomistic, and both assert that the workings of the cosmos and organic life can be fully explained in terms of matter and motion. As a number of intellectual historians have explained, Bentley’s chief aim in The Folly of Atheism is to contradict the second of these two assertions. But considerations of Bentley’s criticism of mechanistic philosophy, from Monk through the twentieth century, pay scant attention to Bentley’s shifting rhetorical stances, and the corresponding stances of the old and new atheists he attacks. These atheists convey their philosophies with widely varying degrees of evangelistic urgency, ranging from the impassive descriptive rhetoric of geometry to the highly affective deliberative rhetoric of religious writing. Bentley, seeking to emulate

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208 Bentley to Bernard, 28 May 1692, Correspondence 39.

209 See Monk 39-46, Charles Trawick Harrison 52, Goodrum 216-22. Unlike other critics of Hobbesian philosophy such as Matthew Hale (Dahm 216), Bentley enthusiastically supports atomism: The Mechanical or Corpuscular Philosophy, though peradventure the oldest, as well as the best in the world, had lain buried for many Ages in contempt and oblivion; till it was happily restor’d and cultivated anew by some excellent Wits of the present Age. . . . . All the Powers of Mechanism are intirely dependent on the Deity, and do afford a solid Argument for the Reality of his Nature. So far am I from the apprehension of any great feats, that this Mechanical Atheist can do against Religion.
St Paul by employing a wide range of voices and arguments, uses both over the course of his first Boyle lectures.

Seventeenth-century natural theologians sometimes missed, or selectively ignored, differences among various mechanical conceptions of the universe, and Bentley is no exception: Matthew R. Goodrum points out that “while Hale and Bentley attacked ‘atomism’ and the theory of spontaneous generation proposed by ‘the atomists,’ it is almost always Epicurean atomism that is the subject of their attacks,” showing how other kinds of atomism would not be susceptible to much of their criticism (222). Indeed, an adherent to the corpuscular philosophy himself, Bentley makes clear that his attack is leveled against the materialism that Epicurus and Hobbes seek to marry to atomism. Still, it would be nearsighted to suppose that Bentley failed to see the differences between older mechanistic philosophies and their new incarnations. Specific counters to Hobbes, Descartes, and Spinoza are discernable in his natural theology, for example (Dahm 177-79). And Bentley occasionally diverges from his attack on atomism to answer other “authorities”: he deals with Aristotle and Empedocles, and at one point casts some of his most scornful derision on contemporaries trying to conscript astrology in the service of their theory of spontaneous generation. The present consideration of Bentley’s atheist opponents confines itself to his archenemies, however, highlighting similarities and differences between Hobbes and

\[210\] “Hobbes and Epicurus are almost universally treated together, whether it be to oppose them with ‘the reasonableness and the credibility of the principles of natural religion,’ i.e. Christianity, or with some rival metaphysical system like that of Descartes” (Charles Trawick Harrison 24); see also Russell 262, n. 49.

\[211\] It will be noticed not all the ancient sources Bentley attacks are atheists—but in cases such as that of Aristotle, (in)famous as the natural philosopher who dominated Christian scholasticism for centuries, philosophy was also appropriated piecemeal by atheists. The Aristotelian doctrine Bentley attacks in *Folly of Atheism* is that of matter’s existence from eternity (39, 99).
Lucretius. The Roman poet served as the primary vehicle for Epicureanism into the Western world, and Bentley and his friend John Evelyn were intimately familiar with his *De Rerum Natura*. Apart from his philosophical differences from Hobbes, Lucretius differs from Hobbes by speaking as both a poet and an evangelist.

Bentley’s strategy of attacking Lucretius in order to undercut the “Hobbist infidels” is defensible. As Bentley points out, contemporary materialists, resting on centuries of transmission of Epicurean tenets, are less aware than was Lucretius of weaknesses in their own philosophy. Seventeenth-century materialists adopt wholesale the Lucretian assertions that the universe is the product of material bodies moving in void, that human life evolved by the chance collision of these atoms, and that this matter and void have existed from eternity. Furthermore, both old and new materialists have an ideology: they set out to sterilize religion, and both could therefore be accused of being “unscientific.”

But Hobbes and Lucretius are “unscientific” in different ways and, more importantly, to different ends. Hobbes effectively rejects empiricism as unsuitable for convincing readers of his philosophical system because, being subjective, particular observations cannot lay claim to mathematical certainty. While Lucretius often reasons empirically, arguing

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212 Bentley compiled the most useful edition of Lucretius until Lachmann (published posthumously), and Evelyn produced the earliest translation of *DRN* 1 into English (1656).

213 Besides Harrison, who points out that seventeenth-century conflation of Hobbes and the Epicureans was mistaken, James H. Nichols sheds light on some differences between their conceptions of happiness, of fear, and, naturally, of politics (183-87). Understandably, Hobbes himself did not wish to have his philosophy identified with Epicureanism. Hobbes draws explicitly on a number of classical and biblical sources, including Homer, Plato, Aristotle, Virgil, Moses, Isaiah, and David—individuals whose doctrines were, for one reason or another, greatly at odds with his own—but does not once mention either Epicurus or Lucretius by name. Recognizing the general attitude of ill will toward Epicurean philosophy, he speaks vaguely of “some of the old Poets” when he sets forth the clearly Lucretian precept concerning fear of the invisible (77).

