

Scientific Fundamentalism and Its Cultural Impact

BY KARL GIBERSON

Introduction

The foot soldiers of scientific fundamentalism are on the march. Led by Richard Dawkins's ubiquitous polemic *The God Delusion*, the media, bookstores, and even public television are filling up with assaults on religion and discussions of assaults on religion. Sam Harris's *The End of Faith* and *Letter to a Christian Nation* warn that religion will do us in. Daniel Dennett's provocative *Breaking the Spell* "explains" religion by explaining it away. This self-proclaimed ungodly trio, profiled in the cover story in the November 2006 *Wired*, join a roster of distinguished and articulate public intellectuals coming out against religion: Nobel Laureates Stephen Weinberg and Francis Crick; Harvard's Pulitzer-winning E. O. Wilson. They join the late Stephen Jay Gould, Carl Sagan, and Isaac Asimov, who were preceded by Jacques Monod and Bertrand Russell.

The scientific fundamentalists are being called *new atheists* although there is nothing new about them. They preach a common and familiar sermon from the shared scripture of science: the world religions are collections of false superstitions, not merely wrong, but foolish and dangerous. They lead us to shoot abortion doctors, fly planes into buildings, persecute homosexuals, and squander natural resources. They make us racist, homophobic and sexually uptight.

A safer road to truth, goes the sermon, can be found within science and we had better get on that road and off our current byways of error, superstition and ignorance. The world is a big, complex place and we are small complex creatures gradually doing ourselves in; if we are serious about the salvation of our race we had better turn to science.

This, at least, is the sermon, which can only be described as the gospel of *scientific fundamentalism*. This movement is remarkably analogous to its arch enemy, biblical fundamentalism, which attempts to locate all reliable, absolute truth in the Bible and subordinate other sources of truth—science and history in particular—to the scriptures. Continuing the analogy, we can say that the scientific fundamentalists locate all truth in the book of Nature, and insist that there are no other sources of truth.

The argument from the scientific fundamentalists is simple and easy to understand. Its proponents are articulate and persuasive public intellectuals, strong writers, and effective polemicists. Many of them have made important contributions to science and other fields. Some have led noble causes like protecting rain forests. They are charismatic, effective communicators with bully pulpits announcing that science is true and religion is not. As a result, many people, including the majority of American Christians, are uneasy about a science they don't understand but are told by its leaders that it refutes their faith. Many of them even reject contemporary science as incompatible with their faith, and develop faith-friendly "alternatives."

There is a problem however, with the sermon of the scientific fundamentalists. Compare the enthusiasm that accompanies studying, say, astronomy, with that found in a large church on Sunday morning. In America's leading churches, thousands of people voluntarily assemble every week to sing choruses of praise, swaying back and forth, hands in the air. Or they stand together and read ancient liturgy in unison. Then they sit quietly while a preacher reads from the Bible and encourages them to seek God's will for their lives. And then, when the offering plate is passed, they pay for the privilege.

Imagine trying to persuade that audience to put aside the usual Sunday morning programming and listen to an astronomy lecture, or any scientific lecture for that matter. As eloquent as he was, Carl Sagan

could never have filled the stadiums that came to hear Billy Graham preach. The defrocked Ted Haggard had well over 10,000 people coming every week to listen to his Sunday sermons.

It's hard to look at a stadium full of enthusiastic Christians—think Joel Osteen—and believe that religion in America is dying, or even feeling poorly. Enthusiastic predictions by earlier generations of scientific fundamentalists that religion would gradually disappear have not come true, which is why Richard Dawkins grows ever more desperate and shrill. Daniel Dennet's clever image of the "universal acid" of evolution dissolving traditional religion is also proving to be a bit too clever. Whatever religion is made of, Darwinism apparently cannot dissolve it.

There is growing awareness that religion offers something important to people. And it seems unlikely that science is going to meet that need, at least for ordinary people. Religion fills a need in people's lives—something even the scientific fundamentalists are coming to understand.

In subtle and implicit ways, the secular arch-critics of religion are realizing that humans need more from science than factual accounts of how we got here and accurate descriptions of the world we inhabit. As valuable and grand as such hard-won scientific accounts may be—and they are certainly valuable and grand—they provide no maps for finding our way in the world. They provide no larger context for our lives, no guidance for how we should live, no insights into right and wrong, no recipes for the building of community. They do not, on their own, have anything to say about purpose. So, while they may be exciting and give us iPods and pacemakers, they fall short of serving as replacement religions.

