

A Mission to Convert

By [H. Allen Orr](#)

The God Delusion

by Richard Dawkins

Houghton Mifflin, 406 pp., \$27.00

Six Impossible Things Before Breakfast: The Evolutionary Origins of Belief

by Lewis Wolpert

Norton, 243 pp., \$25.95

Evolution and Christian Faith: Reflections of an Evolutionary Biologist

by Joan Roughgarden

Island, 151 pp., \$14.95

Scientists' interest in religion seems to come in waves. One arrived after the publication of Darwin's *Origin of Species* in 1859. Another followed in the 1930s and 1940s, inspired by surprising revelations from quantum mechanics, which suggested the insufficiency of conventional physical theories of the universe. And now scientists are once again writing about religion, apparently provoked this time by the controversy surrounding intelligent design.

During the last year, a number of popular books on religion by scientists or philosophers of science have appeared. Daniel Dennett kicked things off with his *Breaking the Spell* (2006), an investigation into the possibility of a science of religion. Reviewing evolutionary, psychological, and economic theories of the origin and spread of belief, Dennett covered much ground but reached few conclusions. In the last few months, three prominent scientists—all biologists—have published their own books on belief. Richard Dawkins, the Charles Simonyi Professor of the Public Understanding of Science at Oxford University, has given us *The God Delusion*, an extended polemic against faith, which will be considered at length below.

Lewis Wolpert, an eminent developmental biologist at University College London, has just published *Six Impossible Things Before Breakfast*, a pleasant, though rambling, look at the biological basis of belief. While the book focuses on our ability to form causal beliefs about everyday matters (the wind moved the trees, for example), it spends considerable time on the origins of religious and moral beliefs. Wolpert defends the unusual idea that causal thinking is an adaptation required for tool-making. Religious beliefs can thus be seen as an odd extension of causal thinking about technology to more mysterious matters. Only a species that can reason causally could assert that "this storm was sent by God because we sinned." While Wolpert's attitude toward religion is tolerant, he's an atheist who seems to find religion more puzzling than absorbing.

Joan Roughgarden, on the other hand, is sold on religion. An evolutionary biologist at Stanford University and a recent convert to Christianity, she attempts in *Evolution and Christian Faith* both to explain evolutionary biology to fellow believers—laying out what is known, what is speculative, and what is unknown—and to discuss what the Bible has to say on matters relevant to evolution. These are ambitious aims, particularly for so brief a book, and Roughgarden's own views—that, as she writes, "what evolutionary biologists are finding through their research and thinking actually promotes a Christian view of nature"—are not supported by sufficiently detailed arguments.

1.

Among these books, Dawkins's *The God Delusion* stands out for two reasons. First, it's by far the most ambitious. While Wolpert and Roughgarden preach to the choir—each has his or her own audience, rationalist

and religious, respectively—Dawkins is on a mission to convert. He is an enemy of religion, wants to explain why, and hopes thereby to drive the beast to extinction. Second, Dawkins has succeeded in grabbing the public's attention in a way that other writers can only dream of. His book is on the *New York Times* best-seller list and he's just been featured on the cover of *Time* magazine.

Dawkins's first book, *The Selfish Gene* (1976), was a smash hit. An introduction to evolutionary theory, it explained a number of deeply counter-intuitive results, including how an apparently self-centered process like Darwinian natural selection can account for the evolution of altruism. Best of all, Dawkins laid out this biology—some of it truly subtle—in stunningly lucid prose. (It is, in my view, the best work of popular science ever written.) While Dawkins has published several other popular books on Darwinism, he has, in recent years, turned to larger issues. In such works as *Unweaving the Rainbow* (1998) and *A Devil's Chaplain* (2003), he's explored our sense of wonder before the natural world and, increasingly, the tension between science and religion.

His new book continues this last theme. Dawkins clearly believes his background in science allows him to draw strong conclusions about religion and, in *The God Delusion*, he presents those conclusions in language that's stronger still. Dawkins not only thinks religion is unalloyed nonsense but that it is an overwhelmingly pernicious, even "very evil," force in the world. His target is not so much organized religion as all religion. And within organized religion, he attacks not only extremist sects but moderate ones. Indeed, he argues that rearing children in a religious tradition amounts to child abuse.