214 Science, as defined by Hobbes is deductive, akin to geometry:
from sense perception to more general axioms,215 Hobbes sets out to prove conclusively, geometrically, the tenets of his philosophy. Hobbes aims to appeal so forcibly to reason that his readers will have no choice but to agree with him: presented with his exacting logic, he reasons, any rational being will become a materialist as he is. (One might hear a resonance with More here: they share some methodological assumptions.) This commitment to geometrical proof works in tandem with Hobbes’s radically mechanistic conception of human reason,216 an assertion that would have been incomprehensible to Lucretius.217

First in apt imposing of names and secondly by getting a good and orderly method in proceeding from the elements, which are names, to assertions made by connexion of one of them to another; and so to syllogisms, which are the connexions of one assertion to another, till we come to a knowledge of all the consequences of names appertaining to the subject in hand; and that is it, men call SCIENCE. (31)

215 He spends the majority of DRN 1 and 2, for example, asserting the presence of atoms (variously termed primordia, materies, genitalia corpora rebus, semina rerum, and corpora prima) by consideration of various observable facts. He explains that our senses perceive some stimuli as pleasant and others as unpleasant because the *primordia* comprising those stimuli are smooth and round or rough and sharp, respectively. The natural world is thus composed of atoms with a variety of shapes (*DRN* 2.378-80), not, as certain competing philosophies dictate, of earth, water, air, and fire. Lucretius adds that this atomic diversity is limited (*primordia rerum / finita variare figurarum ratione*, 2.479-80), pointing out that infinite types of atoms would predicate some enormous varieties of atoms, which we do not observe.

216 Contrasting Hobbes with Descartes, Stephen Fallon points out that, for Hobbes, “the same mechanical laws that govern the motions of a clock govern mental motions” (33). For a succinct discussion of Hobbes’s radically mechanistic view of human thought and behavior, see Fallon 33-36. Fallon recalls the famous opening of Hobbes’s *Leviathan*:

> Nature (the Art whereby God hath made and governes the World) is by the Art of man, as in many other things, so in this also imitated, that it can make an Artificial Animal. For seeing life is but a motion of Limbs, the beginning whereof is in some principall part within; why may we not say, that all Automata (Engines that move themselves by springs and wheeles as doth a watch) have an artificiall life? For what is the Heart, but a Spring; and the Nerves, but so many Strings; and the Joynts, but so many Wheeles, giving motion to the whole body, such as was intended by the Artificer? Art goes yet further, imitating that Rationall and most excellent worke of Nature, Man. For by Art is created that great LEVIATHAN called a COMMON-WEALTH, or STATE, (in latine CIVITAS) which is but an Artificial Man. (Hobbes xxxvii)

217 In some of the most famous lines of the *DRN*, Lucretius preserves the human capacity for reason by introducing “the swerve” into his mechanistic universe, reasoning backwards from the (for him) obvious fact of human will:
The level of volition Hobbes assumes in his audience is thus lower than that assumed by Lucretius, and this difference works itself out markedly in their conclusions. Both men assert that fear of death prevents happiness, but while Lucretius the evangelist calls for his audience to dispel their terrorem animi with the light of his philosophy, Hobbes the political scientist suggests no means of removing fear because its presence is crucial to the preservation of a civil society. Lucretius believes that hoi polloi are foolish to continue in their superstitious fears and Sisyphean ambition and calls for wise men to reject these in favor of his ratio—a pregnant term for an alternative to religion in terms of our reason/revelation dialectic—while Hobbes calls for a sovereign who can order and move the self-interested and passive bodies of his subjects. In each case, Hobbes’s rhetoric is more forensic and descriptive; Lucretius’s, more epideictic and deliberative.

-Si nec declinando faciunt primordia motus principium quoddam quod fati foedera rumpat, ex infinito ne causam causa sequatur, libera per terras unde haec animantibus exstat, unde est haec, inquam, fatis avulsa voluntas per quam progradimur quo ducit quemque voluptas declinamus item motus nec tempore certo nec regione loci certa, sed ubi ipsa tulit mens? (2.253-54, 256-60)
If no first bodies make a certain beginning of motion by swerving, which bursts the laws of fate—so that cause may not follow on cause all the way back from infinity—whence comes for living things throughout the earth, whence, I ask, is this free voluntas torn away from fate, whereby we step forward wherever pleasure leads each one, and likewise incline our motions neither at a fixed time nor to a fixed place, but where the mind itself has borne us?

His belief in random chance, like ancient belief in Fate, does not preclude immediate agency. For further discussion of the extent to which “competing” higher forces and human volition coexist in pre-Enlightenment texts, see Dyson. For a detailed account of how Lucretius’s clinamen functions to facilitate free will, see Fowler.

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(93) Lucretius, on the other hand, seeks to dispel the terrorem animi by introducing his audience to the ratio of Epicureanism (DRN 1.146).
One final difference between Lucretius and Hobbes bears directly on Bentley’s treatment of the two atomistic philosophers. The form of Lucretius’s *De Rerum Natura* mirrors his relatively more evangelistic aims. Although he was aware that he departed from Epicurus’s teaching in writing a poem (Asmis 39-40), Lucretius does so anyway, apologizing for this decision in pragmatic terms. Just as a doctor might smear honey around a cup in order to trick a child into taking medicine, he explains, so does he put his tonic *ratio* into pleasant verse so that vulgar people will imbibe it. In other words, Lucretius is willing to compromise the philosophical consistency of his argument in order to persuade his audience to accept it. We will recognize here a similarity between Lucretius’s explicit strategy and the one that Bentley ascribes to Moses, and even Jesus.

