

strued, they would still be vulnerable to my scrutiny of their alleged proofs of impossibility, but they could evade my challenge to specify the principles under which Intelligence operates. They are simply not in that explanatory, that scientific, business. The envisaged retreat is unattractive. Not only would committed reticence make the claim that any natural explanation is impossible even less plausible, but it would also have the crippling disadvantage of forfeiting any claim to be doing science. Whether the resulting position would be even theologically satisfactory is a question we shall explore shortly.

Intelligent design-ers give Darwinians much trouble because their officially sanitized doctrine is presented with a wink.⁸⁴ That wink signals to the sincerely religious that there is a faith-friendly alternative to godless evolutionism, and so recruits to the cause people who have no part in any pretense and no idea that they are supporting an illusion. The zeal with which that cause is defended is the source of political—not intellectual—trouble for Darwinism. My next, and final, task is to try to understand the sources of this zeal.

Chapter Five

A MESS OF POTTAGE

For Wales? Why Richard, it profits a man nothing to give his soul
for the whole world—But for Wales, Richard, for Wales!

Spoken by Thomas More, in Robert Bolt,
A Man For All Seasons

When the Kansas School Board approved a characterization of science that would allow for the teaching of intelligent design in high-school biology, champions of Darwinism were quick to issue a stern warning. States that subordinate serious scientific education to religious concerns cannot expect to be attractive to businesses that are advancing, or applying, new forms of technology. In consequence, their citizens will lose opportunities for exciting and lucrative employment. More generally, American failure to honor established science will lead to a national decline in preparedness for the economic challenges of coming decades, as schoolchildren protected from disturbing ideas will no longer be able to compete in global markets. Darwinian commentators conjured the vision of the booboisie (in Mencken's famous phrase), burying their heads, ostrichlike, in rural idiocy, and thereby precipitating the decline of the West.

Many crucial, and controversial, assumptions are necessary to infer that the inclusion of intelligent design as part of science will lead to the inevitable impoverishment of scientific education and the demise of American (or Kansan) competitiveness. It is far from obvious that the ills of scientific education in the United States stem from squeamishness about teaching Darwin, or that the production of virtuosos in the scientific fields most relevant to economic growth will hinge on whether a large segment about evolution—unbalanced by any mention of intelligent design—figures in the curriculum. Even if these conclusions were correct, however, I doubt that stern warnings would strike those who want an inclusive definition of science, who want their children to hear about intelligent design, as penetrating to the heart of the matter. Quite reasonably, they would see the warnings themselves as another expression of the attitudes and values they reject.

In Robert Bolt's dramatization of the fall of Thomas More in *A Man For All Seasons* the protagonist is tried for his refusal to swear the oath acknowledging Henry VIII as the head of the English church. As the trial proceeds, More observes that his former protégé, Richard Rich, is wearing an impressive gold chain, and he asks Rich to explain its significance. When Rich replies that he has been promoted to a high post in the administration of Wales, More gently questions the choice, the venal bargain, he has made.

To use Mencken's vivid label, and to think of the worried Christian parents as the "booboisie," is a peremptory way of distancing and dismissing a serious perspective. Like Bolt's hero, the thoughtful people who want their children to learn about intelligent design view the warnings about jobs and the global economy as a crass failure to see what is genuinely

important. An older story (Gen. 26, 31–3) might be more salient for them, the tale of the bargain between Jacob and Esau. Jacob is in the field, cultivating his crops, when Esau returns faint from the hunt. He asks his brother for food.

And Jacob said, Sell me this day thy birthright.

And Esau said, Behold, I am at the point to die: and what profit shall this birthright do to me?

And Jacob said, Swear to me this day; and he sware unto him: and he sold his birthright unto Jacob.

To trade your soul for Wales, to let Darwinism unchecked into the schools, these are equivalent, equivalently myopic, bargains, exchanges in which you give up your birthright for a bowl of lentils—for a mess of pottage.

In fact, it is worse. The birthright, or the soul, you give up is not your own, but that of your child. Instead of doing your duty for your sons and daughters, instead of steering them in the faith and helping them to God, you open hatches through which they may fall, jeopardizing their chances of salvation in hopes that they may obtain some trivial mundane reward. I know from my own case how poignant a child's loss of faith can seem to a religious parent. During my teens, although I continued to sing in church choirs, it became evident to my family that I no longer believed in the Christian doctrines in which I had been brought up—I made no secret of my abstinence from the sacraments, for example. For my mother, the education I had received, once seen as wonderful, beyond any dreams she could have had for me, now appeared as terrible, the source of a turn in my life that had deprived me of the single most precious possession any person can have. The worldly

successes my education promised me were completely irrelevant, utterly incapable of assuaging her sorrow.

I grieved for her grief, but could not—cannot—see things as she did. Yet even though I do not think there is any birthright I have traded for a mess of pottage, any sense in which I have given my soul for Wales, I believe that adequate understanding of the resistance to Darwinism must recognize the perspective that takes acceptance of orthodox biological education as a terrible bargain. Enough has been said in previous chapters about the fallacies purveyed by the intelligent design-ers. My concern now is with the honest and worried people who accept the advertisements for intelligent design with a sense of liberation, and with the values they hope to preserve.

* * *

The simplest way to address worries about the effects of teaching evolution is that pioneered in Westminster Abbey over a century ago. From the eulogies at Darwin's funeral to eloquent contemporary presentations,⁸⁵ religious people have argued that the opposition between Darwinism and faith is only apparent. If you can have God and Darwin too, then the concerns of those who support intelligent design can be met without grasping at the illusions the design-ers concoct. From this perspective, the controversy persists because of two mistakes: one that fails to see how the evolution of life on earth, caused by natural selection, might elaborate the plan of a Creator who set things up to proceed in this way and who leaves natural processes to run their course, and another that disguises currently unsolved difficulties with Darwinism as unsolvable, thereby creating space for a much-touted, but

ultimately empty, alternative. A nonproblem is created, and a spurious solution is then offered.

According to this diagnosis, the honest supporters are doubly deceived. They are bombarded with the admonishment that they must choose between God and Darwin. Then they are told that, despite the widespread scientific support for Darwin, there's another point of view, defensible on scientific grounds, and unfairly derided by the academic establishment. Those who say these things appear more trustworthy than the remote Brahmins who pooh-pooh opposition to evolution. The audience has little reason to think critically about the story they are told. Many of them find the scientific details difficult, and, when they contrast the reassurances of their trusted counselors with the haughty dismissals of a secular orthodoxy, their sense of alienation from science deepens.

I agree with some parts of this account. With any major piece of science, it is possible to identify unsolved problems, and to conjure up a "case for balance," a case that would require significant work and attention to expose it for the charade it is. Present the "case for balance" in evolutionary theory to people who are already worried about the impact of Darwinian ideas on their children, people who lack the tools to identify its chicanery, people who don't have the motivation to probe it as they would other heterodox claims, and it's highly likely that you'll succeed in rallying them to the cause. Where I demur, however, is in the thought that the worries about Darwinism are themselves unfounded, that the supporters of intelligent design have misguidedly erected a non-existent opposition between Darwinism and the religious doctrines central to their faith.⁸⁶

From the late nineteenth century on, religious people who have thought hard about the Darwinian view of the history of

life have found it deeply troubling. George John Romanes, author of books on religion and works of science, found Darwin's vision agonizing. It seemed to him that the universe had "lost its soul of loveliness."⁸⁷ In his groundbreaking *The Varieties of Religious Experience*, William James articulated more extensively this sense of loss, offering an arresting image. "For naturalism, fed on recent cosmological speculations, mankind is in a position similar to that of a set of people living on a frozen lake, surrounded by cliffs over which there is no escape, yet knowing that little by little the ice is melting, and the inevitable day drawing near when the last film of it will disappear, and to be drowned ignominiously will be the human creature's portion. The merrier the skating, the warmer and more sparkling the sun by day, and the ruddier the bonfires at night, the more poignant the sadness with which one must take in the meaning of the total situation."⁸⁸ Given this picture of life as early twentieth-century science seems to depict it, James can only view cheerfulness, or even the absence of despair, as based on false optimism, on failure to face reality. It is hardly surprising that he sees religious impulses as cries, triggered by the need for something different or for something more—"Here is the real core of the religious problem: Help! Help!"⁸⁹

Perhaps this is overwrought, even neurotic? I don't think so. Romanes and James, like the evangelical Christians who rally behind intelligent design today, appreciate that Darwinism is subversive. They recognize that the Darwinian picture of life is at odds with a particular kind of religion, providentialist religion, as I shall call it. A large number of Christians, not merely those who maintain that virtually all of the Bible must be read literally, are providentialists. For they believe that the universe has been created by a Being who has a great design, a Being

who cares for his creatures, who observes the fall of every sparrow and who is especially concerned with humanity.⁹⁰ Yet the story of a wise and loving Creator who has planned life on earth, letting it unfold over four billion years by the processes envisaged in evolutionary theory, is hard to sustain when you think about the details.

Many people have been troubled by human suffering, and that of other sentient creatures, and have wondered how those pains are compatible with the designs of an all-powerful and loving God. Darwin's account of the history of life greatly enlarges the scale on which suffering takes place. Through millions of years, billions of animals experience vast amounts of pain, supposedly so that, after an enormous number of extinctions of entire species, on the tip of one twig of the evolutionary tree, there may emerge a species with the special properties that make us able to worship the Creator. Even though there may be some qualitative difference between human pain and the pain of other animals, deriving perhaps from our ability to understand what is happening to us and to represent the terrible consequences, it is plain to anyone who has ever seen an animal ensnared or a fish writhe on a hook, that we are not the only organisms who suffer. Moreover, animal suffering isn't incidental to the unfolding of life, but integral to it. Natural selection is founded on strenuous competition, and although the race isn't always to the ruthless, there are plenty of occasions on which it does produce "nature red in tooth and claw" (in Tennyson's pre-Darwinian phrase). Our conception of a providential Creator must suppose that He has constructed a shaggy-dog story, a history of life that consists of a three-billion-year curtain-raiser to the main event, in which millions of sentient beings suffer, often acutely, and that the

suffering is not a by-product but constitutive of the script the Creator has chosen to write.

To contend that species have been individually created with the vestiges of their predecessors, with the junk that accumulates in the history of life, is to suppose that Intelligence—or the Creator—operates by whimsy. The trouble is that the charge doesn't go away when the action of the Creator is made more remote. For a history of life dominated by natural selection is extremely hard to understand in providentialist terms. Mutations arise without any direction toward the needs of organisms—and the vast majority of them turn out to be highly damaging. The environments that set new challenges for organic adaptation succeed one another by processes largely independent of the activities and requirements of the living things that inhabit them. Even if the succession of environments on earth has some hidden plan, Darwinism denies that the variations that enable organisms to adapt and to cope are directed by those environments. Evolutionary arms races abound. If prey animals are lucky enough to acquire a favorable variation, then some predators will starve. If the predators are the fortunate ones, then more of the prey will die messy and agonizing deaths.⁹¹ There is nothing kindly or providential about any of this, and it seems breathtakingly wasteful and inefficient. Indeed, if we imagine a human observer presiding over a miniaturized version of the whole show, peering down on his "creation," it is extremely hard to equip the face with a kindly expression.

Toward the end of the *Origin*, Darwin points to some striking, and disturbing, phenomena, which on the Lyellian alternative appear to signal the whimsy (or, perhaps, callousness) of the Creator. He suggests that his account, unlike the explanation in

terms of special creation, should remove many surprises at the character of the living world. "We need not marvel at the sting of the bee causing the bee's own death; at drones being produced in such vast numbers for one single act, and then being slaughtered by their sterile sisters; at the astonishing waste of pollen by our fir-trees; at the instinctive hatred of the queen bee for her own fertile daughters; at ichneumonidae feeding within the live bodies of caterpillars; and at other such cases."⁹² The last example is well chosen, for the behavior of the ichneumonidae—parasitic wasps—is particularly unpleasant. The wasps lay their eggs in a living caterpillar, paralyzing the motor nerves (but not the sensory nerves) so that the caterpillar cannot move or reject its new lodgers. As the eggs hatch, and the larvae grow, they eat their way out of their host.