Dawkins's book begins with a description of what he calls the God Hypothesis. This is the idea that "the universe and everything in it" were designed by "a superhuman, supernatural intelligence." This intelligence might be personal (as in Christianity) or impersonal (as in deism). Dawkins is not concerned with the alleged detailed characteristics of God but with whether any form of the God Hypothesis is defensible. His answer is: almost certainly not. Although his target is broad, Dawkins discusses mostly Christianity, partly because this faith has wrestled often with science and partly because it's the tradition Dawkins knows best (he was reared as an Anglican).

The first few chapters of *The God Delusion* are given over to philosophical matters. Dawkins summarizes the traditional philosophical arguments for God's existence, from Aquinas through pre-Darwinian arguments from biological design, along with the traditional arguments against them. In a later chapter entitled "Why There Almost Certainly Is No God," Dawkins himself plays philosopher, presenting the chief argument of his book. The God Hypothesis, he tells us, is close to "ruled out by the laws of probability." Dawkins's demonstration involves what he calls the Ultimate Boeing 747 gambit. This is his variation on a standard creationist argument. By tweaking that argument in a clever way, Dawkins claims it now leads to a conclusion that's the opposite of the traditional creationist one.

The creationist argument works like this. Living things are enormously complex. Even the simplest of present-day organisms, like bacteria, are far more complicated than anything found in the nonliving world. All organisms carry genes, built from a replicating molecule like DNA (which is itself very complex). But DNA alone doesn't make an organism. Organisms also possess many different proteins (each, in turn, made of amino acids), as well as other molecules that help make structures like cell membranes. Moreover, all these parts must be arranged in just the right way: membranes on the outside of the cell and DNA on the inside, and so on. Creationists argue that the idea that such organized complexity could arise by natural means—without the intercession of a designer mind—is absurd. In particular, they argue that the probability that life could assemble itself spontaneously is extremely close to zero. To dramatize this, they suggest that thinking life could arise by natural means is like thinking a tornado could tear through a junkyard and assemble a Boeing 747. Such an event is not, strictly speaking, impossible but it's so extraordinarily unlikely that it is, according to creationists, unworthy of serious consideration.^[1]

Dawkins's variation on this argument involves a judo-like move in which he turns its logic against itself. In particular, Dawkins claims that rejecting natural means to explain life and instead invoking a designer God leaves us with a hypothesis that's even more improbable than the naturalistic one:

A designer God cannot be used to explain organized complexity because any God capable of

designing anything would have to be complex enough to demand the same kind of explanation in his own right.

In short, only complicated objects can design simpler ones; information cannot flow in the other direction, with simple objects designing complicated ones. But that means any designer God would have to be more complex—and thus even *more* improbable—than the universe he was supposed to explain. This argument, Dawkins concludes, "comes close to proving that God does *not* exist": the God Hypothesis has a vanishingly small probability of being right.

The latter half of *The God Delusion* is partly devoted to Dawkins's discussion of religion as practiced. Not surprisingly, he finds little good to say about it: religion for him is the root of much evil and its disappearance from the world would be an unmitigated good. Religion, he tells us, is certainly not the source of our morality (indeed the God of the Old Testament is, he claims, nothing short of monstrous) and believers are no better morally than nonbelievers; in fact they may be worse. Dawkins regales us with tales of Christian cops who threaten to beat up an atheist; presents statistics on the higher rates of crime in regions that are religious; and argues that, when considering religiously inspired violence and terrorism, "we should blame religion itself, not religious *extremism*—as though that were some kind of terrible perversion of real, decent re-ligion." Late in his book, Dawkins defends a faith-free morality and provides his own, secular, Ten Commandments. (For example, "Do not indoctrinate your children" and "Enjoy your own sex life (so long as it damages nobody else).")

