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Darwinism and Christianity: Must They Remain at War or Is Peace Possible?

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Since the time of the Greeks, science and religion have been two of the chief contenders for the role of human-produced systems or activities that yet in some sense and for some reason transcend the human experience. For much of the Christian era, it was religion particularly that was taken as the enterprise above all that tells of something over and above the lives of us mere mortals. But since the Enlightenment in the eighteenth century, increasingly, it has been science that has taken the front role and made the strongest claims as something that goes beyond the daily existence of humankind and tells of the deeper truths about reality. So long as religion was firmly in the driver's seat, it was happy to take science along as a passenger—less metaphorically, science was seen to fill out certain areas of knowledge and understanding within the overall picture provided by religion—by the Christian religion in particular. But as science grew and made its move to power and supremacy, increasingly science and religion have been seen as rivals. If one succeeds, the other cannot. Let me agree, at least for the purposes of argument, that as we enter the twenty-first century, science has won. It is seen—rightly fully seen—as the enterprise above all that tells us about the world as it truly is, the world that is not infected by the desires and activities of us humans. The question I now want to address is what this means for religion. Some would argue that this is the end of the matter. Religion is dead, and good riddance. Others, including non-believers like myself, are not so sure. Perhaps the success of science does not necessarily spell the failure of religion? The essay that follows is an attempt to explore some aspect of this question. I doubt it

will be the final word, but for me at least it is a first word. And every journey starts with a single step.

Prologue

We all know that the Christian fundamentalists—the biblical literalists or so-called creationists—have argued that Darwinism and Christianity are incompatible.¹ For these Christians, every word of the Bible must be taken at immediate face value. Understanding by “Darwinism,” the belief that all organisms living and dead have arrived by a slow process of evolution from forms very different and probably much simpler, and that the process of change was natural selection—the survival of the fittest—the incompatibility follows at once. What one also finds today, and this perhaps one might not expect, is that a number of articulate, prominent Darwinians agree entirely with the creationists. They, too, see science and religion in open contradiction.

It is completely unrealistic to claim . . . that religion keeps itself away from science’s turf, restricting itself to morals and values. A universe with a supernatural presence would be a fundamentally and qualitatively different kind of universe from one without. The difference is, inescapably, a scientific difference. Religions make existence claims, and this means scientific claims.²

Those who think in this way want to argue—with the creationists—that Darwinism is atheism with a scientific face. They too want to argue that, if one is a Darwinian, then logically one should deny the existence of God. To deny this is a sad reflection of the fact that a “cowardly flabbiness of the intellect afflicts otherwise rational people confronted with long-established religions.”³

In this essay, I shall look at this claim that Darwinism and atheism are different sides of the same coin. I shall consider what connection exists between the two. Although my interests are conceptual, as an evolutionist I like to set discussions in historical frameworks.⁴ Hence, I shall begin with a brief history showing why it is that Darwinism and Christianity have fallen out. Then, ignoring the fundamentalists, for nothing will change their minds—and in any case, their theology is in worse shape than their science or their philosophy—I shall consider the arguments of three people (Darwinians) who claim that there are tensions between Darwinism and Christianity. I shall argue that their arguments are less powerful than they might suppose and that perhaps the time has come to bury the hatchet. Peace between Darwinism and Christianity may be more constructive all around.

A Very Quick History of Evolution

Evolution, the idea that all organisms are the end product of a long, slow, natural process from simple forms (perhaps ultimately from inorganic materials), is very much a child of the Enlightenment, that secular flowering of thought in the eighteenth century. In particular, evolution was an epiphenomenon of hopes and ideas of progress: the social and cultural belief that, through human effort and intelligence, it is possible to improve knowledge, to use more efficiently our machines and technology, and overall to drive out superstition and prejudice and to increase the happiness of the peoples of the world. Believing strongly in the rule of law, enthusiasts for progress increasingly read their philosophy into the world of nature and saw there the same process of development and improvement. Then, they promptly read this developmentalism back into the social world, as confirmation of their beliefs!⁵

In many respects, obviously, these transmutationists were breaking with traditional religious forms and beliefs. Less upsetting than their contradiction of Genesis was their challenge to the belief that human destiny lies entirely at the mercy of God's unwarranted grace and that Divine Providence makes hopes of progress unnecessary and impossible. But, they were far from atheistic or agnostic. To a person, the evolutionists tended to think of God as Unmoved Mover—a being whose actions come through law and not miracle. In other words, they subscribed (as did many intellectuals of the day) to the philosophy of deism, as opposed to the faith of the theist, the belief in interventionist god of Christianity. And this in a sense set the tone for evolution, for its first hundred years, right up to the publication of the *Origin* in 1859. It was—and was seen as—a kind of extension of religious commitment and progressivist philosophy. It had the status of an unjustified and unjustifiable belief system. Judged as an empirical doctrine, it was a pseudoscience, akin to astrology or (and people drew this analogy) phrenology, the study of character through brain bumps. It was certainly not a respectable science—in many respects, as all (except the evolutionists themselves) could see, it was not a science at all but a background commitment on which one could hang all sorts of social and religious beliefs.