Darwin presents his catalogue of surprisingly nasty aspects of nature to argue that taking these arrangements to result from acts of separate creation implies an extraordinary degree of whimsy on the part of the Creator. He doesn't make explicit an implication that disturbs many of his most sensitive readers—those for whom his universe has lost "its soul of loveliness"—the fact that matters are little better if the Creator's activity is more distant. The mess, the inefficiency, the waste and the suffering are effects of natural processes, so that they shouldn't be seen as directly planned and introduced. But the Creator has still chosen to use those processes to unfold the history of life. The general inefficiency of the processes, the extreme length of time, the haphazard sequence of environments, the undirected variations, the cruel competition through which selection so frequently works, is all foreseen. And the individual nastinesses to which Darwin points are expected outcomes of deploying these sorts of processes. If we

search the creation for clues to the character of the Creator, a judgment of whimsy is a relatively kind one. For we easily might take life as it has been generated on our planet as the handiwork of a bungling, or a chillingly indifferent, god.

Sober consideration of the history of life is bound to generate just the questions that fueled the nascent skepticism of the eighteenth century, doubts directed toward providentialism. For Voltaire and for Hume, the ancient problem of the existence of evil in a world designed by a powerful and benevolent deity arose with new force. In his *Dialogues Concerning Natural Religion*, Hume placed a series of questions in the mouth of one of his characters. Are the evils unforeseen? Or is it that they are foreseen and the deity has no power to remove them? Or should we suppose that they are foreseen and recognized as removable but that the Creator simply chooses not to do so? The general lines of theological answer, well known to Hume, and repeated by many apologists since, are that the evils we perceive are merely local, and that they make an essential contribution to a larger good. (The apologies are principally the work of theologians and academic philosophers. Many devout people find them wrongheaded and insensitive, and would reject the entire idea of attempting to fathom the divine plan.)

Ambitious providentialists try to say what this greater good is, and why pain and suffering are necessary for it to exist. Virtues require adversity. Courage cannot exist without the threat of danger. Generosity is only possible if there is also want. Moreover, for genuine virtue to be present, people must be able to act freely. That means that there must be the possibility of sin. Hence we shouldn't be surprised if the powerful and loving Creator has brought about a world in which there is pain and suffering, some of it produced independently of human

beings, some of it resulting from free human actions. If the most important good—the existence of people who freely act virtuously—is to be present in the Creation, then the dark and cruel aspects also must be included.

There is plenty to challenge here, and complex philosophical debates have raged around such questions as whether God could have created people who always freely chose to do the good. I shall be content with two simpler, and, I believe, more disturbing points. The first of these stems directly from the Darwinian picture of the history of life. When you consider the millions of years in which sentient creatures have suffered, the uncounted number of extended and agonizing deaths, it simply rings hollow to suppose that all this is needed so that, at the very tail end of history, our species can manifest the allegedly transcendent good of free and virtuous action. There is every reason to think that alternative processes for unfolding the history of life could have eliminated much of the agony, that the goal could have been achieved without so long and bloody a prelude.

The second point is that the providentialist's doctrine that humans and nonhuman animals suffer in the interests of achieving some greater good must be reconcilable with the assumption of divine justice. You cannot defend torturing a few individuals who are known to be innocent on the grounds that setting some examples will contribute to a safer society. By the same token, a just Creator cannot consign vast numbers of its creatures to pain and suffering because this will promote some broader good. Divine justice requires that the animals who suffer are compensated, that the suffering isn't simply instrumental to the wonders of creation but redeemed for them. Dostoevsky's Ivan Karamazov presents the fundamental

point. "It's not worth the tears of that one tortured child who beat itself on the breast with its little fist and prayed in its stinking outhouse, with its unexpiated tears to 'dear, kind God'! It's not worth it, because those tears are unatoned for. They must be atoned for, or there can be no harmony."⁹³ How, then, are the agonies, especially the agonies of the innocent, atoned for?

The providentialist may seem to have an obvious reply. Atonement comes in union with God, perhaps in an afterlife. Further reflection makes it evident that this only raises new difficulties.⁹⁴ If the suffering of the child, or of the holocaust victim, is genuinely outweighed by some greater good, received in an afterlife, we ought to ask if that suffering is necessary for that good to be received. If it is, then others who have been denied the suffering will turn out to have been short-changed. They will not have experienced something that is necessary for the attainment of the greater good. Because such acute suffering is needed for salvation in the afterlife, those who do not suffer similarly cannot be saved. If, however, salvation is possible without the suffering, then the agonies are unatoned for. They weren't needed for the glorious reward. Finally, if it is suggested that there are two kinds of people, those who need to suffer to win eternal salvation and those who do not, we need to know just how the holocaust victims are different from those whose lives are free from comparable violations—and just why the divine plan demands the existence of some who can only attain heaven through extreme suffering.

I've been exploring ambitious providentialism, which attempts to respond to the existence of evil, pain, and suffering by explaining why they are necessary for the greater good of the Creation. Providential religion could be humbler, admitting

that the reasons of God are beyond human understanding. It could concede that, when we look at the history of life, seeking clues to the character of its divine Creator, we're likely to be confused and misled, but that is because we are finite creatures, incapable of appreciating God's greatness or His purposes.

Yet this strategy of retreat comes at a price. First, it involves just that suspension of curiosity that moved Darwin to an atypically scathing critique. If you are prepared to treat the divine plan as ultimately mysterious and incomprehensible, then why introduce that thought just here? Why not go further? You might declare that the appearances of common descent are deceptive, that species have been newly created with the vestiges of formerly useful organs and structures, with the masses of genomic junk, and that the Creator has His own unfathomable reasons for doing this. You might even insist that the earth has been made with the appearance of great age, that the order of the fossils in the rocks and the radioactive residues are products of a recent Creation, that in all these instances the intentions of the Creator in mimicking a Darwinian world are beyond human understanding. Wherever it occurs, in defending a beneficent Creator against the evidence of whimsy or indifference, in advocating novelty creationism, or in resurrecting Genesis, the appeal to the incomprehensibility of the Deity faces the same objection. "It makes the works of God a mere mockery and deception; I would almost as soon believe with the old cosmogonists, that fossil shells had never lived, but had been created in stone so as to mock the shells now living on the sea-shore."⁹⁵ The appeal to "mystery" is always available—and always an abdication of the spirit of inquiry. For those who would reconcile God and Darwin, it's hardly an acceptable resting place.

Hume challenged his providentialist contemporaries by asking them to consider what character they would ascribe to the deity if they set aside their preconceptions and simply used the observed phenomena of life on our planet as the basis for their inference.⁹⁶ It might appear that the challenge is unfair, that there are occasions on which we suppose that appearances are deceptive, believe that what seems a natural conclusion from the observed phenomena should not be drawn, think that there is an—unknown—explanation for the discrepancy between the “obvious implication” and what we ought to accept. Not all unanswered questions are unanswerable. It would be entirely unreasonable for me to protest that there is no way to fill in the blanks in my unfinished crossword, or for the community of scientists to assert that there is no answer to some large question—the problem of protein folding, say—that currently baffles them. In some instances, we would properly assume that there is a solution to a problem, even though we recognize quite clearly that we shall never be able to provide it. There are vast numbers of questions of human history about which we’ll always remain ignorant. At this point, however, a deeper problem emerges. For on the occasions on which we are justified in thinking that there is an explanation, currently or even permanently unbeknownst to us, we have background knowledge to which we can appeal. Although we cannot say what route Caesar followed on the Ides of March, the information we have provides grounds for thinking that he followed some definite course to the Capitol. If the providentialist is to turn back Hume’s challenge—or the Darwinian extension of it—then it must be because there are antecedent grounds for supposing that the providential Creator exists. Were that not so, then there would be no basis

for supposing that the waste, the suffering, and the inefficiency should not be taken at face value.

Troubling questions now arise. Why should anyone think there must be a providential Creator behind the apparent evils of the world, a God whose purposes we cannot fathom? On what do providentialists rely when they maintain that there must be some unknown order behind the messiness of life?

So the conflict between Darwin and providential religion leads inexorably into a broader battle. It pitches us into what is often (but wrongly) viewed as a war between reason and religion generally, one that erupted in the eighteenth century and that has intensified ever since. Darwinism is entangled with what I’ll call the “enlightenment case against supernaturalism.” Evolutionary ideas form a separable part of the case, as well as amplifying other themes within it. It is wrong to give Darwin complete credit as the “anatomist of unbelief.” But it would also be wrong to pretend that his ideas are not important to the “delineation of doubt.” I shall try to explain below why he is so prominent a figure in the conflict, why he serves evangelical Christians as the bogeyman.

* * *

The enlightenment case began with attacks on providentialism, but the vast majority of the world’s religions have not been committed to a wise and powerful Creator with a great, if unfathomable, plan. An inclusive pantheon would contain many gods—and spirits, and ancestors—who have little interest in human or animal welfare, some of whom can be placated in various ways, most of whom have to be acknowledged as sources of power. An even more capacious collection of

religious entities would include impersonal powers, forces like the Mana of some Polynesian or Melanesian religions, with which it is important to align oneself. It is not easy to identify what distinguishes these objects of religious concern, these gods and ancestors, spirits and forces, except to say, vaguely, that they are very different from the normal things with which human beings deal, that they are not perceptible except under very special circumstances, that they are somehow "supernatural" or "transcendent."

Religion is itself an extraordinarily diverse and multifaceted phenomenon, emerging in different forms in different societies, and even assuming new identities in a changing historical and social context. At different times, and in different locations, the major religions of the world, Judaism and Islam, Buddhism and Hinduism, as well as Christianity, have all embraced very different conceptions of the religious life. Because of this, an enlightenment case against religion is likely to fail. Religious traditions can evolve, adapting themselves to the arguments presented so that the skeptics' attempts to define "religion" once and for all are portrayed as limited and crude. Instead, I suggest, we should recognize an enlightenment case against a common strand within religious traditions, against supernaturalism.

Providentialist religion, as we have seen, supposes that there is an unknown—even unknowable—explanation for the mess of life, and, in doing so, relies on claims to know that there is a wise and benevolent Creator. The enlightenment case scrutinizes this claim to knowledge, and does so by opposing all alleged knowledge of supernatural (or transcendent) entities. It recognizes that many versions of the world's religions are committed to the existence of supernatural beings

and to the truth of particular stories about these beings. Most religions that have existed thus far have been supernaturalist, that is, they have relied on oral traditions or canons of scripture that describe the characteristics and actions of supernatural entities, usually although not always supernatural persons, and acquiescing in the religion frequently requires belief that many of these descriptions are literally true. Devout Christians have typically believed that Jesus was once literally raised from the dead. Devout Jews have often supposed that God literally made a covenant with Abraham and, later, with the chosen people. Devout Muslims routinely think that the angel Gabriel spoke the exact words that the Prophet heard and recited, the words recorded in the Qur'an. Australian aborigines believe that important events occurred during what they call the "Dreamtime." Devotees of African religions make strong claims about the enduring presence of ancestors, and so on. The enlightenment case begins with an assault on the doctrines that are presupposed in providentialist Christianity, but it proceeds to attack all versions of supernaturalist religion. Indeed, as we shall discover, part of its strategy for undermining any particular religion involves a negative attitude toward supernaturalism in general.

Despite its scope, this is not a war against all religion. For there are other kinds of religion, "spiritual religions," as I shall call them, that don't require the literal truth of any doctrines about supernatural beings. Some professing Christians and professing Jews have heard the dispatches from the enlightenment front, and responded by abandoning commitment to the literal truth of virtually all the sentences in their respective Bibles. The possibility of spiritual religion will occupy us later. The next step in an investigation of the tangled relationship

between Darwinism and religion must be a quick review of the enlightenment case against supernaturalism.

The enlightenment case against supernaturalism begins by asking for the grounds on which the devout might become confident that there must be some explanation for the pains and sufferings of sentient beings, for the waste and inefficiency of the history of life and the operation of natural selection. Providentialist Christians reply that they accept a body of background doctrine, which tells them of a powerful, wise, and benevolent Creator. They endorse this doctrine because they believe in the literal truth of certain statements in the Christian Bible.⁹⁷ They respect the authority of a particular church, or denomination, or tradition, and rely on the original revelation of divine truth, embodied in the sacred scriptures and unfolded by the learned in each generation.

The enlightenment case subjects this idea to intense examination. Can the long and intricate process that leads from some original event—a supposed revelation—through the formation of the texts, their dissemination and interpretation, provide any real basis for firm belief that the disorder and messiness of life is only apparent? Or are religious believers like children, deeply committed to a story inculcated by fond parents, children who declare that there must be some explanation that allows reindeer to fly and presents to be universally dispensed on Christmas Eve—even though no such explanation comes to mind? (They are firmly convinced, after all, that there is a Santa Claus.) From the eighteenth century to the present, dedicated scholars have probed the scriptures, tried to understand the circumstances of their composition, scoured the historical record to account for their acceptance as canonical, and have elaborated sociological explanations of the

careers of some major religions. Their investigations suggest that the texts and traditions cannot support the confidence of the faithful—and it is hardly surprising that religious people usually know far less about these scholarly studies than they do about Darwinian evolution.