As you may have noticed, Dawkins when discussing religion is, in effect, a blunt instrument, one that has a hard time distinguishing Unitarians from abortion clinic bombers. What may be less obvious is that, on questions of God, Dawkins cannot abide much dissent, especially from fellow scientists (and especially from fellow evolutionary biologists). Indeed Dawkins is fond of imputing ulterior motives to those "Neville Chamberlain School" scientists not willing to go as far as he in his war on religion: he suggests that they're guilty of disingenuousness, playing politics, and lusting after the large prizes awarded by the Templeton Foundation to scientists sympathetic to religion.^[2] The only motive Dawkins doesn't seem to take seriously is that some scientists genuinely disagree with him.

Despite my admiration for much of Dawkins's work, I'm afraid that I'm among those scientists who must part company with him here. Indeed, *The God Delusion* seems to me badly flawed. Though I once labeled Dawkins a professional atheist, I'm forced, after reading his new book, to conclude he's actually more an amateur. I don't pretend to know whether there's more to the world than meets the eye and, for all I know, Dawkins's general conclusion is right. But his book makes a far from convincing case.

2.

The most disappointing feature of *The God Delusion* is Dawkins's failure to engage religious thought in any serious way. This is, obviously, an odd thing to say about a book-length investigation into God. But the problem reflects Dawkins's cavalier attitude about the quality of religious thinking. Dawkins tends to dismiss simple expressions of belief as base superstition. Having no patience with the faith of fundamentalists, he also tends to dismiss more sophisticated expressions of belief as sophistry (he cannot, for instance, tolerate the meticulous reasoning of theologians). But if simple religion is barbaric (and thus unworthy of serious thought) and sophisticated religion is logic-chopping (and thus equally unworthy of serious thought), the ineluctable conclusion is that all religion is unworthy of serious thought.

The result is *The God Delusion*, a book that never squarely faces its opponents. You will find no serious examination of Christian or Jewish theology in Dawkins's book (does he know Augustine rejected biblical literalism in the early fifth century?), no attempt to follow philosophical debates about the nature of religious propositions (are they like ordinary claims about everyday matters?), no effort to appreciate the complex history of interaction between the Church and science (does he know the Church had an important part in the rise of non-Aristotelian science?), and no attempt to understand even the simplest of religious attitudes (does Dawkins really believe, as he says, that Christians should be thrilled to learn they're terminally ill?).

Instead, Dawkins has written a book that's distinctly, even defiantly, middlebrow. Dawkins's intellectual

universe appears populated by the likes of Douglas Adams, the author of *The Hitchhiker's Guide to the Galaxy*, and Carl Sagan, the science popularizer,^[3] both of whom he cites repeatedly. This is a different group from thinkers like William James and Ludwig Wittgenstein—both of whom lived after Darwin, both of whom struggled with the question of belief, and both of whom had more to say about religion than Adams and Sagan. Dawkins spends much time on what can only be described as intellectual banalities: "Did Jesus have a human father, or was his mother a virgin at the time of his birth? Whether or not there is enough surviving evidence to decide it, this is still a strictly scientific question."^[4]

The vacuum created by Dawkins's failure to engage religious thought must be filled by something, and in *The God Delusion*, it gets filled by extraneous quotation, letters from correspondents, and, most of all, anecdote after anecdote. Dawkins's discussion of religion's power to console, for example, is interrupted by the story of the Abbott of Ampleforth's joy at learning of a friend's impending death; speculation about why countries, such as the Netherlands, that allow euthanasia are so rare (presumably because of religious prejudice); a nurse who told Dawkins that believers fear death more than nonbelievers do; and the number of days of remission from Purgatory that Pope Pius X allowed cardinals and bishops (two hundred, and fifty, respectively). All this and more in four pages. Gone, it seems, is the Dawkins of *The Selfish Gene*, a writer who could lead readers through dauntingly difficult arguments and who used anecdotes to illustrate those arguments, not to substitute for them.

3.

One reason for the lack of extended argument in *The God Delusion* is clear: Dawkins doesn't seem very good at it. Indeed he suffers from several problems when attempting to reason philosophically. The most obvious is that he has a preordained set of conclusions at which he's determined to arrive. Consequently, Dawkins uses any argument, however feeble, that seems to get him there and the merit of various arguments appears judged largely by where they lead.