Charles Darwin set out to alter all of this. He was not just a serious thinker, he was (as much as it was possible for someone in the England of his day) a professional scientist. He had had training, he worked hard at science (first geology and then biology) all of his life, he mixed with the right people, he knew the rules of scientific method. His theory of evolution was intended to jack up the subject from the pseudo level to the professional level. He wanted, with his theory of natural selection as expounded in the *Origin*, to put forward what Thomas Kuhn⁶ has described as a paradigm—not merely a system that

tears people's allegiances from earlier thought patterns, but something that would provide work for future generations of scientists. He wanted to make a science on a par with physics and chemistry.

One should understand that although Darwin's thinking and work was revolutionary, he was not the Christian God. He did not make things out of nothing. He came from a rich and settled background.⁷ He drew on this and on the ideas to which he was exposed as he grew up into a very comfortable position in middle-class Britain. In particular, not only did Darwin draw on the philosophical and social ideals of his class—progress, laissez-faire economics, the virtues of industrialism, revulsion at such institutions as slavery, belief in the inherent superiority of the English—he drew also on elements of deism (particularly through his mother's family, which was Unitarian) and also Christian theism (not only through his own Anglican family, but also through his training at Cambridge University). Hence, although there may well have been tensions, for all that Darwin was promoting a view of origins that challenged older thought patterns, in respects one can see ways in which Christianity ought to have been able to reconcile itself with Darwinism. For instance, Darwin (unlike earlier evolutionists) spoke directly and strongly to Christian concerns with the evidence of God's labors in the world, specifically the ways in which organisms seem as if fitted or designed for their struggles. Again, whatever Darwin's own views on progress, as many have noted, natural selection is far from a ready and enthusiastic support for such a philosophy. It may be possible to preserve a role for Providence on the Darwinian scheme.

Nothing worked out as expected. It is true that people did become evolutionists. But Darwin's hope of a functioning, professional science, based on natural selection, simply did not come to be. Selection was ignored or brushed aside, evolution was pushed from the universities to the public lecture halls, and every social and cultural idea—and then some—was justified in the name of evolution. Those who did try to pursue some version of evolutionism in a systematic and professional way turned their backs on Darwin, preferring rather to embrace methods based on German idealism. They pulled back from the cutting edge of biology. They were stuck in the realm of transcendental morphology, forever spinning fantastical histories of their own making, with little regard for facts or method. Evolution as a science was deeply second-rate—evolutionists as scientists were deeply second-rate—and seen to be so. At the same time, from the moment the *Origin* appeared, evolution continued to function—to flourish—as a secular religion, as an inherently anti-Christian manifesto. With reason, many churchmen and scientists alike took it to be the line in the sand, the revealing litmus paper, between those who wanted to revert to the spiritual ways of the past and those who wanted to move forward to the secular ways of the future. The warfare between science and religion raged as though the aged Galileo had never risen from his knees.

Why did this happen? There is a simple and understandable reason. The

moment that the *Origin* appeared was the moment when many Victorians—and others elsewhere in Europe and (after the Civil War) in America also—realized that society could no longer function as it had in the past, with the rich and landed controlling everything, and with social issues and problems left simply to amateurs and to hopes of personal beneficence. Paternalism and privilege were out. Democracy and meritocracy were in. Large cities—London, Birmingham, Glasgow, Paris, Berlin, New York, Chicago—needed proper policing, proper local government, sewers, schooling, wholesome entertainment, and much more. The medical profession had got to stop killing people and to start curing. The military had to be properly trained—no more buying of commissions—and had to protect its soldiers from disease and poverty. Earlier in the decade there had been an absolute disaster in the Crimea, followed almost immediately by the trauma of the Indian Mutiny. Civil servants needed training and opportunities to advance on merit rather than simply on connection. Schools had to be built and staffed, they had to be places that taught skills for a modern world, breaking from the sterility of religious, rote learning.

Darwin's supporters—Thomas Henry Huxley in particular—were at the head of this movement.⁸ They worked hard and successfully to change their society. Huxley himself, first a college professor and then a dean, created and steered science education, at the primary, at the secondary, and at the university level. He found jobs for his graduates—medicine for the physiologists, teaching for the morphologists—and university posts for those who were the very best to come under his influence. And here's the rub! Ardent evolutionist though he became, Huxley could see no practical value in Darwinism. It would not cure a pain in the belly and it was far too speculative for the untrained minds of the young. But there was one role into which it fit naturally. Realizing that the church, the Anglican church particularly, was a bastion of support for the old ways—the vicar and the squire ruled together, often they were brothers—Huxley and his fellows determined to oppose Christianity tooth and nail. Realizing also that simple critique would not be enough, Huxley and friends grasped gratefully at evolution as their own banner, their own ideology, their own secular religion. It would tell us where we came from; it would stress the unique status of humans—the highest end point of the evolutionary process; it would offer hope for the morrow, if only we strive to conquer the beast within and to make for a better world, culturally and biologically; it would do all of these things and more.

Because Darwin himself did not provide such an ideology—although given his status, he certainly gave the movement respectability—the post-*Origin* evolutionists turned to other sources, notably Herbert Spencer in England and Ernst Haeckel in Germany.⁹ These men were happy to spin world pictures and to churn out moral dictates. And, before long, the evolutionists—indeed, almost all of those Victorian reformers—had their own true belief. Like the Jesuits of old, they had their standard around which they could all gather and

from which they could go forth. It was not for nothing that Huxley was jocularly known as “Pope” Huxley. Moreover, as good churchmen, the evolutionists even built their own cathedrals, where one could go to worship at the new altars. Except these cathedrals were called “museums” and they celebrated, not the crucified Christ, but the inevitable progress of life from blob to human, from savage to white man. Generations of little Londoners and New Yorkers were shipped over to the British Museum (Natural History) in South Kensington and up to the American Museum of Natural History alongside Central Park. Filled (as these institutions still are today) with those fabulous fossil finds pouring forth from the American West, there the citizens of tomorrow gazed and wondered at the marvels of evolution, imbibing the new religion for the new age.