The canonical Christian texts are the Gospels and the letters attributed to Paul. Literary analysis and historical studies have established, as firmly as anything in ancient history is ever established, that not all the letters the New Testament assigns to Paul were written by the same person, but that the genuinely Pauline documents are the earliest part of the Christian canon, written about twenty years after the Crucifixion by a man who had never had any intimate association with Jesus and whose convictions had been altered by a critical event. The four Gospels, written about two decades later still, are incompatible with one another on many points of detail. Jesus does similar things and tells similar stories, but in different locations, to different audiences, or in a different temporal order. There are striking differences about the events after Jesus' death. The original version of the earliest Gospel—that of Mark—ends with an empty tomb; the brief description of an appearance of the risen Christ comes only in a later addendum to the text. Both Matthew and Luke provide much more elaborate stories of Jesus' appearances to the disciples, but the locations, and people involved, are remarkably different. John, the latest of the Gospels, provides the most extensive narrative, giving details of the appearances of the risen Christ that are at variance with those of all the others—and only John picks out an individual disciple, Thomas, who refuses to believe in the resurrection without seeing and touching. Not all these conflicting reports can be literally true.

There are similar difficulties with the beginnings of Jesus' life. Mark provides no details, but begins with the adult Jesus coming to the Jordan to request baptism by John the Baptist. Both Matthew and Luke, however, tell elaborate stories, and one of Matthew's formulations provides a clue about how they proceeded. A distinctive feature of Matthew's Gospel is his interest in connecting events in Jesus' life with Old Testament prophecies about the Messiah. (Overall, Matthew is most concerned with linking the nascent Jesus movement of his time—roughly 80 CE—to Jewish laws and traditions.) He turns frequently to Isaiah, using a standard Greek version of the text (the Septuagint), formulating a prophecy in language most Christians know well. "Behold! A Virgin shall conceive, and bear a Son. And shall call his name, Immanuel." The original Hebrew, however, is less biologically shocking, announcing only that a young woman shall conceive. The pre-Christian translators who crafted the Septuagint chose the Greek word *parthenos* (virgin), and thereby unwittingly inaugurated a piece of Christian theology, the Virgin birth—or, as I would prefer to put it, they led Matthew to create a myth.

The mythical character of these stories becomes ever more apparent when you compare the narratives offered by Matthew and Luke. Luke's moving version of the events surrounding the birth of Jesus requires Joseph and Mary to travel from Nazareth to Bethlehem. Matthew has no need of any such journey, since he locates them in Bethlehem all along. Matthew has wise men, but no shepherds. Luke has shepherds but no wise men. (The Christianity with which I grew up solved the problem in the obvious way by combining everything.) There are some serious difficulties in reconciling the dates. Herod, a main character in Matthew's story, died about

ten years before the appointment of the Roman official whom Luke takes to have been an administrator in the region at the time of the nativity. But I want to focus on a different detail.

Because he wants the birth of Jesus to fulfill the prophecy that the Messiah would be born in Bethlehem, Luke has to explain why Joseph and the pregnant Mary made a journey from Nazareth. His solution is offered in a beautiful passage, one that rings out in churches each Christmas (Luke 2:1–4). "And it came to pass in those days, that there went out a decree from Caesar Augustus, that all the world should be taxed. And this taxing was first made when Cyrenius was governor of Syria. And all went to be taxed, every one into his own city. And Joseph also went up from Galilee, out of the city of Nazareth, into Judea, unto the city of David, which is called Bethlehem, because he was of the house and lineage of David."⁹⁸ The overwhelming evidence is that this is complete fiction.

Not only are there no records of a census or a general taxation at this time, but, even if there had been one, this is surely not the way in which it would have been conducted. We know something about Roman attitudes toward the religious lore and ethnic traditions of the Jews—at best, they saw them as barbaric enthusiasms. We also know something about the ways in which Romans obtained population counts and how they levied taxes. Instead of moving the people about, they quite sensibly dispatched their own trusted officials. Luke invites us to think of Cyrenius as having done something quite mad. In the interests of administering some kind of census or taxation, he encourages a mass migration to bring people to the places with which particular ancestors are associated, ancestors whose importance is fixed by Jewish culture.

As a last example, consider the depiction of Pilate offered by the Gospels. The familiar story of the Roman official offering to release Jesus and encountering a baying Jewish mob has played a significant role in Christian anti-Semitism. The action Pilate contemplates, releasing a prisoner for a local religious festival, is quite unprecedented in the Roman administration of Judea, or of any other province with indigenous zealotry. It is also incompatible with what we know of the man, some of whose repressive actions are documented, who was, apparently, recalled because of protests against his harsh treatment of the Jews. What accounts for the portrait of a sympathetic figure, so different from the indications we have from other sources?

The canonical Gospels were written as the expression of a broader Hellenistic Jesus movement, after it was clear that that movement was unlikely to flourish as a reform of Jewish religion,⁹⁹ and after the Roman grip on the eastern Mediterranean had tightened. The evangelist who first recorded the story, Mark, chose a strategy of appeasing the Romans and making scapegoats of the Jews. His choice was politically adept, and probably helped the movement appeal to non-Jews in a world dominated by Rome. Yet I concur with the judgment of the Jesus Seminar, a group of theologians that has brought the most developed textual scholarship to bear on the accuracy of the Gospel narratives. "That scene, although the product of Mark's vivid imagination, has wrought untold and untellable tragedy in the history of the relations of Christians to Jews. There is no black deep enough to symbolize the black mark this fiction has etched in Christian history."¹⁰⁰

Only in the second century of our era was the Christian canon assembled. The New Testament as we have it is surely a compromise, designed to satisfy groups of believers with different

favored texts and different oral traditions. Some followers of Jesus, however, were left out. Among them were those who treasured different "Gospels"—the Gospel of Mary, the Secret Book of James, and, perhaps most interestingly, the Gospel of Thomas.¹⁰¹ This last text, discovered in 1945, overlaps with Matthew and Luke in reporting many of the familiar sayings and parables of Jesus, but also contains others that are startling.

The disciples said to Jesus, "We know that you are going to leave us. Who will be our leader?"

Jesus said to them, "No matter where you are, you are to go to James the Just, for whose sake heaven and earth came into being."¹⁰²

Thomas, for whom the Gospel is named, has private conversations with Jesus, in which he is told secrets that cannot be revealed, insights that the other disciples cannot understand. Perhaps this is why the Gospel of John is so keen to debunk Thomas' credibility, to portray him not as the privileged recipient of higher truths, but as "Doubting Thomas."¹⁰³

The documents Christians take to be canonical were chosen as the result of political struggles among many nascent Jesus movements, in which efforts to incorporate the ideas of an itinerant teacher within the framework of Judaism lost out to a more cosmopolitan vision favored by the Rome-oriented Paul. Within that cosmopolitan conception there were also variations, some of which were included in the compromise we have, others of which were eliminated as heretical. Out of this has come a collection of inconsistent documents, many of whose parts are evidently fictitious. How can reliance on this canon provide grounds for thinking that, despite all appearances, life has been planned by a powerful and benevolent deity?

The effects of scholarly study of Christian scripture have long been evident to those who have taught seminary students. In a famous letter of resignation, Julius Wellhausen, one of the great interpreters of the scriptures, acknowledged the effects of his discoveries. "I became a theologian because I was interested in the scientific treatment of the Bible; it has only gradually dawned upon me that a professor of theology likewise has the practical task of preparing students for service in the Evangelical Church, and that I was not fulfilling this practical task, but rather, in spite of all reserve on my part, was incapacitating my hearers for their office."¹⁰⁴ With reason, many evangelical sects keep the news from the scholarly front from the faithful. Often, the tactic chosen consists in flat assertions that deny the reasoned judgments of scholars about historical or linguistic matters. The *King James Study Bible* (designed, as the note to the reader explains, to provide a reliable guide for "conservative Christians") responds to the lengthy discussions about the priority of Mark and about the existence of an additional source from which both Matthew and Luke drew with a single sentence: "There is still very strong reason to hold to the priority of Matthew as the first gospel account of the life of Christ."¹⁰⁵ The faithful are given neither an extended account of what the scholarly consensus is, nor of what the "very strong" reasons are for rejecting it.¹⁰⁶

* * *

Although I have been concentrating on Christianity, and on the difficulties involved in accepting the claims made by canonical Christian texts as literally true, similar points apply to other religious traditions. The sources of difficulty are typically

the same. Extraordinary events are supposed to have taken place in the more-or-less distant past, to have been recorded in writing or passed down in oral recitation, so that people who live today should believe in the literal truth of the cherished stories. When the processes through which these stories have come down to us are examined, there are often grounds for doubt about the marvelous events that initiated the process, often internal contradictions in the variant versions, often signs of political struggles in formulating orthodoxy. This, however, is merely the beginning of trouble for an uncritical reliance on texts and traditions. As understanding of the diversity of the world's religions increases, it's hard for believers to avoid viewing themselves as participants in one line of religious teaching among many. You profess your faith on the authority of the tradition in which you stand, but you also have to recognize that others, people who believe very different, incompatible things, would defend their beliefs in the same fashion. By what right can you maintain that your tradition is the right one, that its deliverances are privileged?

For all their doctrinal disagreements, Muslims, Jews, and Christians agree on many things. If, however, you had been acculturated within one of the aboriginal traditions of Australia, or within a society in central Africa, or among the Inuit, you would accept, on the basis of cultural authority, radically different ideas. You would believe in the literal truth of stories about the spirits of ancestors and about their presence in sacred places, and you would believe these things as firmly as Christians believe in the resurrection, or Jews in God's covenant, or Muslims in the revelations to the Prophet. Victorian explorers, confident in the superiority of their race, their culture, and their particular version of Christianity, collected

stories from the dark continents they visited, labeling them as primitive superstitions. They failed to observe that the cultural processes that generated the exotic beliefs they recorded were exactly the same as those that lay behind their own religious doctrines—in all instances, there is a long sequence of generations along which stories of extraordinary happenings are passed on as the lore of a social group. To what can a believer within any particular tradition—Christianity, say—point to show why it is uniquely right, and its rivals wrong?

The trouble with supernaturalism is that it comes in so many incompatible forms, all of which are grounded in just the same way. To label someone else's cultural history as "primitive" or "superstition" (or as both) is easy, until you realize that your basis for believing in the literal truth of the wonderful stories of your own tradition is completely analogous to the grounds of the supposedly unenlightened. There are no marks by which one of these many inconsistent conceptions of the supernatural can be distinguished from the others. Instead, we have a condition of perfect symmetry.

Perhaps the symmetry can be accepted. Perhaps all these traditions are fundamentally correct, and we should focus on the core doctrine on which all agree. Yet as comparative studies disclose more and more differences among religions, some polytheistic, some monotheistic, and some without any conception of a personal deity, the more attenuated any such "core doctrine" becomes. Hence you arrive at frustratingly vague definitions of "religion" that appeal to some "acceptance of the transcendent." Even if it were supposed that the traditions were right about the doctrines they hold in common, the specific stories—the resurrection, the covenant, the divinely inspired recitation—would have to be abandoned.

It would be necessary to move beyond supernatural religion to spiritual religion.

Social and historical studies of the growth and spread of major religions reinforce this point. Although we lack direct evidence for many religious traditions—including all those that flourished before the invention of writing—it is possible to recognize the features that have fueled the rise of successful modern sects, and to explore some historical cases. A crude hypothesis based on what evidence we have suggests that religions spread within societies when they offer members of the societies something they want. They spread across societies when they encourage social cohesion, and when they enable a society to deal successfully with its neighbors. The details are likely to differ from case to case, and a blanket claim of this sort is only the prelude to serious history. The principal point, however, is that religious doctrines don't have to be true to be successful. Truth, like Mae West's goodness, may have nothing to do with it.