**Bentley’s Pauline Strategy**

*To the weak I became weak, that I might win the weak. I have become all things to all people, that by all means I might save some.*

1 Corinthians 9:22

What do Lucretius’s poetry and evangelistic urgency have to do with Bentley, whose own natural theology is decidedly prosaic, who strove above all for scientifically accurate reading of nature, and who thought that ninety-nine out of a hundred infidels were “Hobbists”? There is in Bentley a strain of Lucretian appeal that distances his natural theology from that of Henry More, who sought to maintain geometrical certainty throughout

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*Sed veluti pueris absinthia taetra medentes
cum dare conantur, prius oras pocula circum
contingunt mellis dulci flavoque liquore,
ut puerorum etas inprovida ludificetur
[.................................]
sic ego nune, quoniam haec ratio plerumque videtur
tristior esse quibus non est tractata, retroque
vulgus abhorret ab hac, volui tibi suavioloquenti
carmine Pierio rationem exponere nostram. (1.936-39, 943-46).*
in an effort to match Hobbes’s own claim to such certainty. Surveying *The Folly of Atheism* at a distance, one sees page after page of Hobbes-like proof framed with opening and closing tracts of Lucretius-like pursuasion. In so constructing the sermon series, Bentley takes as his model the apostle Paul at the Areopagus, who, he points out, cannily addressed various infidels in succession rather than en masse, so that “at every part of his Discourse some of them might be uneasie, yet others were of his side, and all along a moderate silence and attention was observed, because every Point was agreeable to the notions of the greater Party” (41-42). Bentley adds that Paul eventually stops challenging rival views to set forth his own—namely, that a resurrected Christ would return to judge the world—and at this point arose an uproar against him. It is unsurprising, then, that Bentley remains in offensive mode for the most part, placing the burden of proof on the atheistic systems he attacks.

Before considering the more “Lucretian” parts of *The Folly of Atheism*, let us turn to a close consideration of Bentley’s general structure and arguments. The function of this section, besides providing the first thorough outline of the work given since 1833, is to convey a sense of the relative amounts of time Bentley devotes to the various arguments he intended to form an organized whole. As mentioned, treatments of the sermons to date skew this whole considerably in the direction of Bentley-the-Newtonian and away from Bentley-the-philologist, the subject of my final section. Moreover, such exclusive attention to

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220 For example, Bentley begins his discourse on human origin: The Atheists upon this occasion are divided into Sects, and (which is the mark and character of Error) are at variance and repugnancy with each other and with themselves. Some of them will have Mankind to have been thus from all Eternity. But the rest do not approve of infinite Successions, but are positive from a Beginning; and they also are subdivided into three Parties: . . . . (83)

221 The most thorough summary of the sermons published thus far, to my knowledge, is that given by Monk in 1833 (39-46). Guerlac and Jacob also provide a paragraph-long one (311).
Bentley’s philosophy has obscured his repeated tendency in *The Folly of Atheism* that treat poetry as poetry rather than philosophy, as well as his repeated recourse to Biblical exegesis.

Bentley’s evangelistic first sermon is nearly always ignored in critical treatments of his natural theology. Reversing the Lucretian doctrine that people are able to achieve *securitas* once they believe in annihilation, Bentley addresses the psychological (to use the term anachronistically) reasons for atheism and benefits of belief in God in “The Folly of Atheism, even with Respect to the Present Life,” a topic that Baxter and Wilkins also treat in their natural theologies but one absent from More’s and Ray’s. The epigraph is Ps. 14:1: “The Fool hath said in his Heart, There is no God; they are corrupt, they have done abominable works, there is none that doth good,” and Bentley conducts an exegesis of this text, addressing whether the Psalmist meant a deist or a true atheist, and whether this matters, and then gives an extended application of that biblical truism to the contemporary atheist. The sermon is largely deliberative: Bentley calls on listeners to consult their own consciences rather than their logical faculties or knowledge of recent discoveries in science. As Baxter did following Augustine, Bentley asserts that the atheists are such, not because they have reasoned themselves into that belief system, but because in their eyes the benefits of sensual pleasure outweigh the benefits of God’s presence. “God Almighty (if there be one) having much overvalued the Blessings of his Presence . . ., ‘tis a greater advantage to take one’s swing in sensuality,” Bentley summarizes, concluding: “This indeed is the true Language of

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222 Whiston and Monk skip over it completely in their accounts of the sermons; Guerlac and Jacob give it one summary sentence; it is absent from (and irrelevant to) the articles on Bentley’s Boyle Lectures by Goodrum, Dahm, MacIntosh and Gascoigne. A quotation from this sermon does appear casually in a number of treatments of reason and religion around the turn of the century by Paul Russell, including the entry on Hume and skepticism in the *Stanford Encyclopedia of Philosophy*; the quotation does not reflect well on Bentley.
Atheism, and the Cause of it too” (16). Bentley cannot prove this and does not attempt to; he concedes that, if true, this is indeed a worthy reason to reject Christianity.223

In the second sermon Bentley attacks head-on what he sees as the central supporting pillar of the atomists’ materialism, following the strategy of Ralph Cudworth. He opens again with biblical explication, this time the discussion of Paul’s encounter with the Greek philosophers mentioned above. His thesis, that “Matter and Motion cannot think,” he argues by recapitulating Descartes. Starting with the fact of human cogitation, he reasons that the property of thought must not be inherent in matter. Thought must therefore belong to an immaterial soul, and such a soul cannot have arisen from material causes, so it must therefore have a metaphysical Author. As he deals with various materialist answers to the question “If all is matter, whence came consciousness?”224 Bentley waxes increasingly sarcastic: If particular, tenuous atoms constitute the consciousness, what makes them more conscious than bigger ones? Or, if motion gives rise to consciousness—why does a boat not suddenly start thinking when it starts moving? Or, if only particular motions can do this, which motions, pray, and why those? (51-61).225

Dualism having been proved by “infallible demonstration” (62), and the Creator’s presence having been thence inferred, Bentley shifts from the Hobbesian mode to the more Lucretian rhetorical persuasion as he turns to his third, fourth, and fifth sermons, together comprising “A Confutation of Atheism from the Structure and Origin of Humane Bodies.”