The Sermons of Scientific Fundamentalism

I want to make the case, though, that the scientific fundamentalists are not merely arguing for the omnipotent supremacy of science but also making a case that science has a quasi-religious character. The agenda is thus not merely to *refute* mainstream religion but to *replace* it.

The following paragraphs from several leading scientific fundamentalists illustrate what I am talking about. They are taken from the concluding paragraphs of significant works of popular science. As the authors get to the "here-is-what-it-all-means" reflection, the tone suddenly starts to sound very religious.

Richard Dawkins in *The Ancestor's Tale*

"I have not had occasion here to mention my impatience with traditional piety, and my disdain for reverence where the object is anything supernatural. But I make no secret of them. It is not because I wish to limit or circumscribe reverence; not because I want to reduce or downgrade the true reverence with which we are moved to celebrate the universe, once we understand it properly. 'On the contrary' would be an understatement. My objection to supernatural beliefs is precisely that they miserably fail to do justice to the sublime grandeur of the real world. They represent a narrowing-down from reality, an impoverishment of what the real world has to offer.

"I suspect that many who call themselves religious would find themselves agreeing with me. To them I would only quote a favorite remark that I overheard at a scientific conference. A distinguished elder statesman of my subject was having a long argument with a colleague. As the altercation came to an end, he twinkled and said, 'You know, we really do agree. It's just that you *say* it wrong!'

"I feel I have returned from a true pilgrimage."

(These are the final three paragraphs of a 614 page book).¹

Carl Sagan in *Cosmos*

“We are the local embodiment of a Cosmos grown to self-awareness. We have begun to contemplate our origins: starstuff pondering the stars; organized assemblages of ten billion billion billion atoms considering the evolution of atoms; tracing the long journey by which, here at least, consciousness arose. Our loyalties are to the species and the planet. We speak for Earth. Our obligation to survive is owed not just to ourselves but also to that Cosmos, ancient and vast, from which we spring.”

(This is the final paragraph of a 345 page book).²

Stephen Jay Gould in *Wonderful Life*

“And so, if you wish to ask the question of the ages—why do humans exist?—a major part of the answer, touching those aspects of the issue that science can treat at all, must be: because *Pikaia* survived the Burgess decimation. This response does not cite a single law of nature; it embodies no statement about predictable evolutionary pathways, no calculation of probabilities based on general rules of anatomy or ecology. The survival of *Pikaia* was a contingency of ‘just history.’ I do not think that any ‘higher’ answer can be given, and I cannot imagine that any resolution could be more fascinating. We are the offspring of history, and must establish our own paths in this most diverse and interesting of conceivable universes—one indifferent to our suffering, and therefore offering us maximal freedom to thrive, or to fail, in our own chosen way.”

(This is the final paragraph of a 323 page book).³

Edward O. Wilson in *On Human Nature*

“If religion, including the dogmatic secular ideologies, can be systematically analyzed and explained as a product of the brain’s evolution, its power as an external source of morality will be gone forever and the solution of the second dilemma will have become a practical necessity...What I am suggesting, in the end, is that the evolutionary epic is probably the best myth we will ever have. It can be adjusted until it comes as close to truth as the human mind is constructed to judge the truth. And if that is the case, the mythopoeic requirements of the mind must somehow be met by scientific materialism so as to reinvest our superb energies.”

(This is from page 201 of a 209 page book).⁴

Stephen Hawking in *A Brief History of Time*

“If we do discover a complete theory, it should in time be understandable in broad principle by everyone, not just a few scientists. Then we shall all, philosophers, scientists, and just ordinary people, be able to take part in the discussion of the question of why it is that we and the universe exist. If we find the answer to that, it would be the ultimate triumph of human reason—for then we would know the mind of God.”

(This is the final paragraph of a 175 page book).⁵

Steven Weinberg in *The First Three Minutes*

“It is very hard to realize that this all is just a tiny part of an overwhelmingly hostile universe. It is even harder to realize that this present universe has evolved from an unspeakably unfamiliar early condition, and faces a future extinction of endless cold or intolerable heat. The more the universe seems comprehensible, the more it also seems pointless.