Evolution moved up the social scale. It was no longer mere pseudoscience. But it did not reach the top levels, those of functioning, mature, professional science. Like the Grand Old Duke of York, it was stuck somewhere in the middle, as a kind of pop science, a sort of secular religion. And there it stayed right into the twentieth century, and for several decades of that era also. Finally, around 1930, seventy years after the *Origin* and after the development of the needed theory of heredity, Mendelian genetics, things finally began to change and to improve. A number of highly sophisticated mathematicians devised models to show how Darwin’s selection could be combined with the new genetics, thus producing a new theory of evolutionary change. And then the empiricists, especially those based in England and America, worked hard to put factual flesh on the mathematical skeletons of the theoreticians. “Neo-Darwinism” or the “synthetic theory of evolution,” a new professional science—that of which Charles Darwin could only dream—had finally arrived.

At least, that is what people hoped and—with a certain bravado—claimed. And, in fact, there is much truth to the claim that, by about the middle of the last century, evolutionary theory was finally a functioning paradigm. It provided a conceptual background for workers and new problems for those who would make careers on and around it. But, even now, all was not well. In America especially, there were still many out there who distrusted evolution and all for which it stood. In the 1920s, spurred by evolutionists’ practice of promoting their thinking less as a science and more as an ideology for new social movements, the biblical literalists had brought things to a head with the Scopes Monkey Trial, when a young teacher was prosecuted (and convicted) for teaching human origins. By mid-century these people were quiet, but it was the quiet of slumber, not death. They would be ready to rise again and to strike if evolution showed its social yearnings. And evolutionists themselves were not exactly best qualified to carry through their ends or even fully committed to what they preached—or rather, they were too fully committed to what they preached. For even the most ardent would-be professionals, the mathematics of the theoreticians was quite over their heads, used mainly as propa-

ganda against those who claimed that they had no theory rather than the basis for new and innovative understandings of the evolutionary process. Moreover, almost every one of the new would-be professional evolutionists was deeply committed to the nonscientific side of the subject, and most wrote book after book claiming that evolution may now be a science, but it was, and always will be, a lot more than a science. The extrascientific stain was still there, and most were not particularly keen to rub it out.

It was no wonder that many, including—perhaps, especially including—the aggressive new molecular biologists of the mid-century, regarded Darwinism with suspicion and contempt. There was a feeling that it is truly not top-quality science and that its practitioners have altogether too many extrascientific interests driving their studies. That, whatever might be claimed, it had not truly escaped the legacy of the past. With people like Julian Huxley—biologist grandson of Thomas Henry Huxley—preaching, from the chapel pulpit, the virtues of Darwinian humanism at *Origin* centenary celebrations at the University of Chicago, perhaps the critics had a point.

With Theodosius Dobzhansky, the most important American-based evolutionist of his generation, assuming the presidency of the Teilhard de Chardin Society, the critics almost certainly had a point.

Another half century has now passed. The past four or five decades have seen much effort by evolutionists to move on. Without suppression of personal yearnings and values, the goodies of modern science—grants, posts, students, prizes, fame—are forever barred. And, to be fair, there are now, at most good universities, professional evolutionists plying their trade for the sake of the science—discovery, explanation, prediction—without implicit or explicit motives, ideological, religious, or whatever.¹⁰ But one cannot truly say that modern professional evolutionism is yet the queen of the sciences—or even in the highest league. Apart from the continued dominance of the physical sciences, in biology it is still the molecular world that gains the biggest grants, gets the first crop of the students, has the status and facilities and glamour and prizes. Intellectually, modern evolutionary biology can be very exciting, but—despite proselytizing efforts by enthusiasts for so-called Darwinian medicine—it still has little (or, rather, is perceived to have little) or no practical value. It still suffers fatally from a lack of compelling reasons for funding. Even when it allies itself with such trendy topics as ecology, it tends to be down the scientific totem pole, and this tells. The bright and the ambitious look elsewhere.

This is not all. There is still the fact that—for all of the efforts at professionalization—many evolutionists are in the business, in part if not primarily, for the extrascientific juices to be wrung from the theory. Juices, that critics complain with reason, had first to be injected into the system. There are those who openly devote much or most of their labors to the broader meanings of evolution, and there are many others who, for all that they pretend to full-time scientific studies, are certainly not beyond using their ideas and models to

further social and political agendas that they favor. And, as with religion—as with Christianity, especially—one gets sects and denominations, and the differences and fighting between evolutionists gets as sour and personal as it so usually is when close relatives fall out.