The most important example involves Dawkins's discussion of philosophical arguments for the existence of God as opposed to his own argument against God, which he presents as the intellectual heart of his book. Considering arguments for God, Dawkins is careful to recite the many standard objections to them and writes that the traditional proofs are "vacuous," "dubious," "infantile," and "perniciously misleading." But turning to his own Ultimate Boeing 747 argument against God, Dawkins is suddenly uninterested in criticism and writes that his argument is "unanswerable." So why, you might wonder, is a clever philosophical argument for God subject to withering criticism while one against God gets a free pass and is deemed devastating?

The reason seems clear. The first argument leads to a conclusion Dawkins despises, while the second leads to one he loves. Dawkins, so far as I can tell, is unconcerned that the central argument of his book bears more than a passing resemblance to those clever philosophical proofs for the existence of God that he dismisses. This is unfortunate. He could have used a healthy dose of his usual skepticism when deciding how much to invest in his own Ultimate Boeing 747 argument. Indeed, one needn't be a creationist to note that Dawkins's argument suffers at least two potential problems. First, as others have pointed out, if he is right, the design hypothesis essentially must be wrong and the alternative naturalistic hypothesis essentially must be right. But since when is a scientific hypothesis confirmed by philosophical gymnastics, not data? Second, the fact that we as scientists find a hypothesis question-begging—as when Dawkins asks "who designed the designer?"—cannot, in itself, settle its truth value. It could, after all, be a brute fact of the universe that it derives from some transcendent mind, however question-begging this may seem. What explanations we find satisfying might say more about us than about the explanations. Why, for example, is Dawkins so untroubled by his own (large) assumption that both matter and the laws of nature can be viewed as given? Why isn't *that* question-begging?

Exercises in double standards also plague Dawkins's discussion of the idea that religion encourages good behavior. Dawkins cites a litany of statistics revealing that red states (with many conservative Christians) suffer higher rates of crime, including murder, burglary, and theft, than do blue states. But now consider his response to the suggestion that the atheist Stalin and his comrades committed crimes of breathtaking magnitude: "We are not in the business," he says, "of counting evils heads, compiling two rival roll calls of iniquity." We're not? We were forty-five pages ago.

Dawkins's problems with philosophy might be related to a failure of metaphysical imagination. When thinking of those vast matters that make up religion—matters of ultimate meaning that stand at the edge of intelligibility and that are among the most difficult to articulate—he sees only black and white. Despite some attempts at subtlety, Dawkins almost reflexively identifies religion with right-wing fundamentalism and biblical literalism. Other, more nuanced possibilities—varieties of deism, mysticism, or nondenominational spirituality—have a harder time holding his attention. It may be that Dawkins can't imagine these possibilities vividly enough to worry over them in a serious way.

There's an irony here. Dawkins's main criticism of those who doubt Darwin—and it's a good one—is that they suffer a similar failure of imagination. Those, for example, who argue that evolution could never make an eye because anything less than a fully formed eye can't see simply can't imagine the surprising routes taken by evolution. In any case, part of what it means to suffer a failure of imagination may be that one can't conceive that one's imagination is impoverished. It's hard to resist the conclusion that people like James and Wittgenstein struggled personally with religion, while Dawkins shrugs his shoulders, at least in part because they conceived possibilities—mistaken ones perhaps, but certainly more interesting ones—that escape Dawkins.

4.

Putting aside these philosophical matters, Dawkins's key empirical claim—that religion is a pernicious force in the world—might still be right. Is it? Throughout *The God Delusion*, Dawkins reminds us of the horrors committed in the name of God, from outright war, through the persecution of minority sects, acts of terrorism, the closing of children's minds, and the oppression of those having unorthodox sexual lives. No decent person can fail to be repulsed by the sins committed in the name of religion. So we all agree: religion can be bad.