Why did Christianity succeed in the Greco-Roman world? Statistics suggest that upper-middle-class pagan women were relatively more attracted by the religion—perhaps because they perceived the lives of their Christian counterparts as better than their own (that Christian husbands were more faithful and less abusive).¹⁰⁷ An intriguing conjecture proposes that, in an urban world marked by filth and recurrent outbreaks of plague, the Christian injunction to comfort the sick would have raised survival rates in times of epidemic, simply because of the beneficial effects of giving water and other forms of basic care. Outsiders would have seen that Christians recovered more frequently, and might have attributed this to divine concern for their well-being.¹⁰⁸

Sociological studies of contemporary religious groups have documented the ways in which churches can attract members by offering companionship to lonely people.¹⁰⁹ Provided that a bundle of religious doctrines satisfies the needs of group members, promotes harmony within the group, and indirectly helps in generating new descendant groups or in taking over others, those ideas are likely to spread and may even become prevalent. Surely some religions have been very good at doing these things, at encouraging, for example, acts of great sacrifice to achieve religious rewards. We cannot yet aspire to tell the full story of why religions of so many different kinds have been prevalent across human societies, but the specific instances in which historical and sociological explanations can be given strongly suggest that the causes of success stem from the attractiveness of stories and alleged historical claims, on the emotions they provoke and the actions they inspire—and that they have nothing to do with the literal truth of those tales and histories.

* * *

Up to this point, the enlightenment case proceeds as if the religious believer had no direct access to sources of religious truth, but must rely on a tradition originating in the very distant past. Many religious people, however, think differently.¹¹⁰ Christians talk of encounters with Jesus, and of an enduring presence in their lives. According to the statistics, religious experience is quite widespread—although perhaps the statistics are worrying, because the rates vary quite dramatically from year to year, decade to decade.¹¹¹

I have no doubt that the overwhelming majority of the reports of religious experience are perfectly sincere. The im-

portant issue is why they occur. Religious people would prefer to think that the visionaries have, at least temporarily, a special ability to discern aspects of reality that ordinary experience can't disclose. The obvious scientific rivals invoke psychological and sociological causes—stimulation of normal sensory channels, against particular psychological backgrounds, induces people to assimilate their current experiences to the religious framework supplied by their culture, or by some culture with which they are familiar.

How can this issue be resolved? Not in the ways in which we corroborate other kinds of special powers—as when we test the musician who claims absolute pitch or the gourmet who is reputed to have an ability to detect the types and vintages of wines. Without an independent means of checking the believer's reports, it is hard to see how to reach any firm judgment. The point has been appreciated by religious groups, who have struggled to find ways of assessing self-described visionaries. The solution achieved in medieval procedures for certifying those with genuine religious experience was to compare their affirmations with the orthodoxies of church tradition. But, since religious experience is supposed to validate religious doctrine in a way that appeal to tradition cannot, that solution is inept as a resolution of the issue that confronts us.

Once again, the vast array of forms religious experience takes causes trouble. The visions of Jews, Muslims, and Christians differ in ways we might think of as fundamental until we attend to the reports offered by the Yoruba, the Inuit, and Australian aborigines about their own religious experiences. To propose that the religious experiences of those whose lives are full of encounters with goddesses, ancestors, and totemic spirits are to be understood in psychosocial terms, while those

reported by Western monotheists are accurate representations of religious truths invites obvious and unpleasant questions about why the psychosocial explanation shouldn't be adopted more broadly. To maintain that all the religious experiences are completely correct is evidently impossible. The reports of visionaries are massively inconsistent. No religious believer thinks—or could think—that the central stories of all religions are literally true.

Once again, the obvious way to salvage some role for religious experience is to suggest that all sincere religious experiences disclose some aspect of the divine, but that this is overlaid and colored in each case by the social and psychological constructions of individuals and their rival cultural traditions. The Catholics who see the Virgin in a window in Brooklyn are enjoying a vision of something that transcends mundane reality, but they interpret it according to the specific ideas of their religious culture. The specific ideas cannot be recognized as literally correct—all we can say is that they, like their Yoruba counterparts, have been in touch with some “element of ultimacy.”

A response like this cannot support supernaturalism—again, it points in the direction of spiritual religion. Supernaturalists cannot find it reassuring to be told that the idea of Jesus as a constant living presence is a psychosocial construction, even though the core of the experience is an accurate sense of the “transcendent.” Moreover, what we know about the contexts in which religious experiences occur readily fosters a deeper skepticism. Troubled people, people whose emotional lives are disturbed, are significantly more likely to report religious experiences, and there are fragmentary suggestions that the administration of hallucinogens increases the rate at which such experiences occur.¹¹² It would be wrong to

maintain that we know that sincere religious experiences are the products of delusion. We should recognize clearly that we don't know what to make of some parts of human experience. Given the extent of our ignorance in this area, supposing that religious experiences can somehow be assimilated to the categories and doctrines that have descended to us from ancient times is a blind leap.

Faith is frequently prized for its readiness to make that kind of leap. Many religious people would surely be impatient with the arguments I have rehearsed here, and would declare that the importance of religious commitment lies in the fact that it does not seek reasons. The proper religious attitude is one of trust. “So,” a devout Christian, or Muslim, or Jew might declare, “I simply accept these claims about past events, these doctrines about what people should do and what they should aspire to be. To ask me to provide reasons—or to play clever games that try to show I have no reasons—is entirely beside the point.”

Yet here the enlightenment case presses from a new direction. If you are going to use your religious attitudes to run your life, if you are going to let religious doctrine guide you to decisions that will affect the lives of others, then the willingness to leap without evidence, to commit yourself in the absence of reasons, deserves ethical scrutiny. As William Clifford, a late Victorian mathematician and apologist for science, saw very clearly, we do not usually endorse the behavior of people who act without reason, ardently convinced that things will turn out well. In Clifford's famous example, the ship owner whose wishful thinking leads him to send out an unsound ship is rightly held responsible when the passengers and crew drown. The earnest religious believer who supposes that God has commanded him to kill his son, or that religious doctrine

requires him to eliminate the ungodly, or that it is wrong to undertake the operations doctors prescribe to save the lives of children, will subordinate ethical maxims he would otherwise use to guide his conduct to the dictates of faith, faith that is admittedly blind, supported by no defensible reason. We should protest that blind commitment, for, if it is allowed to issue in action, it is profoundly dangerous.

In practice, people don't protest, because they think of the religious doctrines that move them, and move their friends, as sources of a correct ethical attitude. If the enlightenment case, as developed so far, is cogent, they can have no basis for this judgment. It, too, is an article of blind faith. The true character of acting from unreasoned faith is revealed when you look at the actions of those who are moved by a different faith, at militant fanatics who aim to murder those who do not conform to their religion, for example. Christians will naturally think of themselves as different, but, as we have seen, there is no basis for holding that the religious doctrines they avow are any more likely to be correct than those of other faiths, even of radical and intolerant versions of other faiths. The blindness with which they commit themselves to acting in accordance with their preferred interpretation of a particular text is no different from that of people who would express a similar enthusiasm for the *Protocols of the Elders of Zion* or who would regard *Mein Kampf* as divinely inspired.

The same ethical mistake pervades all of these instances. Unreasoned acceptance is only tolerable if the religious attitudes adopted are so confined and restrained that they have no implications for consequential moral decisions. Blind faith requires a firm appreciation of the importance of not being earnest.¹¹³

The elements of the enlightenment case against supernaturalism are well established. They have been elaborated in considerable detail by many scholars during the past two centuries. I have been attempting to clarify the logical structure, and logical force, of these combined elements. My whirlwind tour through the enlightenment case aims to support two points. First, it shows the serious difficulties supernaturalists face when they try to invoke the unfathomable mystery of God's plan as a way of evading the apparently overwhelming evidence that the world in which we live was not designed by a providential Creator. Second, it enables us to understand why Darwin is the source of such vehement opposition, why he is seen as the chief villain in the promotion of atheism.

* * *

The line of argument I have developed throughout this essay shows Christianity in retreat. The evidence for an ancient earth compels us to say goodbye to Genesis, so that at least part of the Bible must be read as not literally true. (As I have noted above, this is an ancient and respectable approach to reading the scriptures.) Darwin's discovery of a single tree of life undercuts creationism, and requires that any action on the part of the deity must be remote. When we understand the messiness of the processes through which life unfolds, any design must be judged as largely unintelligent, any Creator as, at best, whimsical and capricious. Providential religion can only be sustained by supposing that God's design is an unfathomable mystery.

The attempted retreat of providentialism, the vague gesture toward unknowable purposes, can only be sustained if there's

some ground for supposing that appearances are deceptive, that, behind the muddle of life, there is a Creator with deeper intentions. Any attempt to save providentialism must be committed to a specific piece of supernaturalist doctrine. Here, the enlightenment case exposes the troubles for supernaturalism that Darwinism brings into prominence, for it shows that there is no basis for holding that the received stories of this Creator are literally true. Parts of the enlightenment case are clearly separable from any Darwinian ideas, as with the critical reconstruction and analysis of scriptural texts. Yet there are good reasons why Darwin, not Wellhausen or Hume or Voltaire, is taken as the leader of the opposition to what is valuable and sacred.

For the enlightenment case is not widely appreciated, and most of the brilliant thinkers who have developed it are unread, if not unknown. More exactly, they tend to be unread and unknown in the United States. Adolescent students in European schools study some of the relevant figures, to a lesser extent in Britain, to a much greater extent in the countries of Western continental Europe.¹¹⁴ American defenders of supernaturalist or providentialist religions, some of them literalists about Genesis, others literalists about significantly fewer of the scriptures, are protected from the shock of biblical criticism, of sociological history of religions, of anthropological studies that show the diversity of religious ideas, of psychological evidence about religious experience, and of ethical reflections on the dangers of unreasoned decisions. When these potentially dangerous ideas surface, they are dismissed with brusque denials—the strategy of the *King James Study Bible* might, rather harshly, be described as one of lying for God.¹¹⁵ Not only are the individual pieces mostly unrecog-

nized, but the enlightenment case is rarely presented as a whole, as I have developed it (albeit briefly) here.

Darwin, however, is visible. He is in the schools, potentially corrupting the youth and leading them to spurn the precious gift of faith. He serves as the obvious symbol of a larger attack on supernaturalist religion, about which thoughtful Christians know, even if they are not aware of all its details. Their concern is justified, although they may think, wrongly, that the onslaught on their faith is contained and condensed in Darwinism. For the enlightenment case will not surface in the education of their children, at least not until they attend universities, and probably not in any systematic way, even then. To defend the faith the important step is to keep Darwin out of the classroom, or, failing that, to “balance” his corrosive influence.

Intelligent design-ers, like the scientific creationists before them, promise a way to do just that. They raise sufficient dust about “unsolvable problems” for Darwinian evolution to give concerned people the hope that there is a genuine alternative, friendlier to faith and acceptable with good conscience. When these advertisements are probed, as I have probed them in previous chapters, they are found to be thoroughly false. Overwhelming evidence favors the apparently menacing claims of Darwinism. Worse still, the threat to providentialist and supernaturalist religions, forms of religion that are firmly entrenched in many contemporary societies, turns out to be genuine.

Where does this barrage of arguments leave us? Darwin’s most militant defenders would insist that they take us all the way to secularism, even that they constitute a knockdown case for atheism. I dissent from that conclusion for two reasons. First, even though the enlightenment case demonstrates that, taken as literal truth, the stories and historical claims of all the

religions about which we know are overwhelmingly likely to be mistaken, it does not follow that the world contains nothing beyond the entities envisaged by our current scientific picture of it. The history of inquiry shows that our horizons have often expanded to encompass things previously undreamed of in anyone's natural philosophy. Whether inquiry will ever disclose anything that can satisfy the religious impulse, that can merit the title of "transcendent," is itself doubtful, and we can be confident that, even if this remote possibility is realized, it will not approximate any of the stories our species has so far produced. It would be arrogant, however, to declare categorically that there is nothing that might answer to our vague conception of the transcendent—there is too much that we know that we do not yet know.

Second, and more importantly, the critique of providentialism and supernaturalism leaves open the possibility of what I have called "spiritual religion."¹¹⁶ Each of the major Western monotheisms can generate a version of spiritual religion by giving up the literal truth of the stories contested by the enlightenment case.¹¹⁷ How can this be done? I shall illustrate the possibility by using the example of Christianity.