Edward O. Wilson

History gives us a reason why people think that Darwinism and Christianity are going to be things apart, at war rather than peace. But is this inevitable? What about the arguments? Is there reason to think that a Darwinian cannot possibly be a Christian, or is the opposition truly a legacy from intentions and aims from the past—intentions and aims that we today do not necessarily share? Let us turn now to some of the arguments used by those who would put Christianity and Darwinism apart. I shall take in turn the arguments of three recent writers: the Harvard entomologist and sociobiologist Edward O. Wilson; Richard Dawkins, popularizer and spokesman for atheism; and myself, a historian and philosopher of science.¹¹

Edward O. Wilson is an interesting case. Although he is no Christian, in many respects he is significantly more sympathetic to religion in general and perhaps even to Christianity in particular than many Darwinian nonbelievers. Wilson recognizes the importance of religion and its widespread nature: he is very far from convinced that one will ever eliminate religious thinking from the human psyche, at least as we know it. “The predisposition to religious belief is the most complex and powerful force in the human mind and in all probability an ineradicable part of human nature.”¹² As far as Wilson is concerned, religion exists purely by the grace of natural selection: those organisms that have religion survive and reproduce better than those that do not. Religion gives ethical commandments, which are important for group living; also, religion confers a kind of group cohesion—a cohesion that is a very important element of Wilson’s picture of humankind:

religions are like other human institutions in that they evolve in directions that enhance the welfare of the practitioners. Because of this demographic benefit must accrue to the group as a whole, it can be gained partly by altruism and partly by exploitation, with certain sectors profiting at the expense of others. Alternatively, the benefit can arise as the sum of the generally increased fitness of all of the members.”¹³

Wilson makes it clear that in fact he thinks that religion is ingrained directly into our biology. Thanks to our genes, it is part of our innate nature. “The highest forms of religious practice, when examined more closely, can be seen to confer biological advantage. Above all they congeal identity.”¹⁴

Wilson does believe that giving a Darwinian explanation—Wilson would call it giving a “sociobiological” explanation—does make it possible to deny religion the status of a body of true claims. And indeed, given our religious needs, this means that in some sense Wilson’s position requires that the biology itself become an alternative secular religion.

But 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. Its narrative form is the epic: the evolution of the universe from the big bang of fifteen billion years ago through the origin of the elements and celestial bodies to the beginnings of life on earth. The evolutionary epic is mythology in the sense that the laws it adduces here and now are believed but can never be definitively proved to form a cause-and-effect continuum from physics to the social sciences, from this world to all other worlds in the visible universe, and backward through time to the beginning of the universe. Every part of existence is considered to be obedient to physical laws requiring no external control. The scientist’s devotion to parsimony in explanation excludes the divine spirit and other extraneous agents. Most importantly, we have come to the crucial stage in the history of biology when religion itself is subject to the explanations of the natural sciences. As I have tried to show, sociobiology can account for the very origin of mythology by the principle of natural selection acting on the genetically evolving material structure of the human brain.

If this interpretation is correct, the final decisive edge enjoyed by scientific naturalism will come from its capacity to explain traditional religion, its chief competition, as a wholly material phenomenon. Theology is not likely to survive as an independent intellectual discipline.¹⁵

I am not interested here in critiquing Wilson’s scientific position. Let us take his position at face value and ask what Wilson’s implication has for Christianity, particularly vis-à-vis the whole issue of atheism. I take it that, in Wilson’s own mind, what is happening is that Darwinism is explaining religion (including Christianity) as a kind of illusion: an illusion that is necessary for efficient survival and reproduction. Once this explanation has been put in place and exposed, one can see that Christianity has no reflection in reality. In other words, epistemologically one ought to be an atheist. What makes Wilson particularly interesting is that—atheist although he may be—he still sees an emotive and social power in religion. He would, therefore, replace spiritual religion with some kind of secular religion. Which secular religion, as it turns out, happens to be Darwinian evolutionism.

Of course, the kind of argument that Wilson is promoting is hardly new. Both Karl Marx and Sigmund Freud proposed similar sorts of arguments: trying to offer a naturalistic explanation of religion, arguing that once one has this explanation in place, one can see that the belief system is false. So already I doubt the absolutely essential Darwinian component to the general form of the argument. But even if the argument were sometimes well taken, what of the specific case of Darwinism and Christianity? The missing elements in Wilson's case are crucial. The fact that one has an evolutionary explanation of religion is surely not in itself enough to dismiss the belief system as illusory or false. We might offer an evolutionary explanation as to why somebody spots a speeding train, but the fact that it is an evolutionary explanation does not make the existence of the speeding train fictitious.¹⁶ Indeed, if anything, the evolutionary explanation convinces us that we do have a true perception of the speeding train. If evolution led us think that it was turtledove rather than a train it would not be of much survival value. None of this is to deny that people have proposed arguments suggesting that belief in Christianity is unsound, ridiculous even. There are all sorts of paradoxes that the Christian must face. But whether or not one can defend Christianity against such charges, I do not see that the charges themselves have been brought on by Darwinism: which is the nub of this discussion. Hence, although Wilson may be right about the evolutionary basis of a belief in Christianity, he is wrong in thinking that this necessarily destroys the truth-value of Christianity.

Richard Dawkins

Let me start by quoting a couple of paragraphs from an interview that Dawkins gave recently.