But the critical question is: compared to what? And here Dawkins is less convincing because he fails to examine the question in a systematic way. Tests of religion's consequences might involve a number of different comparisons: between religion's good and bad effects, or between the behavior of believers and nonbelievers, and so on. While Dawkins touches on each, his modus operandi generally involves comparing religion as practiced—religion, that is, as it plays out in the rough-and-tumble world of compromise, corruption, and incompetence—with atheism as theory. But fairness requires that we compare both religion and atheism as practiced or both as theory. The latter is an amorphous and perhaps impossible task, and I can see why Dawkins sidesteps it. But comparing both as practiced is more straightforward. And, at least when considering religious and atheist institutions, the facts of history do not, I believe, demonstrate beyond doubt that atheism comes out on the side of the angels. Dawkins has a difficult time facing up to the dual facts that (1) the twentieth century was an experiment in secularism; and (2) the result was secular evil, an evil that, if anything, was more spectacularly virulent than that which came before.

Part of Dawkins's difficulty is that his worldview is thoroughly Victorian. He is, as many have noted, a kind of latter-day T.H. Huxley. The problem is that these latter days have witnessed blood-curdling experiments in institutional atheism. Dawkins tends to wave away the resulting crimes. It is, he insists, unclear if they were actually inspired by atheism. He emphasizes, for example, that Stalin's brutality may not have been motivated by his atheism. While this is surely partly true, it's a tricky issue, especially as one would need to allow for the same kind of distinction when considering religious institutions. (Does anyone really believe that the Church's dreadful dealings with the Nazis were motivated by its theism?)

In any case, it's hard to believe that Stalin's wholesale torture and murder of priests and nuns (including crucifixions) and Mao's persecution of Catholics and extermination of nearly every remnant of Buddhism were unconnected to their atheism. Neither the institutions of Christianity nor those of communism are, of course, innocent. But Dawkins's inability to see the difference in the severity of their sins—one of orders of magnitude—suggests an ideological commitment of the sort that usually reflects devotion to a creed.

What of the possibility that present-day churchgoers are worse morally than those who stay away? They might be. Indeed C.S. Lewis, in perhaps the most widely read work of popular theology ever written, *Mere Christianity*, conceded the possibility. Emphasizing that the Gospel was preached to the weak and poor, Lewis

argued that troubled souls might well be drawn disproportionately to the Church. As he also emphasized, the appropriate contrast should not, therefore, be between the behavior of churchgoers and nongooers but between the behavior of people before and after they find religion. Under Dawkins's alternative logic, the fact that those sitting in a doctor's office are on average sicker than those not sitting there must stand as an indictment of medicine. (There's no evidence in *The God Delusion* that Dawkins is familiar with Lewis's argument.)^[5]

In any case, there are some grounds for questioning whether Dawkins's project is even meaningful. As T.S. Eliot famously observed, to ask whether we would have been better off without religion is to ask a question whose answer is unknowable. Our entire history has been so thoroughly shaped by Judeo-Christian tradition that we cannot imagine the present state of society in its absence. But there's a deeper point and one that Dawkins also fails to see. Even what we mean by the world being better off is conditioned by our religious inheritance. What most of us in the West mean—and what Dawkins, as revealed by his own Ten Commandments, means—is a world in which individuals are free to express their thoughts and passions and to develop their talents so long as these do not infringe on the ability of others to do so. But this is assuredly not what a better world would look like to, say, a traditional Confucian culture. There, a new and improved world might be one that allows the readier suppression of individual differences and aspirations. The point is that all judgments, including ethical ones, begin somewhere and ours, often enough, begin in Judaism and Christianity. Dawkins should, of course, be applauded for his attempt to picture a better world. But intellectual honesty demands acknowledging that his moral vision derives, to a considerable extent, from the tradition he so despises.^[6]

5.

One of the most interesting questions about Dawkins's book is why it was written. Why does Dawkins feel he has anything significant to say about religion and what gives him the sense of authority presumably needed to say it at book length? *The God Delusion* certainly establishes that Dawkins has little new to offer. Its arguments are those of any bright student who has thumbed through Bertrand Russell's more popular books and who has, horrified, watched videos of holy rollers. Dawkins is obviously entitled to his views on God, ballet, and currency markets. But I doubt he feels much need to pen books on the last two topics.