223 It must be said that Bentley speaks with more irony than does Baxter on the same topic (pp. 101-02).

224 This argument would be central in the Boyle lectures of Clarke and Derham as well (Dahm 181-82).

225 Bentley’s offensive edge in this section impresses Dahm as well: “Clarke did not exploit the inadequacy of the matter and motion thesis to the extent that Bentley did. The latter was a polemicist who seized the opportunity afforded by the opponent’s apparent shortcomings” (183).
As in the first two sermons, he starts by citing Scripture, again from Acts 17: “That they should seek the Lord, if haply they might feel after him, and find him; though he be not far from every one of us: for in him we Live, and Move, and have our Being.” Significantly, it is on this Scriptural text that Bentley bases his opening point: that Reason and the Book of Nature do not (and should not) impose theism on humans. Following Baxter rather than More, Bentley responds that such an imposition would preclude free will and is contrary to Scripture’s proclamation that humans must seek God in order to find him.

He then turns to the teleological argument from the fittedness of created things. After addressing the fitness of the five senses, Bentley takes up the perennial objection of sickness and death, the objections that More explains away and Baxter uses to support his argument for a future life. More’s *concordia discors* argument is absent. The response found in Baxter and Ray, that such things result from the fall, forms part of Bentley’s response. But he is characteristically focused on the atheist raising this objection and, interestingly, on the whole he looks forward to the Resurrection more than backward to the Fall. “We do not wonder,” he begins, “that the Atheist should lay a mighty stress upon this Objection. For to a man who places all his Happiness in the Indolency and Pleasure of Body, what can be more terrible than Pain or a Fit of Sickness? nothing but Death alone, the most dreadfull thing in the world” (79). This rhetoric, like Ray’s, seems aimed at a Christian audience: it would in any case prove utterly uncompelling to a thoroughgoing materialist because death merely marks the end of pain and sickness. Paradoxically, the passage is more Lucretian in tone than Hobbesian. Here again, for this part of the argument to function at all, the starting point for Bentley’s logic is not nature but Scripture.
He then returns to his Hobbesian mode to as he opens his discussion of the origin of the human body, and accordingly, this section of the text that has received some critical attention. Keeping the framework (if not the heart) of the medieval doctrine of correspondence between human body and cosmos, Bentley introduces a number of themes that he will recapitulate when addressing the origin of the world, such as the impossibility of infinite matter and of matter’s existence from eternity (Sermon 6, 184-195). These are the atheistic doctrines that Bentley finds the most compelling, and so he keeps his own logic relatively tight. He was keenly aware that an infinity of space or time can turn the highly improbable into the certain. Bentley is also aware of the atheists’ inclination to argue Chance if not Necessity, so in Sermon 5 he dismisses Chance as an artificial construct. Then he proceeds from these general refutations of infinity of matter, necessity, and chance to refute particular atheistic explanations of human origin. First, he argues against an infinite succession of generations of humankind before the present one; second, he asserts the improbability of human evolution from lifeless matter; third, he censures astrological explanations of the rise of life. Relying on Newtonian physics, Bentley spends over twenty pages working to produce a mounting sense of the odds against a materialist production of humans (143-64). He draws the topic to a swift and emphatic close, and proceeds to repeat his Pauline pattern of argumentation, opening with another text about Paul’s encounter with gentiles and working—ingeniously, one finds upon a second reading—in a region of overlap between exegesis of Scripture and Nature.

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226 In particular, see Goodrum, who considers Bentley’s attack on spontaneous generation alongside that of Matthew Hale and contra the Lucretian school that had sprung up in England after Charleton adapted Gassendi in his Physiologia-Epicuro-Gassendo-Charltoniana (1654).
227 Goodrum notes, “The space that Bentley devotes to [the natural origin of mankind] indicates that he felt it was a serious threat that had to be countered” (218).
Bentley delivered the last three sermons in the autumn and early winter of 1692. As with the last three sermons, he begins “A Confutation of Atheism from the Origin and Frame of the World” with an exegesis of Acts that he says will serve as “a proper Introduction to the following Discourses” (170). Like Acts 17, Acts 14 describes a crucial early encounter between St. Paul and the gentile world: Paul and Barnabas are taken for gods after Paul heals a cripple in Lystra. Rather than drawing inferences about the nature of this encounter, however, Bentley raises a surprising question: why were so many cripples in that city not healed? He responds that the requirement for healing is faith. He asserts that God could not heal the disbelieving because he would not, “for in the Divine Nature Will and Can are frequently the self-same thing; and Freedom and Necessity, that are opposites here below, do in Heaven most amicably agree” (174). Next, also curiously, Bentley addresses why Paul and Barnabas did not object to being identified as gods until the Lystrians began sacrificing to them. This, Bentley argues, is not because the Lystrians spoke a language Paul did not understand, but because the people had not spoken their beliefs to them until that point—after all, Paul had been preaching to the locals for some time, and had solemnly affirmed of himself “I thank my God, I speak with Tongues more than you all” (177). While Bentley’s listeners hold the unhealed Lystrian cripples and Paul’s linguistic aptitude in the back of their heads, Bentley returns to subject matter that has proven of interest to intellectual historians.