I am considered by some to be a zealot. This comes partly from a passionate revulsion against fatuous religious prejudices, which I think lead to evil. As far as being a scientist is concerned, my zealotry comes from a deep concern for the truth. I'm extremely hostile towards any sort of obscurantism, pretension. If I think somebody's a fake, if somebody isn't genuinely concerned about what actually is true but is instead doing something for some other motive, if somebody is trying to appear like an intellectual, or trying to appear more profound than he is, or more mysterious than he is, I'm very hostile to that. There's a certain amount of that in religion. The universe is a difficult enough place to understand already without introducing additional mystical mysteriousness that's not actually there. Another point is esthetic: the universe is genuinely mysterious, grand, beautiful, awe inspiring. The kinds of views of the universe which reli-

gious people have traditionally embraced have been puny, pathetic, and measly in comparison to the way the universe actually is. The universe presented by organized religions is a poky little medieval universe, and extremely limited.

I'm a Darwinist because I believe the only alternatives are Lamarckism or God, neither of which does the job as an explanatory principle. Life in the universe is either Darwinian or something else not yet thought of.¹⁷

These paragraphs are very revealing, not the least for showing the emotional hostility that Dawkins feels towards religion, including (obviously) Christianity. I am sure the reader will not be surprised to learn that Dawkins has recently characterized his move to atheism from religious belief as a "road to Damascus" experience.¹⁸ Saint Paul would have recognized a kindred spirit. But my purpose in quoting Dawkins's words here is not so much to pick out the emotion, as to point to the logic of Dawkins's thinking. This comes through particularly in the second paragraph just quoted. It is clear that for Dawkins we have here an exclusive alternation. Either you believe in Darwinism or you believe in God, but *not both*. For Dawkins there is no question for what philosophers call an inclusive alternation, that is to say either A or B or possibly both. (The third way mentioned is Lamarckism, the inheritance of acquired characteristics. But neither Dawkins nor anybody else today thinks that this is a viable evolutionary mechanism.)

Why not simply slough off Christianity and ignore it? Things are not this simple. Dawkins—like any good Darwinian, including Charles Darwin himself—recognizes that the Christian religion poses the important question, namely that of the design-like nature of the world.¹⁹ Moreover, Dawkins believes that until Charles Darwin no one had shown that the God hypothesis, that is to say the God-as-designer hypothesis, is untenable: more particularly, Dawkins argues that until Darwin no one could avoid using the God hypotheses. He makes reference to William Paley, Archdeacon of Carlyle, whose *Natural Theology* of 1802 contained the definitive statement of the argument from design—the eye is like a telescope, telescopes have telescope makers, hence the eye has an eye maker, the Great Optician in the Sky.

I feel more in common with the Reverend William Paley than I do with the distinguished modern philosopher, a well-known atheist, with whom I once discussed the time before 1859, when Darwin's *Origin of Species* was published. "What about Hume?" replied the philosopher. "How did Hume explain the organized complexity of the living world?" I asked. "He didn't," said the philosopher. "Why does it need any special explanation?"²⁰

Why should we not say, with earlier Darwinians who were also Christians, that the alternation is inclusive? Why should we not say that Dawkins is cer-

tainly right in stressing the design-like nature of the organic world, but he is wrong in thinking that it is either Darwinism or God, but not both? At least, even if he is not wrong, he has failed to offer an argument for this? There have been many evolutionists in the past who quite happily argued that the design-like nature of the world testifies to God's existence? It is simply that God created through unbroken law. Indeed, people in the past would argue that the very fact that God creates through unbroken law attests to his magnificence. Such a God is much superior to a God who had to act as Paley's watchmaker would have acted, that is through miracle.

But is this an acceptable position to take? Let us go back to Darwin and to an argument he had with his great American supporter Asa Gray. The American feared that pure Darwinism insists that natural selection works on random variation and the very fact of randomness in some sense weakens any kind of Christian design. "So long as gradatory, orderly, and adapted forms in Nature argue design, and at least while the physical cause of variation is utterly unknown and mysterious, we should advise Mr. Darwin to assume, in the philosophy of his hypothesis, that variation has been led along certain beneficial lines."²¹ Against this Darwin responded that this was really most improbable. "I come to differ more from you. It is not that designed variation makes, as it seems to me, my deity "Natural Selection" superfluous, but rather from studying, lately, domestic variation, and seeing what an enormous field of undesignated variability there is there ready for natural selection to appropriate for any purpose useful to each creature."²² Darwin's point seems to be that, although the world is indeed design-like, the mechanism of natural selection somehow precludes any kind of God except at a very distant sort of way: eighteenth-century deism rather than nineteenth-century Anglo-Catholicism. Darwin's argument bears on the unlikelihood that the Christian God would have been quite as indifferent to organic need as selection supposes at this point.

However, interestingly, with respect to this line of argument, Dawkins himself downplays the significance of the randomness of variation—the point of worry for Asa Gray. In a brilliant chapter of *The Blind Watchmaker*, Dawkins shows how computer programs can, very rapidly indeed, generate order from randomness.

We have seen that living things are too improbable and too beautifully designed to have come into existence by chance. How, then, did they come into existence? The answer, Darwin's answer, is by gradual, step-by-step transformations from simple beginnings, from primordial entities sufficiently simple to have come into existence by chance. Each successive change in the gradual evolutionary process was simple enough, *relative to its predecessor*, to have arisen by chance. But the whole sequence of cumulative steps constitutes anything but a chance process, when you consider the complexity of the

final end-product relative to the original starting point. The cumulative process is directed by nonrandom survival. The purpose of this chapter is to demonstrate the power of this *cumulative selection* as a fundamentally nonrandom process.²³

Precisely! The randomness of mutation is reduced to a mere technical detail. It is not something with profound implications, and certainly not something with profound theological implications. It is simply the raw material on which evolution builds: the fact that it is random is really quite irrelevant given the swamping nature of the selective process. The possibility that God creates through Darwinian law is still a live option.