“But if there is no solace in the fruits of our research, there is at least some consolation in the research itself. Men and women are not content to comfort themselves with tales of gods and giants, or to confine their thoughts to the daily affairs of life; they also build telescopes and satellites and accelerators, and sit at their desks for endless hours working out the meaning of the data they gather. The effort to understand the universe is one of the very few things that lifts human life a little above the level of farce, and gives it some of the grace of tragedy.”

(These are the last two paragraphs of a 155 page book).⁶

That these pronouncements above go beyond science is obvious. But, this is not in and of itself a problem. After all, virtually all the sources that have informed the human quest for meaning have been located outside science. There is nothing wrong with anyone building a case informed by science for this or that particular source for meaning, or for this or that orientation toward the mystery of human existence.

However, the process by which one constructs systems that address meaning is more generally known as *theology*. Theology, for most of its history has described itself as something like “reflection on the life of the religious community” and has generally been tied to a specific religious tradition. Catholic theology has dealt with the ongoing consideration of the content of Catholic beliefs in the light of developments in science, biblical studies, philosophy, and so on. Likewise, Baptist or Lutheran theology has had a similar parochial focus. Analogous reflective activities take place in the other world religions.

In the past several decades however, some liberal scholars, with minimal allegiance to traditional views, have called for the task of theology to be reinvented. Differences between branches of Christianity, the ambiguous role of Jewish and Greek sources in Christian thought, critical examination of the Biblical texts, the plurality of world religions, and, of course, scientific developments have led some to call for theology to punch “reset.”

This reinvented theology tries to start with a blank slate, uncluttered by the confusion of the past. It also tends to work outside existing religious traditions, which keeps it rather disengaged and thus irrelevant for many Christians. But it engages with science in interesting ways, which is what I want to look at more closely.

Theology from Scratch

We can get a quick overview of what I am talking about by considering Harvard theologian Gordon Kaufman’s *In Face of Mystery: A Constructive Theology* as an example. If we look at Kaufman’s project we can see, remarkably, that the scientific fundamentalists are essentially constructing theologies and, in so doing, functioning as the very theologians they so despise.

Kaufman starts by calling our attention to “the mystery within which human existence falls,”⁷ his name for the rich and ambiguous circumstances of our situation. In addressing this mystery we start by acknowledging our limitations. “We really know very little of what we are or who we are, with what realities we have to do in life, what meaning human existence has or can have.”⁸ Existing religious traditions are

familiar responses to the mystery of our existence, but they are simply options that have been developed historically and we are under no obligation to privilege those responses, at least as starting points. If we are to start, says Kaufman, we must start *over*. And we must start, for we cannot exist in a world without meaning.

“Although the human spirit has no way of overcoming the mystery of life, it is also true that we are not able simply to live with the blank, empty Void. So humans create pictures, pictures of what they think the world is like...”⁹ The world disclosed by the science of any generation is simply these pictures, writ large. Once upon a time we lived at the troubled center of an Aristotelian cosmos. Now we float on a tiny sphere in an ordinary galaxy. “We tell ourselves stories which depict the human situation in this world, and in our lives we attempt to act out our own parts in these stories.”

In the creation of these pictures, in the development of our stories of how things came to be, and in the search for our place in the grand mystery of existence we find ourselves drawn to that which offers the greatest clarity and meaning. Kaufman, remarkably unfettered by tradition, calls this “God.”

“The word ‘God’ is ordinarily used to indicate or invoke that which will supposedly provide us with the proper orientation in life and adequate motivation in face of the most severe crises of life. That is, the idea of God is the idea of that—whatever it might be—which is absolutely trustworthy and unailing, that to which we can turn in an hour of great confusion or dire need, that to which we can give ourselves without reservation.”

Note that this concept of “God”, as Kaufman is careful to remind us, is a *symbol*. It points beyond itself to whatever provides us with the “proper orientation in life” but it does not have to point to anything resembling the traditional deities of the world religions. “God” as used here, could refer, in principle, to anything. This redefinition, of course, fails to connect well with traditional Christianity, but I am making the point that it *does* connect with the rhetoric of the new atheists.

With this definition of God in mind, Kaufman outlines the task of those who would do theology: “... theologians should attempt to construct conceptions of God, humanity, and the world appropriate for the orientation of contemporary life.” These notions, he notes, are “human creations, human imaginative constructions; they are our ideas, not God’s.”