The reason Dawkins thinks he has something to say about God is, of course, clear: he is an evolutionary biologist. And as we all know, Darwinism had an early and noisy run-in with religion. What Dawkins never seems to consider is that this incident might have been, in an important way, local and contingent. It might, in other words, have turned out differently, at least in principle. Believers could, for instance, have uttered a collective "So what?" to evolution. Indeed some did. The angry reaction of many religious leaders to Darwinism had complex causes, involving equal parts ignorance, fear, politics, and the sheer shock of the new. The point is that it's far from certain that there is an ineluctable conflict between the acceptance of evolutionary mechanism and the belief that, as William James put it, "the visible world is part of a more spiritual universe." Instead, we and Dawkins might simply be living through the reverberations of an interesting, but not especially fundamental, bit of Victorian history. If so, evolutionary biology would enjoy no particularly exalted pulpit from which to preach about religion.

None of this is to say that evolutionary biology cannot inform our view of religion. It can and does. At the very least it insists that the Lord works in mysterious ways. More generally, it demands rejection of anything approaching biblical literalism. There are facts of nature—including that human beings evolved on the African savanna several million years ago—and these facts are not subject to negotiation. But Dawkins's book goes far beyond this. The reason, of course, is that *The God Delusion* is not itself a work of either evolutionary biology in particular or science in general. None of Dawkins's loud pronouncements on God follows from any experiment or piece of data. It's just Dawkins talking.

We should not, though, conclude that there's no debate whatever to be had between science and religion. The view championed by Stephen Jay Gould and others that the two endeavors are utterly distinct and thus incapable of interfering with each other is overly simplistic. There have been, and likely will continue to be, real disagreements between legitimate science and authentic religion. Some of the issues involved are epistemological (Do scientific and religious claims simply begin with different premises, the first material-ist and the second not?), and others ethical (Where do we draw the line between what medicine can accomplish

and what it should be allowed to accomplish?). These questions are difficult and might well merit extended discussion between scientific and religious thinkers. But if such discussions are to be worthwhile, they will have to take place at a far higher level of sophistication than Richard Dawkins seems either willing or able to muster.

Notes

[1] Most evolutionary biologists would argue that we do not need to explain anything as complex as present life to explain the origin of life. We need only explain how a self-replicating molecule could arise. Given such a molecule, natural selection can operate and complex life could then evolve. Although the details are difficult and the case is not proved, there is reason to believe that the origin of life may have involved a replicating molecule called RNA. According to this theory, this RNA was able to replicate by itself—*without* the assistance of any proteins or other molecules. See James P. Ferris, "From Building Blocks to the Polymers of Life," in *Life's Origins: The Beginnings of Biological Evolution*, edited by J. William Schopf (University of California Press, 2002), pp. 113–139.

[2] For more on this, see Dawkins's interview at Salon.com (www.salon.com/books/int/2006/10/13/dawkins/index.html).

[3] For an interesting look at Sagan's thought, see Richard C. Lewontin's "Billions and Billions of Demons," *The New York Review*, January 9, 1997.

[4] T.S. Eliot: "The unbeliever starts... as likely as not with the question: Is a case of human parthenogenesis credible? and this he would call going straight to the heart of the matter." (From Eliot's introduction to *Pascal's Pensées*, Dutton, 1958.)

[5] Even when comparing believers and nonbelievers, Dawkins is curiously silent on one of the best-known differences. Believers give far more to charities—even nonreligious charities—than do secularists. See, for instance, the Social Capital Community Benchmark Survey (www.cfsv.org/communitysurvey/results.html).