Dawkins has other arguments for his case that Darwinism is incompatible with Christianity. Let me look at just one, an argument penned in response to the “Message to the Pontifical Academy of Sciences” sent by Pope John Paul II on October 22, 1996, in which the pontiff states that new discoveries have made the theory of evolution more than a mere hypothesis. To say that Dawkins is less than overwhelmed or grateful is to understate matters considerably. “Given a choice between honest to goodness fundamentalism on the one hand, and the obscurantist, disingenuous doublethink of the Roman Catholic Church on the other, I know which I prefer.”²⁴ Dawkins main argument against the Pope, one which does see explicit conflict between Darwinism and Christianity, comes over the evolution of humankind. The Pope says:

Revelation teaches us that [man] was created in the image and likeness of God. . . . if the human body takes its origin from pre-existent living matter, the spiritual soul is immediately created by God. . . . Consequently, theories of evolution which, in accordance with the philosophies inspiring them, consider the mind as emerging from the forces of living matter, or as a mere epiphenomenon of this matter, are incompatible with the truth about man. . . . With man, then, we find ourselves in the presence of an ontological difference, and ontological leap, one could say.²⁵

To which, Dawkins sneers: “Catholic morality demands the presence of a great gulf between *Homo sapiens* and the rest of the animal kingdom. Such a gulf is fundamentally antievolutionary. The sudden injection of an immortal soul in the time-line is an antievolutionary intrusion into the domain of science.”²⁶ In Dawkins’s thinking, the coming of the soul not only infringes on the domain of science, it is profoundly antievolutionary. It makes for the arrival of a new entity in a way incompatible with a Darwinian perspective. But is this so? The answer obviously depends on what precisely one is supposing to have arrived. If one simply identifies mind with soul, then one is indeed in trouble. Qua Darwinian, one is indeed going to think that the mind is a product of evolution and came about naturally and gradually. There is no such ontological

gap between humans and animals. Hence, there does here seem to be a clash between Darwinism and Christianity. But in fact—for all the influence of Greek thought (which as against Jewish thought did identify the mind as the distinguishing and separable characteristic of humankind) on early Christianity—it is not part of Christian theology that it is the mind which separates us from the beasts. Rather it is our souls. Newborn babies have no minds, but they have souls. In fact, speaking of minds, the biblical term is less that of “mind” and more that of “spirit”; although, even with this clarification, there is no clear guidance on the exact relationship between spirit and soul—trichotomists separating them (with body as the third element) and dichotomists putting them together. (The Fourth Council of Constantinople, 869–879 AD, condemned the trichotomous view, but there is biblical support for it.)

One helpful student of “Christian anthropology” writes on this whole matter as follows:

What is distinctive about human beings is not that they have a ‘soul’ which animals do not possess, nor that they have a ‘spirit’ which other creatures do not possess, but that, as ‘ensouled body’ and ‘embodied soul’, the ‘spirit’ of that existence is opened towards God in a unique way as the source of life. The whole of human life, body and soul, is thus oriented towards a destiny beyond mortal or natural life. This endowment of life is experienced as the image and likeness of God. While the physical body itself is not held to be in the image of God, human beings as ‘embodied souls’ are in the image of God.

The consensus of modern theologians seems to be that the human spirit should not be viewed as a third aspect of the self, as distinguished from body and soul. Rather, the human spirit is the existence of the self as ensouled body and embodied soul as the particular moral and spiritual agent responsible for loving God with all one’s heart, mind and soul, and one’s neighbor as oneself (Matt. 22: 37–9). The ‘life’ which is constitutive of human being is at the same time a bodily life, a life of the soul, and a spiritual life. It would not be the life of the spirit if it were not for the fact that body and soul in their interconnection constitute a living person. Because there is a precedence which the soul exercises with respect to the body, the soul becomes the primary orientation of the spirit in this life. This allows for a duality of human being without creating a dualism and opposition between body and soul. In the resurrection, there will be a ‘spiritual body,’ suggesting that the concept of a disembodied soul is alien to a biblical anthropology even through the experience of death and resurrection (1 Cor. 15: 44; 2 Cor. 5: 1–10).²⁷

What is clear from this discussion is that the Christian notion of soul and/or spirit is not simply that of mind—which latter is the natural entity (whether or not material) which is the subject of evolution. You may not think that the notion of soul is coherent or makes much sense—I am not sure that I do. But that is another matter. The point is that the Christian notion is very clearly not something which is a natural entity and as such is not subject to scientific understanding. I agree that the Christian now has problems about when exactly humans got souls and whether it was a one-shot event for a limited number of humans or whether (contrary to the Pope) souls evolved in some way. Do dogs have souls? Did the Neanderthals have souls? But these are surely theological questions which, although they may be influenced or constrained by science (if full intelligence is needed for souls, then one doubts that four million years ago there were beings—beings such as *Lucy*, *Australopithecus afarensis*—which had souls), are not themselves scientific questions. In other words, I do not see that Dawkins's critique is well taken.