With Kaufman’s directions on constructing a theology in mind, it is interesting to note how the writers of the passages quoted above all morph into theologians, as they construct “conceptions of God, humanity, and the world appropriate for the orientation of contemporary life.” Let’s see how this works.

The Scientific Creation Story

For starters, there is no denying that modern science has a creation story, and a good one. In an earlier book I offered the following description:

“From the origin of the universe to the origin of our preference for unrelated mates, the modern creation story provides a coherent and, in the main, empirically verifiable evolutionary explanation. Most of the story is quite well understood and is supported by a wealth of scientific data. Even the more speculative parts are not without empirical support. Adherents anticipate that the speculative character of some portions of the modern creation story will diminish as they slowly yield up their secrets to careful and painstaking research. The scientific creation story crackles with drama and surprise, evoking wonder, and captivating many of those who take the time to learn it.”¹⁰

This story offers a conception of humanity and the world. The “world” rests on a secure foundation of reliable and remarkable natural laws, trustworthy in their regularity. These laws possess a seemingly miraculous power to bring forth matter, galaxies, stars, planets, and maybe even life, all within a framework of natural processes we can understand. And as we come to understand these processes, their marvelous character seems only to enlarge until these processes, no matter how well we understand them, continue to evoke awe and surprise.

The scientific creation story, *qua creation story*, offers an interesting alternative to the story of the Abrahamic faiths in which God creates everything in 6 days and then rests. And, although many contemporary religion scholars are quick to point out that this story should not be read *scientifically*,¹¹ the story in Genesis is considered a historical accounting of how things came to be by many, although not all, Christians, both present and past. The views of “humanity and the world” that informed thinkers from Augustine and Luther, to Dante and Shakespeare, to Galileo, Newton, and even the young Charles Darwin were drawn from the opening passages of the Bible, although they did not all read the text in the same way.

The superiority of the scientific creation story in providing a physical description of how humanity and the world originated is apparent. Of course, I would argue this is because details of this sort are not even present in the biblical creation story. The Genesis creation account states that, for example, “God created the earth” but no physical details of any sort are provided so that statement is not really at odds with the generally accepted findings of the planetary sciences.

But theology is called to do more than “construct conceptions of humanity and the world.” The task demands that these constructions be “appropriate for the orientation of contemporary life.” This important orientation must provide not only a description of the world but an adequate location of human beings within that world—we must feel “at home.” And we must have ethical systems so we will know how to live.

The modern creation story does both of these. In terms of being “at home in the universe” the story offers a coherent picture of how human beings relate to the entire history of the universe. The atoms in our bodies were forged in the nuclear furnaces of ancient stars that exploded and seeded our galaxy with rich chemistry. Our planet and its life-sustaining sun formed from this same recycled stellar debris. As the popular song by Joni Mitchell goes: “We are stardust, we are golden, we are billion-year-old carbon.”¹² This connection to the physical history of the cosmos is a provocative and intriguing insight into our origins.

Human history is also intimately interwoven with the history of life on this planet. We owe our existence to our planet’s 3.8 billion year adventure of life, from its origins as a simple cell to its eventual production of large-brained creatures capable of reflecting on the process. Ongoing research in primatology connects us to our nearest evolutionary relatives in new and exciting ways,¹³ and we are, in general, coming to understand ourselves as one special component in a vast ecosystem shared with countless life-forms. Physically and biologically, the modern creation story locates us clearly within both the physical universe and the web of life.

Furthermore the scientific creation story belongs to everyone. It is not a parochial religious account, at odds with its counterparts in other religions. Is it the story of the origin of the Hindus, the Buddhists, the Jews, the Christians, the Confucians. It is the story of the devotees of all religions and the devotees of no religions. We even share it with the animal kingdom and the stars overhead. The atheist theologian Loyal Rue sees in the universality of the scientific creation story grounds for hope that a fragmented and suspicious humanity might find common ground on which to build a global village of trust and cooperation. Rue concludes his account of evolution with these words:

“We are, at the moment, in many different places, with many histories and hopes. But we are now called together to one place, to a shared history and to a common vision of enduring promise. If there are saints enough among us, we shall survive.”¹⁴

(Whether or not the scientific creation story offers an *adequate* location for humans within the grand scheme is not the point here. The point is simply that it does, and that this is one of the tasks of theology.)