Spiritual Christians abandon almost all the standard stories about the life of Jesus. They give up on the extraordinary birth, the miracles, the literal resurrection. What survive are the teachings, the precepts and parables, and the eventual journey to Jerusalem and the culminating moment of the Crucifixion. That moment of suffering and sacrifice is seen, not as the prelude to some triumphant return and the promise of eternal salvation—all that, to repeat, is literally false—but as a symbolic presentation of the importance of compassion and of love without limits. We are to recognize our own predicament,

the human predicament, through the lens of the man on the cross.¹¹⁸

Spiritual Christians place the value of the stories of the scriptures not in their literal truth but in their deliverances for self-understanding, for improving ourselves and for shaping our attitudes and actions toward others. Yet spiritual Christianity—like spiritual Judaism or spiritual Islam—is vulnerable from two directions. To those who have grown up in a more substantial faith, who have not appreciated the force of the enlightenment case and who see no need to abandon supernatural religion, the spiritual version seems too attenuated to count as genuine religion at all. So, even though many contemporary Americans agree that large portions of scriptural texts should not be read literally, most of them do not completely abandon supernaturalism in favor of spiritual religion. They continue to affirm that a personal God made a covenant with the Jews or that Jesus literally rose from the dead.¹¹⁹ Where spiritual religion is most clearly visible, in explicit denials that the Jews were chosen in any straightforward sense or in attempts to explain the natural events that lie behind the conflicting resurrection narratives of the Gospels, the content of the religion seems to consist of powerful ethical ideas and exemplars.¹²⁰

From the other side, secular humanists will see spiritual religion as a last desperate attempt to claim a privilege for traditions whose credentials have been decisively refuted. Secularists can find value in the teachings of Jesus, inspiration in the image of the sacrifice on the cross—but also in ideas of the Torah or the Qur'an, in the sayings of the Buddha, in Socrates and Augustine, Kant and Dewey, Gandhi and Du Bois. Moreover, they can acknowledge the power of the stories, their

ability to move and to inspire, while insisting that these are not unique to religious literature. Why not go all the way, to a cosmopolitan understanding of thought about what is valuable and worth achieving, a secular conception that celebrates the very best in the ideas and stories from many different traditions, some of them unquestionably secular?

Pressed from two flanks, spiritual religion can easily appear unstable. On one side it is liable to lapse from clearheaded acceptance of the enlightenment case and to topple back into supernaturalism. On the other, it may replace partiality to a particular tradition—Judaism or Christianity say—and metamorphose into a cosmopolitan secular humanism. For a secular humanist, like me, spiritual religion faces the challenge of providing more content than the exhortations to, and examples of, compassion and social justice that humanists enthusiastically endorse, without simultaneously reverting to supernaturalism.¹²¹ Although I do not see how that challenge can be met, it is not clear how to circumscribe all possible responses to it—and thus to close the case against religion, period. The enlightenment case culminates in a (polite) request to the reflective people who go beyond supernaturalism to spiritual religion, to explain, as clearly as they can, what more they affirm that secular humanists cannot grant.

That, I suggest, is where reason leads us. But it cannot be—nor should it be—the end of my story.

* * *

For, though they speak with the tongues of men and of angels, the voices of reason, as they have sounded so far in this essay, should not expect to carry the day. The conclusion they draw deprives religious people of what they have taken to

be their birthright. In its place, they offer a vision of a world without providence or purpose, and, however much they may celebrate the grand human adventure of understanding nature, that can only appear, by comparison, to be a mess of pottage. Often, the voices of reason I hear in contemporary discussions of religion are hectoring, almost exultant that comfort is being stripped away and faith undermined; frequently, they are without charity. And they are always without hope.

Religion is, and has been, central to the lives of most people who have ever lived. From what we know of the history of the growth and spread of particular creeds, its pervasiveness is understood in terms of the social purposes it serves, and nobody should expect it to disappear without a struggle, under the impact of what proclaims itself—accurately, I believe—as reason. For the benefits religion promises to the faithful are obvious, and obviously important, perhaps most plainly so when people experience deep distress. Darwin doesn't provide much consolation at a funeral.

Of course, secularism has its own revered figures, people who met personal tragedies without turning to illusory comforts. Hume faced his painful death stoically, persisting in his skepticism to the end. T. H. Huxley, Darwin's tireless champion, wracked with grief at the death of his four-year-old son, refused Charles Kingsley's proffered hope of a reunion in the hereafter. Perhaps these figures should serve as patterns for us all, admirable examples of intellectual integrity and courage that will not take refuge by turning away from the truth, by supposing, with the supernaturalists, that stories about life after death are literally true.

It is crushingly obvious, however, that those most excited by the secular vision—those who celebrate the honesty of

spurning false comfort—are people who can feel themselves part of the process of discovery and disclosure that has shown the reality behind old illusions. Celebrations of the human accomplishment in fathoming nature's secrets are less likely to thrill those who have only a partial understanding of what has been accomplished, and who recognize that they will not contribute, even in the humblest way, to the continued progress of knowledge. Hume's and Huxley's heirs, like Richard Dawkins for example, preach eloquently to the choir, but thoughtful religious people will find their bracing message harsh and insensitive. How can these celebrants of secularism understand what many other people stand to lose if their arguments are correct? How can they expect those people to be grateful for the mess of pottage they offer?

Because such questions naturally arise, many people resist those arguments, hoping that they are incorrect or incomplete. They know that the case launched against their cherished beliefs is clever, but they are also tempted by the thought that the cleverness is flawed. If others, recognizably more sympathetic to their faith, can point however vaguely to potential faults, they will be grateful—and they will be disinclined to inspect too closely the gifts they are offered. So, again and again, they view Darwin as the enemy of what they hold most dear, and they resist Darwinism with whatever devices their apparently sympathetic allies can supply.

Christian resistance to Darwin rests on the genuine insight that life without God, in the sense of a Darwinian account of the natural world, really does mean life without God in a far more literal and unnerving sense. Even those who understand, and contribute to, the enlightenment case can find the resultant picture of the world, and our place in it, unbearable. William

James' arresting image of the high cliffs that surround a frozen lake, on which the ice is slowly melting, testifies to his own yearnings for some way of enlarging, or enriching, the scientific worldview he felt compelled to accept. In our own day, the religious scholar Elaine Pagels has provided a moving account of her similar needs.

Throughout her distinguished career, Pagels has explored the variant doctrines within early Christianity, showing with great lucidity and subtlety how the canonical texts of the New Testament represent a selection from a much more varied set of religious ideas. She recognizes, as Wellhausen did more than a century before her, that her work undercuts the thought that central claims of the orthodox documents are literally true. Her religious perspective aims to move "beyond belief," to a spiritual religion of seeking and individual discovery, one that can find inspiration in many Christian sayings and stories, as well as in the teachings of other religions. The Gospel of Thomas, left out of the canon in the interests of "Christian truth," strikes her as particularly suggestive in pursuing her own quest.¹²²

She would not always have viewed her life this way, for, as she explains, there was a long period during which she did not attend church. Then, after a morning run the day after she learned that her infant son had a disease that would lead to a very early death, she paused in the vestibule of a New York church. "Standing in the back of that church, I recognized, uncomfortably, that I needed to be there. Here was a place to weep without imposing tears upon a child; and here was a heterogeneous community that had gathered to sing, to celebrate, to acknowledge common needs, and to deal with what we cannot control or imagine. Yet the celebration in progress spoke of hope; perhaps that is what made the presence of death bearable.

Before that time, I could only ward off what I had heard and felt the day before."¹²³ This poignant account contains, I believe, much that is deeply insightful.

Pagels found uplifting music. She met sympathetic people, willing to listen and to talk with her about important things. She discovered a place in which there was no need to hide her grief. She became part of a family, a "family that knows how to face death," as she puts it.¹²⁴ That family brought her comfort.

In the most obvious sense, she did not find hope—or so, at least, I believe. The celebration may have told the familiar, comforting, Christian stories. Yet, tempting though it might have been to brush aside the enlightenment case in the need for consolation, in such urgent need as Pagels surely had, the hope generated by taking those stories as literally true would have been illusory. To believe in the genuine possibility of a future that would bring her personal tragedy to a happy ending—to envisage a reunion in the hereafter, as Kingsley suggested to the grieving Huxley—would be self-deception.

The importance of Pagels' precise description of what occurred in the church, and of the perspective she develops in her book, lies, I suggest, in the genuine possibility of comfort without supernaturalist hope. When the soprano soloist sings the movement Brahms added at the last moment to his *German Requiem*, "I will comfort you as one whom his mother comforteth" ("*Ich will euch trösten, wie einen seine Mutter tröstet*"), the promise is literally false—there is no God who will wipe the tears from our eyes—but the music itself consoles. In deeper and more enduring ways, so do the love and sympathy of others, the support of a caring community.

There is a tendency for those who can accept life without God to pride themselves on their intellectual integrity. They,

unlike the ostriches of the "booboisie," can face the facts without flinching. It is easy to think that the dominance of secular perspectives within universities, and in other places where highly educated people are found, is readily explained in terms of clear-headedness and tough-mindedness. These are people who can appreciate the force of the arguments, and who will not allow reason to be clouded by weak emotions. I doubt, however, that that is a complete account. Academics and scientists, as well as other professionals, can more easily sustain a sense of their lives as amounting to something, even in the absence of faithful service to God. Their lives are centered on work that is frequently significant and challenging, exciting and rewarding. Typically, they belong to communities in which serious issues can be openly discussed, in which there are readily available opportunities for the sharing of troubles and concerns. Even so, when unanticipated personal trouble strikes, the mechanisms for providing comfort may be quite inadequate.

Pagels' moving testimony is important to remind us of the need for comfort, and, in doing so, it opens a window into the lives of the people who most vehemently resist Darwin. They are typically not as lucky as the fortunate secularists who can affirm the enlightenment case, embrace life without God, and get on with their interesting work, their comfortable leisure pursuits, and their rewarding discussions with friends and colleagues. For many Americans, their churches, overwhelmingly supernaturalist, providentialist churches, not only provide a sense of hope, illusory to be sure, but also offer other mechanisms of comfort. They are places in which hearts can be opened, serious issues can be discussed, common ground with others can be explored, places in which there is real

community, places in which people come to matter to one another—and thus come to matter to themselves. Without such places, what is left?

Moreover, for those who have been victims of injustice, who have found themselves stigmatized or marginalized by the secular state, cut off from its benefits and subjected to unfair burdens, religious gatherings can serve as occasions for focusing legitimate protest. From the Old Testament prophets to Martin Luther King, Jr., religious leaders have offered the poor and downtrodden opportunities to reclaim their rights. From the meeting houses that have broadcast the outcry of the urban poor to the liberal Catholic churches of Latin America, religion has provided a place in which individual sufferings can be united in a political movement. At their best, the religions of the world have championed the causes of the oppressed.

To resist Darwin, or the enlightenment case that looms behind him, is hardly unreasonable if what you would be left with is a drab, painful, and impoverished life. For people who are buffeted by the vicissitudes of the economy, or who are victimized by injustice, or who are scorned and vilified by the successful members of their societies, or whose work is tedious and unrewarding, people for whom material rewards are scanty or for whom the toys of consumer culture pall, for people who can unburden themselves most readily in religious settings and who find in their church a supportive community, above all for people who hope that their lives mean something, that their lives matter, the secular onslaught threatens to demolish almost everything. That is why the voices of reason are as sounding brass or as tinkling cymbals.

Writing in the 1920s, thoroughly aware that the enlightenment case had created a “crisis in religion,” America’s premier

philosopher, John Dewey, argued for a new attitude to religion and the religious. We need, he suggested, outlets for the emotions that underlie religion, and this requires the emancipation of the religious life from the encumbrance of the dogmas of the churches, of their commitment to the literal truth of their favored stories. The task is to cultivate those attitudes that “lend deep and enduring support to the processes of living.”¹²⁵ Dewey was, I believe, pointing to a position on which spiritual religion and secular humanism can converge, the former by erecting barriers against sliding back into supernaturalism, and embracing a cosmopolitan conception of the contribution of many different traditions to our understanding of the deepest questions about ourselves and our ideals, the latter by giving up its bracing recommendations to move beyond superstition, and by appreciating the genuine needs that stand behind religion. “It is the claim of religions that they effect this generic and enduring change in attitude. I should like to turn the statement around and say that whenever this change takes place there is a definitely religious attitude. It is not *a* religion that brings it about, but when it occurs, from whatever cause and by whatever means, there is a religious attitude and function.”¹²⁶ At the beginning of the twenty-first century, we haven’t achieved the broadening of the religious life Dewey envisaged.¹²⁷ For most Americans, the only occasions that cultivate the attitudes that support the processes of living are dominated by the doctrines of the traditional religions. If anything, the forms of Christianity that have been most successful in recruiting new members place heavy emphasis on the full acceptance of dogma, on literal interpretations of the canonical texts. Despite the demolition of the doctrines that Darwin and his enlightenment allies ought to have wrought, scriptural myths pervade many

American lives because we have found no replacements for the traditional ways of supporting the emotions and reflections essential to meaningful human existence.