Michael Ruse

I want now to consider a Darwinism-based argument that I have myself put forward against Christian belief. This is an argument which centers in on the moral aspects of Christian belief: in particular, the claims by the Christian, based on the sayings of Jesus and his followers, that one has a moral obligation to love one's neighbor as oneself. It was a claim that worried me when I was a Christian, and worries me still, now that I have lost my faith. My concern is that there are good biological reasons for thinking that morality will be a differential affair. That we will (and do) have a moral sense which leads us to think that we have special obligations to our closest relatives. Then we will feel lesser obligations to those further from our central bloodline. Next, to our own particular group of acquaintances. Finally, we reach out morally to strangers in other lands. I am not saying that Darwinian biology suggests that we have no obligations whatsoever to total strangers. What I am suggesting is that we will feel that we have stronger obligations to close relatives and that this is the way that morality functions. And my worry is that this belief or conclusion clashes with the love commandment. There is a clash here: Jesus intends us to love everyone, friend and stranger indifferently, not just our children and siblings.²⁸

How does one set about countering this worry? Obviously, I am not the best of all possible people to do this; but let me at least try to probe weaknesses in my own position. There are two tacks that one can take. One is simply to agree that the love commandment has a somewhat restricted differential import. One suggests that when Jesus told us to love our neighbours as ourselves, he was not telling us to go off and seek out absolute strangers, willy-nilly.

Certainly, Jesus intended us to care for strangers when they come into our orbit: remember the parable of the good Samaritan. But, basically, what Jesus expected of us was good behaviour toward those in our immediate group. The centurion did not get a dressing-down because it was his own daughter that caused him concern. Jesus obviously intended that we should look after our children and our aged parents and the like, and then our friends in distress and so on and so forth, as the circle widens out. This kind of interpretation of the love commandment fits in absolutely with the biological interpretation and seems to cause no tensions whatsoever.

The other way in which one could set about to try to solve this problem would be by agreeing that the love commandment does reach to all people indifferently: I have as much of an obligation to the unknown starving child in central Africa as I have to my own children. Here, one has to recognize that the biology does not fit well with the Christian imperatives. But surely it is open for someone to say that that is precisely the point! When Jesus was preaching the binding nature of the love commandment, he was not preaching to the converted. He was rather addressing people who fell badly short of this. The relevance of biology at this point lies in the way that it points to our limited nature: in some sense, one might say that it picks up on the Christian notion of original sin.²⁹ Not that biology supports the idea of a literal Adam and Eve eating the apple that God had forbidden, but rather that Darwinism picks up on the essential truth behind the doctrine of the original sin, namely that we humans fail abysmally against the moral standards that God has set. Here, then, one could argue that far from Darwinism undermining the Christian position, in a way it could be seen to support it.

I rather like this second argument. It takes the offensive, making Darwinism a positive part of the solution, not merely something to be excused and explained away. But is it adequate? One might argue that the whole point about original sin is that this is something that we humans freely choose. Of course, there are questions about why those of us who are descended from Adam continue to be tainted with original sin, even though we did not ourselves originally taste the apple. But, the point about original sin is that it was a free and conscious choice at some level, whereas the whole point about the Darwinian explanation is that this is something laid on us by our evolution, which the Christian must ultimately put down to God's responsibility. So in a way, the original sin is not our fault but God's!

I expect that there is some way around this problem, but I draw attention to it to show there is going to be some tensions at this point. I am afraid, however, I am going to have to leave the discussion as an exercise for the reader, reminding you that I went into this discussion acknowledging that I of all people was not the best suited for the argument and its counters! I certainly do not claim that the Darwinian position necessarily leads to atheism. I have

never claimed this. Although, I do confess that my arguments were intended to throw some doubt on the existence and workings of the Christian God.

Conclusion

My conclusion is simple. Darwinism and Christianity were put in opposition, primarily by the Darwinians, for social and political reasons of the mid-nineteenth century. Although many today think that there still is this opposition—and socially it certainly exists—I am not at all sure that intellectually there need be such a gap. If Wilson, Dawkins, and Ruse are representative of the opposition, then intellectually there need be no such gap. I am not saying that bringing Darwinism and Christianity together is an easy job. But, as I have said elsewhere,³⁰ whoever said that the worthwhile things in life are easy?

NOTES

1. P. Johnson, *Darwin on Trial* (Washington, D.C.: Regnery Gateway, 1991); *Reason in the Balance* (Downer's Grove: Intervarsity Press, 1995).
2. R. Dawkins, "Obscurantism to the Rescue," *Quarterly Review of Biology* 72 (1997): 397–399.
3. *Ibid.*, 397.
4. Michael Ruse, *The Darwinian Revolution* (Chicago: University of Chicago Press, 1979); *Monad to Man: The Concept of Progress in Evolutionary Biology* (Cambridge: Harvard University Press, 1996); *The Evolution Wars* (Santa Barbara: ABC-CLIO, 2000).
5. Ruse, *Monad: Mystery of Mysteries* (Cambridge: Harvard University Press, 1999).
6. *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962).
7. J. Browne, *Charles Darwin: Voyaging* (New York: Knopf, 1995).
8. A. Desmond, *Huxley: The Devil's Disciple* (London: Michael Joseph, 1994); *Huxley: Evolution's High Priest*, 1997.
9. R. J. Richards, *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior* (Chicago: University of Chicago Press, 1987).
10. Ruse, *Monad: Mystery of Mysteries*.
11. See also Ruse, *Can a Darwinian Be a Christian?* (Cambridge: Cambridge University Press, 2001).
12. E. O. Wilson, *On Human Nature* (Cambridge: Harvard University Press, 1978), 169.
13. *Ibid.*, 174–175.
14. *Ibid.*, 188.
15. *Ibid.*, 192.