This is the question of the fittedness, beauty, and order of the present universe with its attendant scientific debates over heliocentrism, the existence of void, and gravity.228

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228 Monk 42-43, Guerlac and Jacob 316-17, MacIntosh 37, 44-45 Dahm 183-84. Two major observations regarding Bentley’s natural theology are repeated in these studies: (1) Bentley’s correspondence with Newton was significant and establishes that Newton wished his discoveries to be used in the service of theology, and (2) Bentley made the interesting assertion that gravity is “God’s finger.”
Bentley’s imagined atheists ask why, if a better universe can be imagined, the present universe is the reality. When he confronts this question directly, Bentley will give several answers. First, if by “better” they mean “older” or “bigger,” why, we can always imagine older or bigger, and what can always be objected to all universes can never rightly be used against a particular one (190). Second, in an argument that recalls More’s call to “excogitation,” Bentley says that before atheists protest that they can imagine a better universe, they ought to evaluate their scientific imaginations—that is, they should scrutinize how well they can imagine our world’s workings, laws, and origins differently at all (244). He aims to demonstrate, through the new Newtonian physics as well as older arguments, that the universe is fine-tuned, orderly, and admirable, and that something other than matter and motion was therefore required to set it in motion and sustain it.

Significantly, while More claims optimality for the present universe, Bentley claims “meliority,” shielding his argument from the potential to crumble at any example of unfitness.\(^{229}\) Bentley never asserts the necessity of any particular demonstrations of fine-tuning; instead, after each one he argues that one need not grant that point for his larger argument to stand. As when he progressively sets out the improbability of mechanical human origin, so Bentley lays down layer after layer of assertions of the meliority of the present cosmos, moving from one to the next with: “Though we should allow that my last assertion was wrong, yet.” Then comes the next mathematical demonstration that the motions of the planets, of the earth about its axis, or some other mathematical discovery demonstrates amazing precision that turns out to be necessary or profitable for human life.\(^{230}\) It is in this

\(^{229}\) See pp. 183, 239, 254.

\(^{230}\) See, for examples, pp. 193, 200, 216, 228, 231, and 234.
section that he identifies gravity with the “immediate Fiat and Finger of God” (102), a new idea and perhaps the best-known of his natural theological claims.

By now two reasons can be seen for Bentley’s appeal to the Lystrian cripples. First is his explicit point that faith is requisite for healing. Second, and more interestingly, he implies an analogous relationship between a crippled person and an imperfect cosmos. This relationship comes to the fore as the final sermon draws to a close and Bentley lowers his gaze again to the surface of the earth, addressing the purported deformity of land and sea. Having taken great pains to demonstrate the meliority of the cosmos, Bentley deploys the same bodily language he did in considering human infirmity, again acknowledging the effects of the fall but primarily looking forward to the resurrection:

We have one general and sufficient answer for all seeming defects or disorders in the constitution of Land or Sea; that we do not contend to have the Earth pass for a Paradise, or to make a very Heaven of our Globe, we reckon it only as the Land of our peregrination, and aspire after a better, and a coelestial Country. (271, italics Bentley’s)

While insisting that it is worthwhile for reasonable Christians to take account of the many ways creation demonstrates God’s existence and providence, Bentley does not balk at the evidence that it does not always do so. And ultimately, he looks squarely at the “defects and disorders” rather than posing far-fetched explanations in an effort to save appearances. If this universe is slightly crippled, fine: one day, Christians will inherit a new one.

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231 Bentley goes on to say, “Tis enough, if it be so framed and constituted, that by a carefull Contemplation of it we have great reason to acknowledge and adore the Divine Wisdom and Benignity of its Author” (271).
Bentley and the Science of Textual Criticism

Housman We need science to explain the world. . . . The only reason to consider what Plato meant about anything is if it’s relevant to settling the text. Which is classical scholarship, which is science, the science of textual criticism.

Tom Stoppard, *The Invention of Love*

Bentley’s good relations with the Anglican Church continue into the twenty-first century, although it is not his natural theology that draws brief attention from Canon N.T. Wright in his consideration of the resurrection, the doctrine that Bentley claims finally turned all the Greeks against Paul. Confronting the two-thousand-year-old skepticism about the literal occurrence of this event, Wright challenges the tacit argument that the resurrection did not happen because there are no recorded narrations of its occurrence. Historiographers infer off-stage actions all the time, Wright says, adding digressively:

   So, for that matter, do textual critics. . . . The great C18 classicist Richard Bentley made exactly this sort of move in restoring the digamma (an archaic Greek letter) to certain passages in Homer whose metre would otherwise remain deficient. (16)

It is not clear whether Wright is aware that Bentley not only used methods analogous to his own but also took part in the same centuries-long project of reconciling reason and the Christian faith. For Bentley more than any other natural theologian, the relationship between books and the Book of Nature is more metonymic than metaphorical. One of the symptoms of this outlook is the integration of Scriptural exegesis into scientific discussion already discussed; another, which I shall consider in the present section, is Bentley’s singular veneration of poetry.

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232 It was for this intellectual rigor that A.E. Housman pronounced Bentley “the greatest scholar that England or perhaps Europe ever bred” (Housman 12).
First, however, it should be mentioned that the question of Bentley’s attitude toward poetry and his penchant for textual criticism has no great bearing on the relationship between reason and revelation in his natural theology. On the one hand, he is a prime example of the collapse in meaning Peter Harrison has identified as a feature of the Scientific Revolution and therefore as staging the scene for conflict between science and religion. As scientists began to believe there was only one way of interpreting nature, Harrison argues, theologians began to believe there was only one way of interpreting Scripture; ergo, the harmony between Protestantism and modern science is best understood as an agreement about how to “read.” Thus do Bentley’s inference of the digamma, his vexation over the prophecies in Daniel, and his meticulous astronomy all spring from the same font: all are aimed at “settling the text.” This produces a rigidity that makes epistemological humility difficult if not impossible. On the other hand, however, Bentley’s passion for the text itself, rather than a text’s philosophical matter, protects his natural theology from another kind of rigidity found in the Cambridge Platonists’ attempt to abstract reality into enduring categories in the human mind. The reality that concerns Bentley is not finally a set of propositions, but a poem. This conviction opens the way for a level of deference to revelation that is greater than More’s.