None of this is to deny that religion, as it has been elaborated in the substantive stories of the major traditions, is also capable of doing enormous harm. The history of religions reveals not only the consolations of the afflicted and the legitimate protests of the downtrodden but also the fanatical intolerance that expresses itself in warfare and persecution, that divides families, cities, and nations, that forbids people to express their love as, and with whom, they choose. We should not forget the last part of the enlightenment case, and its proper repudiation of subordinating ethical reflection to blind faith. It is possible to appreciate the ways in which the religions human societies have developed have met genuine human needs, without forgetting that the myths they have elevated as inviolable dogma have often been destructive. As one of many examples, we might recall the verdict of the Jesus Seminar. Mark's imaginative fiction about Pilate and the Jewish mob has been the source of profound misery and harm. Dewey saw our situation clearly—the challenge is to find a way to respond to the human purposes religion serves without embracing the falsehoods, the potentially damaging falsehoods, of traditional religions. We need to make secular humanism responsive to our deepest impulses and needs, or to find, if you like, a cosmopolitan version of spiritual religion that will not collapse back into parochial supernaturalism.

If the issues were clearly understood, that would stand forth as our crisis in religion, expressed in the recurrent battles about secular knowledge, of which the disparaging of Darwin is the most evident example. Why is evolution still controversial in

the United States, even though opposition to Darwin is viewed with surprise and disdain in virtually all the rest of the affluent world? I offer a speculative answer, one that only touches on some dimensions of the issue.¹²⁸ American life is often a highly competitive scramble for material goods, one in which many people do not fare well. The social evolution of cities, small towns, and suburbs has led to increasing atomization, with ever fewer opportunities for shared civic life. Unlike their counterparts in Western Europe, Americans are often unprotected against foreseeable misfortunes. When difficulties threaten, or when they strike, people have few opportunities to converse about their worries and fears. When the material rewards seem tawdry and unsatisfying, when consumer culture appears arid and empty, when people have no sense of why their lives matter, they lack places in which to air their thoughts to others, to engage in exploration of possibilities. Many Americans can turn only to the churches for the sense of community that addresses the insufficiencies in their lives. There are often no secular alternatives. For plenty of Americans, there is no counterpart to the neighborhood pub or the piazza.

The democracies that have most fully appreciated the enlightenment case, that have been most successful in the transition to secularism, are those in which there are social networks of support. Citizens are protected from the risk of severe poverty; they are provided opportunities for taking care of their health.¹²⁹ Above all, there is a sense of community life, secular spaces in which people gather, and in which they can talk about their hopes and aspirations, their anxieties and troubles. Gatherings of this sort can provide the occasion for discussions that bring people to see what matters to them, what makes their lives significant—or, perhaps, the experience of

the gathering itself, independently of what is said, can give a sense of meaning, of mattering. All these forms of support might still prove inadequate to the most extreme shocks that can beset our lives—they might not answer to all the needs that Pagels felt, and found met by the church “family.” Nevertheless, to look for such systems of support, to develop and extend them to meet our human needs, to offer people opportunities to confront more directly what their lives might mean and why they might matter, seems to me to be the best direction in which to find a solution for our religious crisis.

There are, I believe, two sides to our problem, one social and one intellectual. The intellectual aspect arises because the most obvious places in which people can seek answers to the question of what their lives mean and why they matter are places dominated by supernaturalist religion, or, secondarily, are literary and philosophical texts imbued with supernaturalist doctrine. Recent philosophy, especially, but not only, in the English-speaking world has found little time for larger questions about the meaning and value of human lives, and the theologies of spiritual religions are complex and not broadly accessible.¹³⁰ We are a long way from William James’ forthright declaration, “The whole function of philosophy ought to be to find out what definite difference it will make to you and me, at definite instants of our life, if this world-formula or that world-formula be the true one.”¹³¹ Yet if philosophers since James have treated the questions of how “world-formulas” bear on human lives with distaste or with disdain, writers and artists have been less fastidious, exploring the possibilities for meaningful life in a world beyond supernaturalism. One way to do philosophy as James conceived it would be to explain and elaborate on literary and artistic insights.¹³² The intellectual

problem, then, is urgent, deep, often neglected by champions of secularism—but not, I think, hopelessly intractable. If, in these last pages, I have focused more on the social side of the problem, it is both because I believe that social preconditions need to be met before intellectual solutions to questions about life’s significance can be properly appreciated and assessed, and also because a sense of community can itself bring reassurances about the value of human lives. Fortunate people, embedded in well-functioning communities, can feel, deeply and securely, that their lives matter, without interrogating why this is so.

I offer only the roughest sketch of a serious problem, one of which intelligent design is the latest symptom. The vehement opposition to Darwin results in large measure from the existence of a powerful case, one in which Darwin’s ideas play a significant and highly visible role, against supernaturalism and providentialism, the most widespread forms of Christianity and other traditional Western religions, coupled with a recognition that endorsing that case would leave many lives impoverished and empty. With good reason, people refuse to sell their souls for Wales, to trade what they view as their birthright for a mess of pottage.

There is truth in Marx’s dictum that religion, more precisely supernaturalist and providentialist religion, is the opium of the people, but the consumption should be seen as medical rather than recreational. The most ardent apostles of science and reason recommend immediate withdrawal of the drug—but they do not acknowledge the pain that would be left unpaliated, pain too intense for their stark atheism to be a viable solution. Genuine medicine is needed, and the proper treatment consists of showing how lives can matter. An essential

component of it is to address the social shortcomings to which I have pointed. We should look more carefully at the causes of the pain, the harsh competitiveness of American life, the lack of buffers against serious ills, the atomization of society, the vapidness of much secular culture, and above all, the absence of real community. We should articulate, as clearly as can be done, the possible routes along which lives can find significance. In addressing these issues we may discover that the deliverances of reason can be honored without ignoring the most important human needs—and, going beyond supernaturalism, that we can live with Darwin, after all.

NOTES

PREFACE

1. Charles Kitcher, "Lawful Design: A New Standard for Evaluating Establishment Clause Challenges to School Science Curricula," *Columbia Journal of Law and Social Problems*, 39:4, 2006, 451–494.

TEXT

2. Henry Morris, *The Remarkable Birth of Planet Earth* (San Diego: Creation Life Publishers, 1972), 75.
3. Theodosius Dobzhansky, "Nothing in Biology Makes Sense Except in the Light of Evolution," *American Biology Teacher*, 35, 1973, 125–129.
4. Percival Davis and Dean H. Kenyon, *Of Pandas and People*, 2nd ed. (Dallas: Haughton Publishing Company, 2004), ix.
5. This is made clear by the decision in *Lemon v. Kurtzman*.
6. There are earlier sources for the style of argument, both in the Christian and Islamic traditions. See, for example, Thomas Aquinas' "Fifth Way" (*Sunma Theologiae*, part 1; readily available

- in Paul Sigmund, ed., *Saint Thomas Aquinas on Politics and Ethics* [New York: Norton, 1988], 32) and Averroes' "On Proving God's Existence," in *Faith and Reason in Islam* (Oxford: Oneworld, 2001). Interestingly, one of Hume's protagonists, Cleanthes, provides an elegant and lucid version of the argument; *Dialogues Concerning Natural Religion*, part II (New York: Macmillan, 1986), 143.
7. This point was documented very clearly by Barbara Forrest in her testimony at the Dover trial. A transcript is available at <http://www.talkorigins.org/faqs/dover/day6pm.html>
 8. Joshua 10:12–14.
 9. Some intelligent design-ers also advocate broader cosmological claims. I shall not consider these here.
 10. The point has been commonplace among philosophers of science ever since the lucid formulation by the French physicist-historian-philosopher Pierre Duhem. See *The Aim and Structure of Physical Theory*, English translation of a work originally published in French in 1906 (Princeton: Princeton University Press, 1956). Intelligent design-ers are happy to draw on this philosophical consensus; see, for example, Stephen C. Meyer "The Scientific Status of Intelligent Design," in *Science and Evidence for Design in the Universe* (San Francisco: Ignatius Press, 2000), 151–211.
 11. For more on the problems of testability as a criterion for genuine science, see Philip Kitcher, *Abusing Science* (Cambridge, MA: MIT Press 1982), chap. 2. In formulating these points, I am grateful to Elliott Sober, who has emphasized the need for independently justified auxiliary principles in his own work on intelligent design.
 12. I am grateful to Stephen Grover for reminding me of this.

13. I believe that many of the best arguments in the recent decision in the case of the Dover School Board can be viewed in these terms. In particular, as the judge recognized, Kenneth Miller's testimony made it apparent that the teaching of intelligent design would serve no secular purpose.
14. Strictly speaking, Darwin doesn't commit himself fully to just one tree of life. The last sentence of the *Origin* speaks of a "few forms" or "perhaps just one" into which life was "originally breathed." I read this as typical caution (and the use of the Pentateuchal phraseology is surely intended both to disarm opposition and to reassure Emma). Darwin's successors have interpreted him as hypothesizing a single tree of life, and, henceforth, so shall I.
15. As with his basic evolutionary thesis about the tree of life, Darwin is cautious about the power of natural selection. Although he takes natural selection to be the chief agent of evolutionary change, he does appeal to other causes (some of which contemporary Darwinians would reject).
16. My vague formulation here glosses over an area of continued debate. While those who explore particular groups of living things, including some who are skeptical about evolution, can often agree about how to divide those groups into species, there is much controversy over the issue of how to say, in general, what species are. For presentations of some of the rival positions, see Marc Ereshevsky, ed., *The Units of Evolution* (Cambridge, MA: MIT Press, 1992).
17. Michael Behe, probably the leading figure in the intelligent design movement, adopts anti-selectionism early in his influential book *Darwin's Black Box* (New York: Free Press, 1996), 5. Unfortunately, there is a certain amount of hedging in his

- formulation, and, as we shall discover, some backsliding later in the book.
18. Critics of intelligent design may think this is too charitable, that there are no clear disavowals of novelty creationism within the movement, or even renunciations of Genesis creationism. Although it's important to recognize the possibility of backsliding, I shall begin by giving the intelligent design-ers the benefit of the doubt. (As Jerry Coyne has pointed out to me, intelligent design-ers often phrase their ideas in ways that suggest sympathy for ambitious—"unofficial"—forms of creationism.)
 19. As I have discovered, some well-educated people find this statement incredible. They suppose that nobody takes all the (nonpoetic) parts of the Bible as literal truth. Their reaction is surely based on the fact that all the religious people they know adopt nonliteralist strategies of reading the scriptures. In fact, as any survey of evangelical Christian literature reveals, literalism is extremely important to many Christians. This is apparent not only in the books written in support of "scientific creationism" (Henry Morris, *Scientific Creationism* [San Diego: Creation Life Publishers, 1974], 244; D. C. C. Watson, *The Great Brain Robbery* [Chicago: Moody Press, 1976], 11, 13), but also in the *King James Study Bible* (Nashville, TN: Nelson, 1983). The *Study Bible* begins its section on interpretation by reminding the reader that "the Bible is God's infallible, inerrantly inspired Word" (p. xxiii), and concludes a note on the opening of Genesis with the declaration that "the biblical account of Creation clearly indicates that God created the world in six literal days" (p. 6). See also note 129 below.
 20. Gilbert White, *A Natural History of Selborne*, letter XXXI (Oxford: Oxford University Press [World's Classics], 1951), 209.