16. R. Nozick, *Philosophical Explanations* (Cambridge: Harvard University Press, 1981).
17. R. Dawkins, "Richard Dawkins: A Survival Machine," in *The Third Culture*, ed. J. Brockman (New York: Simon and Schuster, 1995), 85–86.
18. Richard Dawkins, "Religion Is a virus," *Mother Jones*, November–December 1997.
19. Richard Dawkins, *The Blind Watchmaker* (New York: W. W. Norton, 1986).
20. *Ibid.*, 5.
21. Asa Gray, *Darwiniana* (Cambridge: Harvard University Press, [1876] 1963), 121–122.
22. J. Moore, *The Post-Darwinian Controversies* (Cambridge: Cambridge University Press, 1979), 274.
23. Dawkins, *Watchmaker*, 43.
24. Dawkins, "Obscurantism," 399.
25. John Paul II, "The Pope's Message on Evolution," *Quarterly Review of Biology* 72 (1997): 377–383.
26. Dawkins, "Obscurantism," 398.
27. R. S. Anderson, "Christian Anthropology," in *Blackwell Encyclopedia of Modern Christian Thought* (Oxford: Blackwell, 1993), 5–9.
28. See Ruse, *Taking Darwin Seriously* (Oxford: Blackwell, 1986); "Evolutionary Ethics," *Zygon* 21 (1986): 95–112; *The Darwinian Paradigm* (London: Routledge, 1989); and *Evolutionary Naturalism* (London: Routledge, 1995). Also E. Wallwork, "Thou Shalt Love Thy Neighbor as Thyself," *Journal of Religious Ethics* 10 (1982): 264–319.
29. Ruse, *Can a Darwinian Be a Christian?*
30. *Ibid.*

BIBLIOGRAPHY

- Anderson, R. S. "Christian Anthropology." *Blackwell Encyclopedia of Modern Christian Thought*, edited by A. McGrath. Oxford: Blackwell, 1993.
- Browne, J. *Charles Darwin: Voyaging*. Vol. 1. New York: Knopf, 1995.
- Dawkins, R. "Richard Dawkins: A Survival Machine." In *The Third Culture*, edited by J. Brockman. New York: Simon and Schuster, 1995.
- . *The Blind Watchmaker*. New York: W. W. Norton, 1986.
- . "Religion Is a Virus." *Mother Jones* (November/December 1997).
- . "Obscurantism to the Rescue." *Quarterly Review of Biology* 72 (1997): 397–399.
- Desmond, A. *Huxley: The Devil's Disciple*. London: Michael Joseph, 1994.
- . *Huxley: Evolution's High Priest*. London: Michael Joseph, 1997.
- Gray, A. *Darwiniana*. Cambridge: Harvard University Press, 1963.
- John Paul II. "The Pope's Message on Evolution." *Quarterly Review of Biology* 72 (1997): 377–383.
- Johnson, P. E. *Darwin on Trial*. Washington, D.C.: Regnery Gateway, 1991.
- . *Reason in the Balance: The Case Against Naturalism in Science, Law and Education*. Downers Grove, Ill.: InterVarsity Press, 1995.

- Kuhn, T. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press, 1962.
- Moore, J. *The Post-Darwinian Controversies: A Study of the Protestant Struggle to Come to Terms with Darwin in Great Britain and America, 1870–1900*. Cambridge: Cambridge University Press, 1979.
- Nozick, R. *Philosophical Explanations*. Cambridge: Harvard University Press, 1981.
- Paley, W. *Natural Theology: Collected Works*. Vol. 4. London: Rivington, [1802] 1819.
- Richards, R. J. *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior*. Chicago: University of Chicago Press, 1987.
- Ruse, M. *The Darwinian Revolution: Science Red in Tooth and Claw*. Chicago: University of Chicago Press, 1979.
- . “Evolutionary Ethics: A Phoenix Arisen.” *Zygon* 21 (1986): 95–112.
- . *Taking Darwin Seriously: A Naturalistic Approach to Philosophy*. Oxford: Blackwell, 1986.
- . *The Darwinian Paradigm: Essays on Its History, Philosophy and Religious Implications*. London: Routledge, 1989.
- . *Evolutionary Naturalism: Selected Essays*. London: Routledge, 1995.
- . *Monad to Man: The Concept of Progress in Evolutionary Biology*. Cambridge: Harvard University Press, 1996.
- . *Mystery of Mysteries: Is Evolution a Social Construction?* Cambridge: Harvard University Press, 1999.
- . *The Evolution Wars: A Guide to the Controversies*. Santa Barbara: ABC-CLIO, 2000.
- . *Can a Darwinian Be a Christian? The Relationship Between Science and Religion*. Cambridge: Cambridge University Press, 2001.
- Wallwork, E. “Thou Shalt Love Thy Neighbour as Thyself: The Freudian Critique.” *Journal of Religious Ethics* 10 (1982): 264–319.
- Wilson, E. O. *On Human Nature*. Cambridge: Cambridge University Press, 1978.