In consequence, among all the natural theologians considered thus far, Bentley is by far the most reverent toward literal poetry. Henry More, following Plato in this as in other matters, had no time for poetry and makes no mention of it. Baxter, characteristically uninterested in fictional writing generally, likewise leaves poetry out of his natural theology although elsewhere he praises the devotional poetry of George Herbert. Wilkins, as we have seen, explicitly condemns the poets, castigating them for capitalizing on vulgar people’s inclination toward superstition. Ray is less austere than these others, but on the whole he
cites poetry as philosophy, paying attention to the content rather than the form or narrativity of the lines. Bentley, in some ways the biggest fussbudget of them all, not only allows poets to speak; he views them as eminently qualified to speak on certain natural-theological matters.

The first such matter is the central argument of God’s existence. During his discussion of Paul’s sermon on the Areopagus, Bentley notes:

And this he confirms by the Authority of a Writer that lived above 300 years before; As certain also of your own Poets have said, For we are also his Offspring. This indeed was no Argument to the Epicurean Auditors; who undervalued all Argument from Authority, and especially from the Poets. Their Master Epicurus had boasted, that in all his Writings he had not cited one single Authority out of any Book whatsoever. And the Poets they particularly hated; because on all occasions they introduced the Ministry of the Gods, and taught the separate Existence of humane Souls. (40)

Bentley’s larger point here is that each of Paul’s arguments alienates one faction of his audience even as it endears another, but much can be gleaned regarding his attitude toward poetry, and toward others’ attitude toward it. First, contra Wilkins, the poets are generally on the right side of the debate in which Bentley is engaging. Bentley takes as axiomatic that what Paul is doing is a good thing, and he points out that Paul is citing not only poets, but pagan poets; and not only pagan poets, but old pagan poets, the very group that Wilkins could not abide. Second, there is a jab at More’s method as well: in the preface to An Antidote against Atheism, More makes precisely the same boast as Epicurus, that “he had not cited a single Authority out of any Book whatsoever.” In a few short lines, then, Bentley quickly distances himself from any natural theological project that proceeds by elevating reason over poetry and authority, whether that reason be More’s neoplatonism or Wilkins’s Aristotelian empiricism.

233 The old pagan poem Paul cites is Aratus’s Phainomena.
But Bentley does not limit his veneration to the poetry written by humans; he speaks too of that written by God. The nature-as-book metaphor has of course been used before Bentley—by Baxter, to give a familiar name—but Bentley’s choice of book is suggestive. When he is at his most offensive he compares nature to *Leviathan*, implicitly questioning Hobbes’s species as he conjures up the image of apes’ penning that philosophical treatise (67, 157). As his argument gains in altitude, however, the book of nature becomes a poem. How, he asks, can “that experienced Insight into the works and wonders of Nature, that rich Vein of Poetry . . . proceed from the blind shuffling and casual clashing of Atoms?” (58). Later he reiterates: “I hope to make it appear, that here, as indeed every where, but here certainly, in the great Dramatick Poem of Nature, is, *dignus Deo vindice Nodus*, a necessity of introducing a God” (75). The centrality of this topos for Bentley becomes clear in the final sentences of *The Folly of Atheism*, when he leaves his audience with a memorable comparison between human generation and manuscript transmission:

[The human body consisting] of an incomprehensible variety of Parts, all admirably fitted for their peculiar Functions and the Conservation of the Whole, could no more be formed fortuitously; than the *Aeneis* of *Virgil*, or any other long Poem with good Sense and just Measures, could be composed by the Casual Combinations of Letters. Now to pursue this Comparison; as it is utterly impossible to be believed, that such a Poem may have been eternal, transcribed from Copy to Copy without any first Author and Original: so it is equally incredible and impossible, that the Fabrick of Humane Bodies, which hath such excellent and Divine Artifice, and, if I may so say, such good Sense and true Syntax and harmonious Measures in its Constitution, should be propagated and transcribed from Father to Son without a first Parent and Creator of it. (277-78)

In comparing the orderly creation with a poem rather than a philosophical treatise, shifting the scientist’s focus from the “content” of the book of Nature to its form, Bentley makes space for a functioning category of the aesthetic. Admittedly, other natural theologians comment on beauty too, but these flattened out the category by defining it philosophically in
terms of ratios and proportions. Bentley, by contrast, allows beauty to remain in the province of poetry, a move that is evident in two quite different entries on his vita, so to speak.

The first of these is his revised edition of *Paradise Lost* (1732), which attempts to bring Milton’s cosmology in line with contemporary Newtonian mathematics. While reactions against Bentley’s project followed on the heels of its publication and have persisted since, critics might at least recognize the profound compliment Bentley was paying to Milton: he took Milton’s poem seriously as a demonstration of God’s goodness and justice. Others would conclude (and the angel Raphael explicitly says) that the precise ordering of Milton’s cosmos is in fact irrelevant to the question of God’s goodness and justice, and so criticism of Bentley’s emendations is warranted. But there is something endearingly ingenuous about Bentley’s willingness to contemplate created things alongside Adam and Raphael, as though the structure of Milton’s cosmos were of scientific importance. And indeed, for Bentley Milton’s cosmos is of scientific importance—and not only for Bentley. *Paradise Lost* has long held a place in the genealogy of modern science fiction, and there was among seventeenth-century Newtonians a fascination with the poem similar to twentieth-century physicists’ fascination with *Star Trek*. Had the genre of fanfiction existed, Bentley’s *Paradise Lost* would likely have found a warm welcome there.