[6] Dawkins would likely respond that his moral vision derives from either biological or cultural evolution, i.e., from the spread of "memes," his putative unit of cultural evolution. I suspect that biological evolution has endowed us with a rough moral sense; but this can't explain the kind of differences between Judeo-Christian and Confucian cultures noted above. As for memes, I see no difference between saying that my morals derive from, say, Christianity and saying that my brain hosts a "Christian morality meme." In any case, most scientists do not accept Dawkins's theory of memes. Lewis Wolpert's reaction in his new book is typical: "Just what a meme is, and how it is distinguishable from beliefs, I find difficult.... There is no distinction made between memes relating to belief and knowledge. Moreover, no mechanism is proposed for the so-called replication of memes, or what they are selected for."

Letters

March 1, 2007: Daniel C. Dennett, ['The God Delusion'](#)

'The God Delusion'

By [Daniel C. Dennett](#), Reply by [H. Allen Orr](#)

In response to [A Mission to Convert](#) (JANUARY 11, 2007)

To the Editors:

H. Allen Orr, in "A Mission to Convert" [*NYR*, January 11], his review of Richard Dawkins's *The God Delusion* and other recent books on science and religion, says that Dawkins is an amateur, not professional, atheist, and has failed to come to grips with "religious thought" with its "meticulous reasoning" in any serious way. He notes that the book is "defiantly middlebrow," and I wonder just which highbrow thinkers about religion Orr believes Dawkins should have grappled with. I myself have looked over large piles of recent religious thought in the last few years in the course of researching my own book on these topics, and I have found almost all of it to be so dreadful that ignoring it entirely seemed both the most charitable and most constructive policy. (I devote a scant six pages of *Breaking the Spell* to the arguments for and against the existence of God, while Dawkins devotes roughly a hundred, laying out the standard arguments with admirable clarity and fairness, and skewering them efficiently.) There are indeed *recherché* versions of these traditional arguments that perhaps have not yet been exhaustively eviscerated by scholars, but Dawkins ignores them (as do I) and says why: his book is a consciousness-raiser aimed at the general religious public, not an attempt to contribute to the academic microdiscipline of philosophical theology. The arguments Dawkins exposes and rebuts are the arguments that waft from thousands of pulpits every week and reach millions of television viewers every day, and neither the televangelists nor the authors of best-selling spiritual books pay the slightest heed to the subtleties of the theologians either.

Who does Orr favor? Polkinghorne, Peacocke, Plantinga, or some more recondite thinkers? Orr brandishes the names of two philosophers, William James and Ludwig Wittgenstein, and cites C.S. Lewis's *Mere Christianity*, a fairly nauseating example of middle-brow homiletic in roughly the same league on the undergraduate hit parade as Lee Strobel's *The Case for Christ* (1998) and transparently evasive when it comes to "meticulous reasoning." If it were a book in biology—Orr's discipline—I daresay he'd pounce on it like a pit bull, but like many others he adopts a double standard when the topic is religion. As Orr says, both James and Wittgenstein "struggled with the question of belief," in their admirable and entirely different ways, but both also steer clear of the issues that Orr chides Dawkins for oversimplifying. I wonder which themes in these fine thinkers Orr would champion in the current discussion, beyond the speculation he cites from James, that "the visible world is part of a more spiritual universe." I'd be curious to know what Orr thinks that means. How should it be clarified and investigated, in his opinion, or does he just want to leave it hanging unchallenged?

Orr ends by wondering why Dawkins—no expert on religion—wrote his book, and he might also wonder why I wrote mine. Didn't we have more intellectually satisfying problems to work on, problems better fitting our training, interests, and talents? I'll answer for myself, but I think Dawkins would give much the same answer. Yes, of course I'd much rather have been spending my time working on consciousness and the brain, or on the evolution of cooperation, for instance, or free will, but I felt a moral and political obligation to drop everything for a few years and put my shoulder to the wheel doing a dirty job that I thought somebody had to do. I am aching to get back to my favorite topics, but I still have to do a fair amount of follow-up, apparently, since there are plenty of people like Orr who still want to protect religion from the sort of unflinching scrutiny Dawkins and I (and Sam Harris and Louis Wolpert and others) are calling for. Is this opinion of Orr's just force of habit, or going along with tradition, or has he carefully studied the phenomena and seen that we really mustn't rock the boat, for fear of causing calamity? If the latter, he owes the world a careful and vivid argument to that effect, for it would put Dawkins and the rest of us in our proper place as dangerous intellectual vandals. Such a project would not fit his talents or training, but I should think it would be his duty

as a concerned scientist.