In terms of an ethical orientation to the world, the scientific creation story also provides a place to stand, although the structure seems a bit rickety. Recent work on evolutionary ethics suggests that many of our moral sensibilities are deeply rooted in our genes. By these lights, moral codes were built into our genes because moral codes have survival value. Those of our ancestors that refrained from killing each other, avoided mating with their siblings, shared with their friends, and kept their agreements were more successful at producing healthy offspring in functioning communities. Genetic predispositions to understand these sorts of behaviors as “the right thing to do” emerged. But because so much of evolution works at the subconscious, intuitive level, our predispositions to behave in these ways took up residence in our species as moral codes, rather than rationally motivated practical behaviors.

I hasten to point out that designating these behaviors as “moral” is something of an over reach for science. The best we can really say is that we seem to have biologically based drives and inhibitions that relate in interesting ways to the moral codes of our religions. Incest, for example, is both universally proscribed from a moral standpoint and biologically disadvantageous. But—and this is no small point—the evolutionary basis for avoiding intimacy with our siblings is no different in principle than the basis for avoiding contact with rotting meat. Neither is good for the species, but we would hardly put the latter in the category of morality. Something more than a purely scientific perspective is required to make the move from an aversion to incest to the claim that incest is morally wrong.¹⁵

The scientific creation story also illuminates the role human beings play *vis a vis* the environment, and other species. We understand that we are consuming limited resources, destroying the atmosphere, and polluting the oceans. From these insights come a host of ethical directives, from recycling newspapers to giving tax breaks to buyers of fuel-efficient cars. Many of our “good” behaviors—actions that make us feel good about ourselves and responsible as citizens—derive from these insights.

In terms of other species, we are coming to understand that perhaps these species have “rights” of some sort. A moral stance that killing animals is wrong leads many to become vegetarians; the value we place on preventing extinctions leads us to set aside habitats for many animals. We pass wetland protection laws to prevent civilization from destroying the ecosystems that are home to many species. We undermine the market for ivory to protect elephants; we disallow hunting for most of the year; we even brake for squirrels. Behaviors like these are rooted in the scientific creation story and provide for many people, especially in the better-educated and more affluent parts of the world, an ethical framework in which they can locate themselves and feel good about their actions.

(Again, whether or not the scientific creation story offers an *adequate* ethical orientation for humans is not the point here. The point is, as we stated above, simply that it does, and that this is one of the tasks of theology.)

Finally I turn to the question of God and the degree to which our scientific “theologians” provide content for the central theological symbol of “God.” In sophisticated Christian theologies there is an explicit recognition that our concept of “God” is partially a human construct and we have to be cautious about how we handle that symbol. As feminist theology points out, for example, masculine metaphors for God can be

alienating. Other problems arise if God is understood as too transcendent, or not transcendent enough. God must be loving but not at the expense of being just. God must be omniscient, unless it compromises our free will and so on. These are the nuances that balance the Christian concept of God, and create the disagreements that lead to schisms and splintering. Another set of concerns, partially overlapping but often different, come into play for non-Christian religious traditions.

The search for this “Goldilocks God” has resulted in a plethora of complementary and even contradictory perspectives, which is why some theologians call for a new beginning as we attempt to build/recover a concept of God appropriate for this stage in our history. In abandoning the often intensely personal metaphors for God that have dominated Judeo-Christian reflection, we open space for consideration of God in new ways. In particular—and of interest in this context as we consider the “theology” of the new atheists—we create the possibility for a package of ideas from science to assume the role that the symbol “God” is supposed to play in a theological system.

This “replacement” theology is embodied in the life and philosophy of E. O. Wilson.

The Curious Case of E. O. Wilson

Wilson is an interesting case. He grew up in a Southern Baptist home. He had a conversion experience, “giving his heart to Jesus”; he read the Bible cover to cover more than once and worshipped with his family in a local Alabama congregation throughout his childhood. He believed in, and worshipped, a traditional biblical God. Now as one of the world’s most articulate evolutionists, he calls for us to worship “the evolutionary epic.”¹⁶

Note what has happened here. Largely—perhaps entirely—because of his scientific studies, Wilson rejected the faith of his childhood. But he did not simply shrug his shoulders and bid his faith farewell, as he done some years earlier with his belief in Santa Claus. Instead he *reconstituted* his faith. He *replaced* the biblical creation story with the scientific creation story; he *replaced* Christian ethical directives, with ones derived from evolution and ecology; and he *replaced* the worship of God with the worship—perhaps *celebration* might be a better word—of the grand story of evolution.