For Bentley was a fan and not a detractor. The poem had real detractors, who feared that Milton’s creative license with Biblical narrative veered into blasphemy and would

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234 Joseph D. Boocker provides a lucid discussion of Bentley’s commentary on the science of *Paradise Lost*.

235 Boocker also points out that Bentley was not alone in reading *Paradise Lost* for natural-philosophical insights: William Whiston, Thomas Wright, and Jonathan Richardson all do the same. 

236 Two such recent considerations are found in Tanner and in an unpublished lecture by Dennis Danielson entitled “Milton and seventeenth-century astronatics.”
certainly wreak havoc on vulgar and undiscerning minds.\textsuperscript{237} A harmony between such critics and John Wilkins is not difficult to discern, and there is a converse discordance between their censure and Bentley’s willingness to take part in the transmission of the text of the poem, albeit “corrected,” to a new generation. For Bentley, Milton was setting about a worthy task—reading the book of Nature to learn about the Creator—in a worthy way—through poetry. Milton had merely been working with a corrupt manuscript, in an intellectual milieu that had yet to decide between the Ptolemaic and Copernican systems. Bentley’s reverence for Milton’s project becomes the more obvious when we turn our attention back to Bentley’s aesthetic concerns in \textit{The Folly of Atheism}.

The matter in question is the unevenness of the earth’s surface, a “problem” that traditionally haunted philosophers who sought to define beauty mathematically. Already in describing this problem, Bentley sounds different from a typical natural theologian:

\begin{quote}
But some men are out of Love with the features and mean of our earth; they do not like this rugged and irregular Surface, these Precipices and Valleys and the gaping Channel of the Ocean. This with them is Deformity, and rather carries the face of a Ruin or a rude and indigested Lump of Atoms that casually convened so, than a Work of Divine Artifice. (267-68)\textsuperscript{238}
\end{quote}

\textsuperscript{237} For further discussion of the early reception of the poem, see Poole, “Two Early Readers” and “Early Reception.” Poole discusses the reactions of Abraham Hill and John Beale, Royal Society Fellows who had profound misgivings about the theology in \textit{Paradise Lost}. In the second article Poole comments specifically on “the most notorious of all Milton editions – that of the great classical scholar Richard Bentley,” pointing out that Bentley “was departing from the methods that had made him famous” in his treatment of Milton and inferring (rightly, I think) that “Bentley was both awed and exasperated by Milton” (3-4). I add to this analysis a further suggestion of a source of Bentley’s exasperation, a clash between his need to “settle the text” of Nature and his desire to settle the literal text of the poem.

\textsuperscript{238} Bentley’s note: “Nequaquam nobis divinitus esse creatam Naturam rerum, tanta stat praedita culpa. Principio quantum coeli regit impetus ingens, Inde avidam partem montes Sylvae{que} ferarum Possedere, tenent rupes vastaeque paludes, Et mare, quod late terrarum distinit oras. \textit{Lucret.} lib. 5”
The problem being one of the heart rather than the head, Bentley cites poets rather than scientists in order to counter it. “What were the Tempe of Thessaly, celebrated in ancient story for their unparallelled pleasantness, but a Vale divided with a River and terminated with Hills?” he asks, pointing out that poets “cannot imagin even Paradise to be a place of Pleasure, nor Heaven Heaven” without rugged irregularities of landscape. Bentley cites three specific poetic passages, one from the Aeneid and two from Paradise Lost, in support of this claim. The citation comprises the first (but not the last) use of Milton’s literary theodicy in a more prosaic demonstration of God’s providence (276).239 For Bentley, there is a continuity between Milton’s epic and “the great dramatic poem of nature” that warrants reference to the former as a means of settling on the meaning of the latter.

In order to be a good natural theologian, then, one must be a good literal reader; and with this observation I return to Betley’s unexpected defense of Paul’s linguistic proficiency at the beginning of Sermon 6. In his repeated references to Paul, Bentley assumes a likeness between the apostle’s task and his own: both men seek, by canny rhetorical and logical appeal, to convey to an unbelieving audience that Christianity has the greatest claim on anyone’s belief. As mentioned, Bentley follows Paul in appeal to different kinds of argument to convince different kinds of pagans; in his discussion of Paul and Barnabas in Lystra, he also makes clear that he follows Paul as a student of languages. “But notwithstanding we can by no means allow, that the great Apostle of the Gentiles should be ignorant of that Language,” Bentley insists, pointing out the obvious: “And how could these two Apostles have preached the Gospel to the Lystrians, if they did not use the common Language of the

239 For a high-profile example, John Wesley’s 1770 A Survey of the Wisdom of God in Creation quotes Paradise Lost 5.153-55 on its frontispiece.
Country?” (177-78). Paul’s philological skill—and Bentley’s—is not only helpful but necessary in the task they both undertook.

In closing we may note, then, that Bentley the textual critic saw himself as much as a translator as an apologist in The Folly of Atheism. Ever a fierce defender of the “correct reading,” he saw the establishment of a correct reading of the Book of Nature as the utmost of which he was capable. That accomplished, like Baxter, he left conversion to the consciences of his audience. Paul himself had never done more: in both of the episodes Bentley narrates, he was not well received in the end. The philosophers at the Areopagus scoffed at him, and the Lystrians stoned him. Bentley wishes to absolve Paul (and himself) of the charge that unconverted Lystrians can blame a deficiency in his scholarship for their lack of belief. Bentley has been diligent in his perusal of pagan wisdom both ancient and modern as well as his perusal of the movements of the stars, and he has labored to learn the languages in which that wisdom is conveyed, whether that language is Greek or mathematics. Using the “common Language of the Country,” Bentley addresses an increasingly skeptical and Baconian England in the language of reason and the New Science—but he does not let his audience forget that Nature, like Scripture, is a great, dramatic poem.