21. *Proceedings of the Geological Society of London*, 1831, 313–314.
22. There is a brilliant cartoon that depicts the scene I have described—with Noah's ark serenely placed on the placid waters in the background. Unfortunately, I have lost the source.
23. For a penetrating study in the household economy of the ark, see Robert A. Moore, "The Impossible Voyage of Noah's Ark," *Creation/Evolution*, issue XI, 1983. Michael Weisberg has pointed out to me the difficulties in meeting the need to supply Noah's family and the assembled animals with fresh water—if the ark had carried enough fresh water for all its occupants to drink, it would probably have sunk.
24. The total is 1 (the original) + 2 (the two groups it produces) + 4 + \dots + $256 = 511$.
25. Magnificent though the Grand Canyon is, there are numerous other places where the history of life on our planet becomes visible—as Steffi Lewis reminded me, many railway cuttings will do.
26. In fact, the practice of dating is a little more complicated than this, in that dates are often assigned directly to lavas and ashes that occur in conjunction with rock layers.
27. For further discussion of radiometric dating and scientific creationist attempts to question it, see Philip Kitcher, *Abusing Science*, 155–164. To appreciate the current state of the art, see Alan P. Dickin, *Radiogenic Isotope Geology*, 2nd ed. (Cambridge: Cambridge University Press, 2005).
28. Henry Morris, *Scientific Creationism* (San Diego: Creation Life Publishers, 1974), 247. I have amended Morris' own metaphor.
29. Darwin, *Origin*, 138.
30. The modification can easily be attributed to natural selection. Since eyes no longer have a function inside the caves, selection

- will favor those variants that reassign the resources previously committed to the development of the visual system.
31. Darwin, *Origin*, 167. It's worth noting that Darwin treats the creationist alternative as a potential piece of science, and rejects it, not because of its invocation of a creative agent but because it is explanatorily bankrupt.
 32. Darwin, *Origin*, 434. My preceding list of questions is drawn from *Origin*, 186, 339–341, 397–401.
 33. Darwin, *Origin*, 435.
 34. Darwin summarizes the paleontological problems in *Origin* 342–343, and devotes a whole section to the difficulty with complex organs, focusing in particular on the eye (*Origin*, 186–194).
 35. Genetic similarity provides a more fundamental criterion for assessing relationships of ancestry and descent than do the similarities in anatomy and physiology on which Darwin and his immediate successors drew. The overwhelming majority of older attributions of relationship endure, even though there are occasional instances in which genetic analysis reveals that one organism is a closer relative of another than of a third that has traditionally been taken to be its closest kin. Moreover, even brute genetic similarity can prove misleading, in that pieces of genetic material can sometimes be acquired without deriving from ancestors—viruses and bacteria can spread DNA into organisms they infect. Molecular analysis of relationships can usually identify these isolated occurrences by focusing on the systematic similarities and differences among genomes.
 36. See J. J. Yunis and O. Prakash, "The origin of man: A chromosomal pictorial legacy," *Science*, 215, 1982, 1525–30.
 37. Far less probable is a scenario in which the common ancestor had 23 pairs, for that would require three independent events of chromosomes splitting at the same place.

38. The sequence data concern the common chimpanzee. It is overwhelmingly likely that results comparing human DNA with DNA from bonobos would reveal a similar kinship.
39. Our increased understanding of the mechanisms of aging in multicellular organisms provides a wonderful illustration of this. Because of potential errors in copying DNA, multicellular organisms need DNA repair enzymes. Copying can only proceed by clipping a small amount from the DNA to be copied. So, in the replication of chromosomes in multicellular organisms, the placing of genes at the ends would involve the loss of crucial pieces of DNA. Multicellular organisms solve the problem by adding a repetitive sequence at the ends of the chromosomes—the *telomere*—and shortening this doesn't matter, at least for a while. Moreover, the telomere protects the organism against overzealous activity on the part of DNA repair enzymes, that might join chromosomes together and make cell division impossible. Of course, once the telomere has been whittled away, the cell lineage is effectively finished. That is sad, but manageable, for the somatic cells of a multicellular organism—but more problematic for the germ-line cells. They can't afford to lose their full telomeres, for, if they did, the protection would diminish from generation to generation, until, relatively speedily, it vanished. Hence there has to be another repair device, an enzyme (*telomerase*) that restores telomeres in germ-line cells. You might think that it would be advantageous to have telomerase available in all stem-cell lineages, but the disastrous effects of this are apparent in the unrestrained growth of some cancers. So the solution is imperfect—multicellular organisms live with the programmed death of most cell lineages. Telomerase has to be confined to germ-cell lineages, but there are occasional mistakes in which it becomes accessible in somatic tissues and

- allows for uncontrolled growth. This entire story shows the way in which the machinery present in unicellular organisms gives rise to the need for limiting and regulating that machinery in the different context of multicellular life. (I am indebted to Robert Pollack for conversation about these phenomena. An accessible brief account is given in his book, *The Missing Moment* [New York: Houghton Mifflin, 1999], 135–138.)
40. My argument here tacitly assumes that the designing force has particular aims, that it is directed toward creatures that don't contain unnecessary bits and pieces or problematic parts. An alternative would be to suppose that the creative agency is oriented differently. I shall consider this possibility shortly.
 41. Davis and Kenyon, *Of Pandas and People*, 113.
 42. Davis and Kenyon, *Of Pandas and People*, 137.
 43. Davis and Kenyon, *Of Pandas and People*, 136.
 44. In his testimony at the Dover trial, Michael Behe explicitly and repeatedly declined to advance any hypotheses about the power and direction of Intelligence. I shall be returning to the explanatory shortcomings of this silence in the next chapter.
 45. Davis and Kenyon, *Of Pandas and People*, 37.
 46. Darwin, *Origin*, 310–311.
 47. Phillip Johnson, *Darwin on Trial* (Washington DC: Regnery, 1991), 79. Johnson's arguments are echoed in the school text *Of Pandas and People*, 100–107.
 48. Johnson, *Darwin on Trial*, 75. As I was preparing the final version of this essay, a second jewel may have been added to the crown, with the discovery of the fossil remains of *Tiktaalik* an intermediate between fish and land-dwelling animals (*Nature*, 440, 2006, 757, 764).
 49. Johnson, *Darwin on Trial*, 75.
 50. Johnson, *Darwin on Trial*, 76.

51. The known exceptions, most famously the Burgess Shale, are extremely rare—so rare that we can take the probability to be effectively zero. (Here I am indebted to David Walker.)
52. Johnson, *Darwin on Trial*, 76. Again the school text echoes Johnson (*Of Pandas and People*, 100–101). The confusions I discuss in the text are also found in many novelty creationist discussions of the hominid fossil record (for example, in both *Darwin on Trial* and *Of Pandas and People*).
53. Francis Darwin, ed., *More Letters of Charles Darwin*, vol. 2 (London: John Murray, 1903), 379.
54. Henry Charles Fleeming Jenkin, "The Origin of Species," *North British Review*, June 1867; reprinted in David Hull, ed., *Darwin and his Critics* (Cambridge, MA: Harvard University Press, 1974), 303–344, quoted material from 315–316.
55. As David Helfand has pointed out to me, the estimates have become ever more precise: the currently accepted figure is 4.54 billion years and is taken to be correct to within 1 percent.
56. This is the title of R. A. Fisher's seminal monograph, one of the landmark achievements of twentieth-century evolutionary theory. Fisher and Sewall Wright showed how the integration of genetics and Darwinian natural selection could be articulated mathematically; Dobzhansky then applied their theoretical ideas to the study of natural populations.
57. But there are significant differences in the formation of the gametes across the entire range of living things. For an enlightening discussion of variation in this respect, see Leo Buss, *The Evolution of Individuality* (Princeton: Princeton University Press, 1987).
58. There are currently subtle issues about the extent to which mutation rates can be preferentially directed. For the sake of simplicity, I shall ignore these debates, since any greater

liberalism about evolutionary mechanisms will tend to help defenders of Darwin rather than champions of intelligent design.

59. See Peter R. Grant, *Ecology and Evolution of Darwin's Finches* (Princeton: Princeton University Press, 1986, 1999). Jonathan Weiner, *The Beak of the Finch* (New York: Vintage, 1994) provides a wonderfully accessible account of the Grants' accomplishments. Frank Sulloway, "Darwin's Finches: The Evolution of a Legend" in *Journal of the History of Biology*, 15, 1982, 1–53 is an extraordinary piece of historical detective work that demolishes the popular view that Darwin's observations of the finches on the Galapagos played a crucial role in awakening him to evolution. For a review of other studies of natural selection in the wild, and of the methods used to confirm selection in action, see John Endler, *Natural Selection in the Wild* (Princeton: Princeton University Press, 1986).
60. The Grants' work provides slightly more grounds for an optimistic assessment, in that, under swings of harsh drought and seasons of heavy rain, they were able to trace significant changes in the forms of finch beaks. For the sake of the argument here, however, I am supposing that the intelligent design-ers are demanding something far more dramatic even than this.
61. Francis Darwin, ed., *Life and Letters of Charles Darwin*, vol. 2 (London: John Murray, 1888), 352.
62. For a superbly accessible presentation of this research, see Richard Dawkins, *Climbing Mount Improbable* (New York: Norton, 1996). Another lucid, and concise, account by one of the scientists involved is Dan-Eric Nilsson, "Vision Optics and Evolution" in *Bioscience*, 39, 1989, 298–307.
63. Behe, *Darwin's Black Box*, 70. Behe uses the example of the bacterial flagellum as a parade case in many of his writings and

- presentations. See, for example, "Design at the Foundation of Life" in *Science and Evidence for Design in the Universe* (San Francisco: Ignatius Press, 2000), 120 ff.
64. Behe, *Darwin's Black Box*, 73.
 65. Perhaps not complete fantasy. The account I offer here is concordant with a recent review of the molecular details of the bacterial flagellum. See Howard C. Berg, "The Rotary Motor of Bacterial Flagella," *Annual Review of Biochemistry*, 72, 2003, 19–54. (For this reference, I'm indebted to Mel Simon.)
 66. For the full-dress treatment of the design inference, see William Dembski, *The Design Inference* (Cambridge: Cambridge University Press, 1998). For an incisive rebuttal, see Brandon Fitelson, Christopher Stephens and Elliott Sober, "How Not to Detect Design" in Robert Pennock, ed., *Intelligent Design Creationism and its Critics* (Cambridge, MA: MIT Press, 2001).
 67. Behe, *Darwin's Black Box*, 94.
 68. For advice about these probabilistic considerations, I am grateful to Isaac Levi and Erick Weinberg.
 69. Stuart Pullen, *Intelligent Design or Evolution? Why the Origin of Life and the Evolution of Molecular Knowledge Imply Design* (Raleigh, NC: Intelligent Design Books, 2005).
 70. Pullen, *Intelligent Design or Evolution*, 96.
 71. Pullen, *Intelligent Design or Evolution*, 102.
 72. For two examples, see Stuart Kaufmann, *The Origins of Order* (New York: Oxford University Press, 1993)—the main ideas of which are presented less precisely but more accessibly in Kaufmann's *At Home in the Universe* (New York: Oxford University Press, 1995)—and Marc W. Kirschner and John C. Gerhart, *The Plausibility of Life* (New Haven: Yale University Press, 2005).
 73. Adam Smith, *The Wealth of Nations* (New York: Modern Library Classics, 2000), 484–485. One possible interpretation of

- Darwin's work is to view him as transferring ideas from British political economy to the natural world.
74. For some ingenious analyses, see Thomas Schelling, *Micro-motives and Macro-behavior* (New York: Norton, 1978).
 75. See Przemyslaw Prusinkiewicz and Aristid Lindenmayer, *The Algorithmic Beauty of Plants* (New York: Springer, 1990), Hans Meinhardt, *The Algorithmic Beauty of Sea Shells* (New York: Springer, 1998), J. D. Murray, *Mathematical Biology* (New York: Springer, 1989) chap. 15, and, more accessibly, Murray "How the Leopard got its Spots" in *Scientific American*, 258, 1988, 80–87. This work was inspired by a seminal essay by Alan Turing, published near the end of his life.
 76. In *God, The Devil, and Darwin* (New York: Oxford University Press, 2004), Niall Shanks provides a thorough and lucid elaboration of this important point and of its implications for claims made on behalf of intelligent design.
 77. Behe, *Darwin's Black Box*, 7.
 78. Recent studies in Burkina Faso indicate that the allele is significantly more prevalent there. Earlier investigations of a variety of Bantu populations showed low frequencies of the C allele, and raised the puzzle I discuss in the text.
 79. I abbreviate the explanation given by Alan Templeton, "Adaptation and the Integration of Evolutionary Forces" in Roger Milkman, *Perspectives on Evolution* (Sunderland, MA: Sinauer, 1982). Another example in which an apparently beneficial allele is unable to spread in human populations may occur in connection with resistance to AIDS. It is possible that the small number of people with HIV who do not develop full AIDS carry two copies of an allele that is typically disadvantageous when it occurs in single dose. But this example is less well understood than the case described by Templeton.