“Religion,” he wrote in *On Human Nature*, “constitutes the greatest challenge to human sociobiology and its most exciting opportunity to progress as a truly original theoretical discipline.”¹⁷ This progress will come when a fully materialistic worldview has replaced that of religion: “Make no mistake about the power of scientific materialism. It presents the human mind with an alternative mythology that until now has always, point for point in zones of conflict, defeated traditional religion.”¹⁸ And then he asks a most powerful question: “Does a way exist to divert the power of religion into the great new enterprises that lay bare the source of that power?”¹⁹

Perhaps because of his background Wilson understands the importance of religion. But, more importantly, the science that he did so much to create—evolutionary psychology, which looks at the way human evolution has shaped, not just our bodies but our behavior—points to a natural predisposition that we have towards religion. While the science is speculative, many evolutionary psychologists are convinced that we have a genetically based intuition to seek out or create religions.²⁰ For these and other reasons Wilson knows that religion is not simply going to “go away,” just because, in his mind, science has triumphed over it. But Wilson does not even want religion to go away. He just wants to swap out its traditional contents and replace them with new scientific ones.

This, however, is a *theological* task.

Wilson is the most overtly theological of the scientific fundamentalists. Perhaps his childhood faith still calls to him and he seeks comfort in a surrogate, although that seems like a rather patronizing viewpoint. More likely is that he simply understands the necessity and power of religion in the lives of ordinary people and knows that science should alter only the content of religion; it must not destroy it. Whatever the reason Wilson has clearly embraced a theological project.

Science as Religion?

The scientific fundamentalists, in their own way, offer something surprisingly religious. Sagan's *Cosmos* series, for example, was a sort of "religious theatre."²¹ The series often showed Sagan standing in front of a podium that resembled nothing so much as a pulpit, speaking in reverential tones while the universe sped by out a "window" behind him. Give him a sermon to read and he would be a subdued version of a TV preacher. "Our obligation to survive," says Sagan, "is owed not just to ourselves but also to that Cosmos, ancient and vast, from which we spring."²² For Sagan, the "Cosmos from which we spring" is the equivalent of the "God that created us" and he enjoins us to be faithful to our creator.

Weinberg, as we saw in his mini-sermon above, interprets the universe as hostile and without purpose. There is no grand evolutionary epic to worship, and the "Cosmos" that created us is not something to which we owe any loyalty, for it is hostile and radiates despair, not hope. Human existence, for Weinberg, is a farce, a mockery, a tale told by an idiot. And we are actors in this grand farce. Our only hope—the closest we can come to salvation—is science, which "lifts human life a little above the level of farce and gives it some of the grace of tragedy."²³

Theological Incoherence?

Not surprisingly, the "theological" claims of the scientific fundamentalists, taken as a whole, constitute a piecemeal, incoherent, and contradictory set of blueprints for finding meaning in the world. Wilson, Sagan, and Dawkins stand in reverential awe of the history to which humans owe their existence. Gould insists that this history was just a crapshoot, and owed no more loyalty than a state lottery that made some happy citizen into a millionaire. And Weinberg, if his cryptic remarks about the hostility of the universe are taken at face value, views our origins as some kind of cruel joke played by an uncaring cosmos, hardly to be celebrated and certainly not to be worshipped.

Wilson and Sagan find in the evolutionary epic some grounds for morality: in our genes, in our obligation to survive, in our care for our planetary home, in the continuation of the grand story. Wilson claims, for example, as the three primary principles of interhuman ethics that one ought to protect "the cardinal value of the survival of the human genes in the form of a common pool over generations," one ought to "favor diversity in the gene pool as a cardinal value," and one ought to regard "universal human rights ... as a third primary value."²⁴ And, while we—and most people, for that matter—would agree with Wilson that these are worthy ethical directives, it is hard to see exactly how they are derived. If anything, they seem completely at odds with the "selfish gene" paradigm for understanding human behavior. Dawkins, however, thinks it is a fallacy to derive ethics from science and that ethics must come from *outside* science, although exactly where that might be located is not clear. What is also not clear is why Dawkins thinks this is possible. If, as he has argued so eloquently and for so many years, we are controlled by our selfish genes, how can we possibly construct an ethics that is anything other than codified selfishness? One looks in vain in his many books for exactly how one would go about doing this.