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In the former case, Bentley emphasizes the thoroughness of Paul’s rejection: “There is a very sad and melancholy Account of the success of his stay there. Howbeit CERTAIN Men clave unto him and believed; A more diminutive expression, than if they had been called a few” (175). Peter Harrison has pointed out that those seeking to harmonize Christianity with philosophy have long felt the need to justify Paul’s rough reception:

The Epicurean and Stoic philosophers who were present on this occasion were not impressed by the Jewish teachers, describing him as a ‘babbler and ‘a preacher of foreign deities’, and his assertion of the resurrection of the dead was met with general ridicule. Few converts were made, no church, was established, and what might have been a powerful symbolic moment in the fortunes of a developing Christian faith failed to realise its latent potential. Authorities retrospectively attempted to salvage something out of this otherwise disappointing event . . . (12)
Conclusion

The sun also ariseth, and the sun goeth down, and hasteth to his place where he arose.

I would like to end this study as I began, by casting my eye over several centuries of interaction between reason and faith. Natural theology, according to John Polkinghorne, is now in its Third Age: the first was that of Anselm and Aquinas, and the second was that of John Ray and William Paley. As the Second Age wore on and met its demise, people began to see that the Bible is not a science textbook and that one cannot prove Christianity conclusively by the argument from design. Today’s devout scientists and philosophers therefore distance themselves from these “Enlightenment” notions and seek among older texts alternative models for reconciling reason with faith: Stephen Barr appeals to Augustine; Alister McGrath, to Tertullian; Polkinghorne himself, to Anselm and Aquinas.

Many seventeenth-century natural theologians were working from the same motives as these twenty-first century ones. In their view, what had once been a living and fruitful way of thinking about the God of Scripture by natural light had turned by their century into a desiccated exercise in logical deduction. Thus does John Wilkins avoid mention of Anselm and Aquinas, although he is quick to credit Epictetus and Cicero. Those classical thinkers had
listened to the testimony of the natural world, and Early Modern scientists meant to do the same. With the exception of More, the authors treated here in “God’s Scientists” agreed that one should never let one’s cogitative reason stand against the testimony of Scripture. They were keenly aware of the blind spots that had recently plagued their own tribe.

But before these reflections begin to sound Freudian, let me make my point: it is all the same tribe. Then as now, Christians sought to apply their God-given inquisitiveness to the task of uncovering God’s glory. We see that the chief danger inherent in this enterprise is arrogance, too high an estimation of our own reason, and we see this most clearly in the errant claims of our predecessors. But we cannot abandon the project entirely. Other, humbler models are brought in and considered. New natural theologies are written. These, too, will likely prove to contain the seeds of their own destruction.

This does not mean natural theologies are not worth writing. The present study is in part an apology for Early Modern natural theologians as good natural theologians—not as good bishops or scientists or philologists, though they were that—who took seriously their identity as Christians as well as the imperative to be faithful to the Book of Nature. These authors offer useful models for practicing natural theology in an epistemological framework that, for better or worse, is substantially different from that of Augustine or Hugh of St. Victor. John Ray’s positive correlation of wonder with understanding might save Christian disciples of Intelligent Design their trouble, for example. If providence can be discerned in the orderly function of the cosmos, then there is no need to insist that natural causes cannot explain everything that occurs in nature. These authors also offer useful insight into when natural theology is not the answer: one can only smile when one imagines the short-lived spectacle of a gallant and articulate Richard Dawkins engaged in rational debate with old
Richard Baxter, rheumatic, long-winded, and convinced first and last that God is God. Baxter would simply pronounce the professor’s reason to be “darkened and debilitated by long alienation from its proper work” and address himself instead to any Christians in audience.

Meanwhile, the academic world to which the other four natural theologians belonged acknowledges their place in the genealogy of knowledge, often with laudable charity. Intellectual historians find that much of what was important to those four is still important to us: How do we explain curious natural phenomena? What is the best way to advance knowledge? And what (if anything) can natural light can tell us about “things unseen”? This current body of critical work does not consider whether these men wrote worthy natural theologies, but whether natural theology is itself a worthy enterprise, a larger argument to which I can only make a small contribution. I suggest that, if we reason empirically, we find that natural theology somehow is a worthy enterprise. As Bentley inferred a place for the digamma from the fact of Homer’s obvious capability as a poet, we can infer a place for natural theology from its practice by such obviously capable philosophers and scientists.

Finally, I have suggested that natural theology’s “place,” where it begins and ends, is in the realm of theology and not of scientia. The most perceptive among my natural theologians wrote for the already converted, or at least did not expect their texts to do the work of conversion. They aimed instead to incite wonder and worship. Much of the criticism they have brooked is as a result of this category mistake on the part of their readers, a mistake that perhaps results from a deeper-lying conviction that the realm of scientia is the only realm there is. If nothing lies outside of science, these natural theologians argue, then the practice of science itself has no meaning—for no science justifies itself from within. If, on the other hand, the Book of Nature really is a book, with a meaning deeper than the mere
curiosities of its existence and form, then one would be foolish not to try to read it. With this conviction, these five reasonable and studious men took up their old books and their pens, their binoculars, telescopes, and microscopes, and set about becoming God’s scientists.
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