80. As mentioned in note 78, some recent studies of populations in Burkina Faso have found the C allele in higher frequencies than those discovered in the groups investigated earlier. Does this show that Intelligence is, at last, swinging into action? Not really. First, it's possible for the accidents of mating and survival to allow for the presence of enough people with the advantageous CC combination, so that the C allele can attain the threshold frequency. Second, given that the mutation that gives rise to the C allele is so readily available, we can only wonder why Intelligence has permitted the problematic S allele to spread its damaging effects among so many people. During the past few thousand years, many human beings, including many children, have died either because they lacked protection against malaria (they were AA) or through the crises of sickle-cell anemia. If Intelligence has started to solve this problem in Burkina Faso—but not in many other sub-Saharan populations—we can only wonder why it has permitted the botched AS solution to persist so long, why it has done so little, so late.
81. William A. Dembski, *The Design Revolution* (Downers Grove, IL: Intervarsity Press, 2004), 251.
82. Dembski, *The Design Revolution*, 251.
83. Here I am indebted to conversations with Kent Greenawalt.
84. In their public presentations and lectures, they sometimes provide more than a wink. Thus William Dembski has directly linked intelligent design to the Christian scriptures, claiming that "Intelligent Design is the Logos of John's Gospel in the language of information theory" (presentation in 1998 to the Millstatt Forum in Strasbourg).
85. For an excellent example, see Kenneth Miller, *Finding Darwin's God* (New York: Cliff Street Books, 1999).

86. Here I diverge from the approach offered in *Abusing Science*. The last chapter of that book, coauthored with Patricia Kitcher, tried to defend the conciliatory line that views Darwinism as no threat to religion. My reasons for divergence will be explained in the text below. It should be noted, however, that my coauthor was always skeptical about the prospects for reconciliation, and she should not be held responsible for the earlier errors that I recant here.
87. G. J. Romanes, *A Candid Examination of Theism* (Boston: Thomas and Andrews, 1878), 114.
88. William James, *The Varieties of Religious Experience* (Harmondsworth: Penguin, 1982), 141–142. I take James to be reacting to a form of scientific naturalism inspired by Darwinism, exemplified in the writings of T. H. Huxley, John Tindall, and William Kingdom Clifford (in response to whom James had already written his celebrated essay “The Will to Believe”).
89. James, *The Varieties of Religious Experience*, 162.
90. There are also providentialist strands within Judaism, as many passages in the Hebrew Bible make clear, as well as in Islam (the Qur’an emphasizes that the earth has been planned to provide for its inhabitants). But providentialism is particularly pronounced in Christianity.
91. The point is lucidly and forcefully made by Richard Dawkins, “God’s Utility Function” in *River Out of Eden* (New York: Basic Books, 1995), chap. 4.
92. Darwin, *Origin*, 472.
93. Fyodor Dostoevsky, *The Brothers Karamazov* (New York: Modern Library, 1995), 271–272.
94. Indeed, if the afterlife includes the possibility of eternal punishment—as in the traditional Christian idea of hell—there are other problems that I don’t consider here. See David Lewis,

- “Divine Evil,” forthcoming in Louise Antony, ed., *Philosophers Without Gods*. (Oxford) (I should point out that I reconstructed this essay from an outline Lewis left at his untimely death—most of the words are mine, but the arguments are all his.)
95. Darwin, *Origin*, 167.
96. Hume, *Dialogues Concerning Natural Religion*, part XI, 204.
97. This is quite compatible, of course, with not believing that many of the statements in the Bible are literally true. You can hold that the Bible is literally correct in declaring that God, who created the world, is deeply concerned with the fate of each of His creatures, while also denying that Genesis (and much of the rest of the text) is literally true.
98. Luke 2:1–4. Here, and elsewhere, I cite the Authorized (King James) translation. This is somewhat less accurate, but infinitely more beautiful than subsequent versions. It is also the translation often used by evangelical opponents of Darwin.
99. Judaism did evolve in response to the Roman destruction of the Temple, but, because of the ambiguous role of Jesus’ followers in the Roman-Jewish war, the development of Judaism was not along the lines envisaged in the early Jesus movements.
100. Robert W. Funk and the Jesus Seminar, *The Acts of Jesus* (San Francisco: Harper, 1998), 153.
101. Robert J. Miller, ed., *The Complete Gospels* (San Francisco: Harper, 1994). As I was completing the last revisions of this essay, there were reports of yet another addition to the Gospels that have survived, the discovery of the Gospel of Judas, with its strikingly revisionary account of the betrayal of Jesus.
102. Gospel of Thomas, 12; Miller, *The Complete Gospels*, 307.
103. See Elaine Pagels, *Beyond Belief* (New York: Random House, 2003). It is also worth noting the opening verses of Luke’s Gospel, in which the existence of rival Gospels is presupposed

- by the evangelist's announced intention of setting the record straight. The clash between John and Thomas is probably one instance of a general phenomenon.
104. The letter of resignation is quoted in Richard Elliott Friedman, *Who Wrote the Bible?* (New York: HarperCollins, 1987), 165. I should note that Friedman disagrees with Wellhausen's assessment of the impact of biblical criticism (while I endorse it); see Friedman, *Who Wrote the Bible*, 243.
 105. *King James Study Bible* (Nashville, TN: Nelson, 1985), 1401.
 106. Similarly, both in discussions of Isaiah 7:14 and Matthew 1:23, the *Study Bible* simply denies standard views about how to translate the Hebrew word *almah* (young girl), which the Septuagint mistranslates as *parthenos* (virgin). Evangelical Christians prefer the King James translation to the more scholarly (and more prosaic) recent versions in which the verse in Isaiah refers to a "young woman," and Matthew's imaginative interpretation is more evident. See, for example, the Revised Standard Version (New York: Meridian, 1974), 605 (OT) and 1 (NT).
 107. Rodney Stark, *The Rise of Christianity* (San Francisco: Harper, 1997), chap. 5.
 108. The hypothesis was originally proposed by William H. McNeill in *Plagues and Peoples* (New York: Doubleday, 1977), 108–109. It is developed further by Stark, *The Rise of Christianity*, chap. 4.
 109. See John Lofland and Rodney Stark, "Becoming a World-Saver," *American Sociological Review*, 30, 1965, 862–875.
 110. The idea of religious experience as widely available and serving as some basis for faith is relatively modern, in part a reaction to Enlightenment critiques of reliance on texts and traditions. In his authoritative study, *Religious Experience* (Berkeley: University of California Press, 1985), Wayne Proudfoot traces the modern conception to the writings of Friedrich Schleiermacher

- at the turn of the nineteenth century. I am extremely grateful to Proudfoot for his advice on this and other topics.
111. See Benjamin Beit-Hallahmi and Michael Argyle, *The Psychology of Religious Behaviour, Belief, and Experience* (London: Routledge, 1997), chap. 5.
 112. See the discussion of the "Marsh chapel miracle" in *The Psychology of Religious Behaviour, Belief, and Experience*, 85 ff.
 113. I have articulated the argument summarized here in much greater detail in an examination of William James' attempts to respond to Clifford's challenge. See "A Pragmatist's Progress: The Varieties of William James' Strategies for Defending Religion" in Wayne Proudfoot, ed., *William James and a Science of Religions* (New York: Columbia University Press, 2004), 98–138.
 114. I am grateful to Christopher Peacocke for reminding me of this.
 115. I borrow this phrase from a friend, the late Bob Schadewald, a tireless critic of the deceptions practiced by "creation scientists" in the 1980s, who intended that his book on the subject should bear the title *Lying For God*. The phrase was also used by Judge Jones in the Dover trial.
 116. There are other labels that might be used for the attitude I have in mind—proponents of "spiritual religion" might be called "seekers," or people committed to "liberal theology." For a discussion that recognizes a variety of religious attitudes, see Robert Wuthnow, *Christianity in the Twenty-first Century* (New York: Oxford University Press, 1993).
 117. Even more straightforwardly, spiritual religion can be elaborated along lines found in Eastern religions, perhaps most obviously in some versions of Buddhism.
 118. Here I am indebted to some valuable comments by Stephen Grover.

119. This is evident from the ethnographic accounts offered in sociological studies of American religion. Whether believers are committed to some established denomination, or whether they fashion their own eclectic mix from the religious traditions of the world, they almost invariably take some scriptural claims to be literally correct. See, for examples, Wade Roof, *Spiritual Marketplace* (Princeton: Princeton University Press, 1999), Robert Wuthnow, *After Heaven* (Berkeley: University of California Press, 1998), and Richard Cimino and Don Lattin, *Shopping for Faith* (San Francisco: Jossey-Bass, 1998).
120. A fascinating example of the struggle to understand the concept of Jewish “chosenness” in the wake of post-Enlightenment approaches to religion is provided by Arnold Eisen, *The Chosen People in America* (Bloomington: Indiana University Press, 2006). In Eisen’s account, a more substantive reading of chosenness emerges from an enrichment of the theology of Judaism—in my terms, a retreat from spiritual religion to supernaturalism. A full-dress spiritual account of the resurrection is offered by John Shelby Spong in *Resurrection: Myth or Reality?* (San Francisco: Harper, 1994). Spong’s brave attempt to treat the death of Jesus as a thoroughly natural event comes to its climax in chapter 19 (“But what really did happen?”) where he gives a “speculative reconstruction” of the events behind the familiar Gospel stories.
121. One source of the idea that spiritual religion provides more than secular humanism may lie in the tendency to conceive secular humanism in its most militant—“scientific”—versions. I trust that the position will emerge more clearly, and more sympathetically, in the following pages.
122. Elaine Pagels, *Beyond Belief* (New York: Random House, 2003).
123. Pagels, *Beyond Belief*, 4.
124. Pagels, *Beyond Belief*, 3.

125. John Dewey, *A Common Faith* (New Haven: Yale University Press, 1934), 15.
126. Dewey, *A Common Faith*, 17.
127. Dewey’s influence was visible for a time in the reforms proposed by Mordecai Kaplan—not only in his books but also in his establishment of Jewish Community Centers. Arnold Eisen’s *The Chosen People in America* provides a clear account of Kaplan’s work, and of its connections to Dewey’s ideas.
128. A more systematic account would plainly have to deal with American populism, and with other egalitarian (anti-authoritarian) trends in our social and cultural history. My aim here is merely to indicate some deeper sources of the opposition to Darwin, sources that are less well appreciated.
129. There is considerable discussion of the extent to which the world is becoming more secular. Some scholars see a trend toward secularization in the affluent world, with the United States as a glaring exception. Others, including former advocates of the idea of a secular trend, suppose that religion is resurgent worldwide, and that it is the states of Western Europe that are exceptional. I take no stand in this debate, but focus solely on the acknowledged difference between the United States and Western Europe. Like some political scientists—for example, Pippa Norris and Ronald Inglehart, *Sacred and Secular* (Cambridge: Cambridge University Press, 2004)—I see vulnerability to risk as playing an important role in attracting people to religion. As Norris and Inglehart show with great lucidity and thoroughness, data from the World Values Survey and the European Values Survey support the hypothesis that people subjected to “existential insecurity” are much more likely to embrace religion. My own—admittedly speculative—account also adds an idea expressed by Peter Berger (in his

introduction to Berger, ed., *The Desecularization of the World* [Washington, DC: Ethics and Public Policy Center, 1999], 13, 4), when he declares, "The religious impulse, the quest for meaning that transcends the restricted space of empirical existence in this world, has been a perennial feature of humanity." Berger also points out that the contemporary manifestations of this impulse are not in the forms of religion carefully discussed by academics and intellectuals, but in "religious movements with beliefs and practices dripping with reactionary supernaturalism (the kind utterly beyond the pale at self-respecting faculty parties)."

130. For humanists, the evocative, but vague terminology of post-supernaturalist theology—"element of ultimacy," "object of ultimate concern," and the like—are signs of instability. Spiritual religion wants more than the ethical attitudes of secular humanism, but hopes to avoid supernaturalism, and the consequence often seems to be a lack of precision that has moved skeptical philosophers to make charges of meaninglessness. As I have suggested above, I prefer to pose the challenge of saying how a religion that rejects supernaturalism can be more than secular humanism with some special phraseology—or, even better, to recast the issue of the religious life as Dewey did.
131. William James, *Pragmatism* (reprinted with *The Meaning of Truth* [Cambridge, MA: Harvard University Press, 1978]), 30.
132. I have tried to make this clear in the cases of Wagner and Joyce. See Philip Kitcher and Richard Schacht, *Finding an Ending: Reflections on Wagner's "Ring"* (New York: Oxford University Press, 2004), and Philip Kitcher, *Joyce's Kaleidoscope: An Invitation to "Finnegans Wake"* (New York: Oxford University Press, forthcoming). There are many other literary and artistic sources on which similar work could be done.

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