Gould opposes the whole “Get religion from science” enterprise. His well-intentioned, if naïve, “non-overlapping magisteria” (NOMA) proposal recommends that science and religion should be kept completely separate from each other. The episode of *The Simpsons* on which Gould appeared involved a controversy over an “angel” and a sub-theme of science versus religion developed as the characters debated the nature of this angel. The conflict ended up in court with a judge issuing a very “NOMA” sounding restraining order that “science should stay 500 yards from religion at all times.”²⁵

The scientific fundamentalists are ambassadors from the scientific community to the public at large. But perhaps *missionaries* would be a more appropriate term, accounting for the enthusiasm with which they bring their surprisingly religious message.

The missionary metaphor is suggestive but raises a most troubling question about the cultural significance of the scientific fundamentalists. Why is it that the scientific community’s spokespersons are drawn from the small subset of scientists who reject traditional religion? There are tens of thousands of scientists who might have been the public figures on the bestseller lists, and who would have had no interest in undermining religion. Some of them would even have been interested in placing their expositions within the framework of a traditional religion either directly, as John Polkinghorne,²⁶ Ken Miller,²⁷ and Francis Collins²⁸ does, or indirectly, like John Barrow²⁹ or Simon Conway Morris.³⁰ How is it that the public faces of science tend to be missionaries for materialism? Why is it that concerned Christians like Phillip Johnson can find so much evidence for their view that there is something profoundly hostile to their faith coming from science?³¹

There is some interesting and important work to be done on this state of affairs. What, exactly, is the origin of the connection between the public stature of the scientific fundamentalists and their materialistic agnosticism? Is it possible that *a priori* commitments to materialism motivate these missionaries to spread “their” gospel? Perhaps, without any traditional religion of their own, frustrated by what they believe is going on in the name of religion, they feel compelled to share their alternative worldviews. Dawkins, for example, believes that religion should be blamed for the September 11 terrorist attacks. Weinberg believes that religion has caused most of the wars throughout history and that religion is the only thing that can make a “good person to do evil.”³² These are strong, powerful beliefs. Is it possible that these beliefs are a part of the motivation—maybe a large part—for the scientific fundamentalists to step forward, as missionaries, to spread their message?

Whatever the reasons, the cultural impact of scientific fundamentalism has been disastrous. Because so many of the leading public faces of science come from the tiny subset of the scientific community that are hostile to traditional religion, a near universal perception is steadily reinforced that science and religion are implacably hostile to each other. Even those who claim to reject this conclusion betray themselves when they refer to the “science-and-religion *debate*” as if debate would be the only possible exchange when science and religion sit down to talk.

The fear that science is hostile to faith creates a market for pseudo-scientific alternatives, like the young earth creationism on display in Ken Ham’s museum in Kentucky. Every week thousands of visitors, most of them evangelical Christians, parade past a display of a dinosaur wearing a saddle, surely the most scientifically preposterous exhibit in America. When Gallop and Pew takes polls, almost half of all Americans, and most Christians, reveal their preference for Ken Ham’s science, rather than that of Francis Collins.

We are members of a species catalogued *homo sapiens*, which means, literally, thinking man. Certainly science is a wonderful example of the designation *sapien* and many of our deepest thinkers are

scientists. The philosopher Jurgen Habermas, however, has called attention to the fact that our species does not merely create knowledge (Latin *sapientia*) but also creates religions. He suggests that our species might be better labeled *homo religious*. We should hope that the scientific fundamentalists do not succeed in collapsing these two parts of our nature into one.