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H. Allen Orr replies:

Daniel Dennett's main complaint about my review is that I held Dawkins's book to too high a standard. *The God Delusion* was, he says, a popular work and, as such, one can't expect it to grapple seriously with religious thought. There are two things wrong with this objection. The first is that the mere fact that a book is intended for a broad audience doesn't mean its author can ignore the best thinking on a subject. Indeed it's precisely the task of the popularizer to take this best thinking and present it in a form that can be understood by intelligent laymen. This task is certainly feasible. Ironically, the clearest evidence comes from Dawkins himself. In his popular works on evolution, and especially in *The Selfish Gene*, Dawkins wrestled with the best evolutionary thinkers—Darwin, Hamilton, and Trivers—and presented their ideas in a way that could be appreciated by a broad audience. This is what made *The Selfish Gene* brilliant; the absence of any analogous treatment of religion in Dawkins's new book is what makes it considerably less than brilliant.

The second thing wrong with Dennett's objection is that it's simply not true that *The God Delusion* was merely a popular survey and "not an attempt to contribute to ...philosophical theology." Dennett has apparently forgotten that the heart of Dawkins's book was his philosophical argument for the near impossibility of God. Dawkins presented his so-called Ultimate Boeing 747 argument in a chapter entitled "Why There Almost Certainly Is No God," branded his argument "unanswerable," and boasted that it had stumped all theologians who had met it. I can see why Dennett would like to forget about Dawkins's attempt at philosophy—the Ultimate 747 argument was shredded by reviewers—but it's absurd to pretend now that *The God Delusion* had no philosophical ambitions. It also won't do to claim, as Dennett does, that Dawkins's book was concerned only with arguments "that waft from thousands of pulpits every week and reach millions of television viewers every day." Dawkins explicitly stated that he was targeting *all* forms of the God Hypothesis, including deism, and insisted that all were victims of his arguments.

As for C.S. Lewis's *Mere Christianity*, I cited it to show that Lewis had already dispensed with one of Dawkins's claims. Dennett now tells us that Lewis was no recondite thinker but a fairly unsophisticated pop theologian. I agree. Indeed that was exactly my point. I called Lewis's book "the most widely read work of popular theology ever" and noted that there was no evidence that Dawkins was familiar even with such popular material, much less with serious theology.

Finally, Dennett fundamentally misunderstands my review. He seems to think that I'm disturbed by Dawkins's atheism and pointedly asks which religious thinkers I prefer instead. But as I made clear, I have no problem with where Dawkins arrived but with how he got there. It's one thing to think carefully about religion and conclude it's dubious. It's another to string together anecdotes and exercises in bad philosophy and conclude that one has resolved subtle problems. I wasn't disappointed in *The God Delusion* because I was shocked by Dawkins's atheism. I was disappointed because it wasn't very good.

"Converting CO2 back into something useful is a great way to get started." How it works. The process of carbon conversion is a bit like recycling, in that it deconstructs a waste material into its component parts and then reconstructs those parts into useable products. These molecules can be the building blocks for a wide variety of products: synthetic gas and methane are used for fuels, while ethylene is used for plastics. Starting a catalytic business. It may sound a bit like alchemy to create building blocks out of thin air, but the core concept isn't exactly new. Plants and algae have been doing essentially the same thing for hundreds of millions of years. That's what first got Etosha Cave thinking about using metal catalysts to convert carbon dioxide into other substances. Why are fundamentalists on a mission to convert everyone? Because God doesn't want ANY body to go to hell, and the "fundies" are the only ones who actually take God at His Word. God said He does NOT take pleasure in the death of the wicked. And it's the non-Christian who is the "holier-than-thou" and "self-righteous" because they think they're good enough without God's mercy and forgiveness. So, the next time some Christian tries to tell you about God's Love, just think of a fire fighter trying to rescue people inside a burning building, from the flames. 0. 3.