Notes

1. Richard Dawkins, *The Ancestor's Tale. A Pilgrimage to the Dawn of Evolution* (Boston: Houghton Mifflin Company, 2004), pp. 613-4.
2. Carl Sagan, *Cosmos* (New York: Ballantine Books, 1985), p. 345.
3. Stephen Jay Gould, *Wonderful Life. The Burgess Shale and the Nature of History* (New York: Norton, 1990), p. 323.
4. Edward O. Wilson, *On Human Nature* (Cambridge, Mass.: Harvard University Press, 1978), p. 201.
5. Stephen W. Hawking, *A Brief History of Time*, updated and expanded tenth anniversary edition (New York: Bantam Books, 1998), p. 191.
6. Steven Weinberg, *The First Three Minutes. A Modern View of the Origin of the Universe*, updated edition (New York: Basic Books, 1993), pp. 154-5.
7. Gordon Kaufman, *In Face of Mystery. A Constructive Theology* (Cambridge, Mass.: Harvard University Press, 2004), p. 28.
8. *Ibid.*, p. 29.
9. *Ibid.*
10. Karl Giberson and Donald A. Yerxa, *Species of Origins. America's Search for a Creation Story* (New York: Rowman & Littlefield, 2002), p. 35.
11. For an excellent and accessible recent presentation of this case see John H. Walton's *The Lost World of Genesis One: Ancient Cosmology and the Origins Debate* (Downer's Grove: InterVarsity Press, 2009). Walton is a professor of Old Testament at Wheaton College in Illinois, hardly a bastion of theological liberalism.
12. Joni Mitchell, "Woodstock," *Ladies of the Canyon*, 1970.
13. Frans de Waal, *Our Inner Ape* (New York: Riverhead, 2005).
14. Loyal Rue, *Everybody's Story: Wising up to the Epic of Evolution* (Albany: SUNY Press, 2000), p. 138.
15. I raised this concern with Frans de Waal at the 2009 Venice Summer School in Science and Religion. De Waal, one of the world's leading primatologists, has thought more about the evolutionary origins of morality than just about anyone. He agreed that the best we get from evolution is a deeply rooted, and often powerful sense that there are certain things we are drawn to either doing or avoiding. But evolution provides no insights into whether we can attach moral labels to those inclinations. That move requires something from outside science.
16. Robert Wright, *Three Scientists and Their Gods. Looking for Meaning in an Age of Information* (New York: Times, 1988).
17. E. O. Wilson, *On Human Nature* (Cambridge, Mass.: Harvard University Press, 1978), p. 175.
18. *Ibid.*, p. 192
19. *Ibid.*, p. 193.
20. See Pascal Boyer, *Religion Explained: The Evolutionary Origins of Religious Thought* (New York: Basic,

- 2001); Andrew Newberg, *Why God Won't Go Away: Brain Science and the Biology of Belief* (New York: Ballantine, 2001); and David Sloan Wilson, *Darwin's Cathedral: Evolution, Religion, and the Nature of Society* (Chicago: University of Chicago, 2002).
21. Howard J. Van Till, Davis A. Young, and Clarence Menninga, *Science Held Hostage: What's Wrong with Creation Science and Evolutionism* (Downers Grove, Illinois: Intervarsity, 1988).
 22. Sagan, *Cosmos*, p. 345.
 23. Weinberg, *The First Three Minutes*. pp. 154-5.
 24. Wilson, *On Human Nature*, pp. 196-199.
 25. "Lisa the Skeptic," *The Simpsons*. Neil Affleck, dir. David S. Cohen, writer. Season 9, Episode 8. 23 November 1997.
 26. John Polkinghorne, *Belief in God in an Age of Science* (New Haven, Conn.: Yale University Press, 1998), and *Faith of a Physicist: Reflections of a Bottom-Up Thinker* (Minneapolis: Augsburg Fortress, 1996).
 27. Ken Miller. *Finding Darwin's God*. (New York: Harper Perennial, 2000).
 28. Francis Collins. *The Language of God*. Collins is a very interesting case as he is currently emerging as an important public intellectual. He stands alone as a traditional religious believer who has both a public "testimony" and scientific credentials.
 29. John Barrow. *The Anthropic Cosmological Principle* (with Frank Tipler). See also, *The World Within the World*, and *Pi in the Sky*.
 30. Simon Conway Morris, *Life's Solution: Inevitable Humans in a Lonely Universe* (Cambridge: Cambridge University Press, 2003).
 31. Francis Collins is an interesting case as he is currently emerging as an important public intellectual in America. He stands alone, however, as a traditional evangelical with both a public "testimony" and stature within the scientific community. Ken Miller has comparable stature and is a practicing Roman Catholic. The Nobel Laureate physicist William Phillips, who has not written much for popular audiences and is less well known than Collins or Miller, is another important scientific figure with traditional evangelical faith. But the leading public faces of science still tend to be dominated by people without religious beliefs.)
 32. Weinberg, *Facing Up: Science and its Cultural Adversaries* (Cambridge, Mass.: Harvard University Press, 2003), p. 242.

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