



## Faith, Fact, and False Dichotomies

*Austin L. Hughes*

Evolutionary biologist Jerry Coyne has a bone to pick with his fellow citizens. According to polling data, far too many Americans harbor ideas that seem to him to smack of creationism. Even the publication of his 2009 book *Why Evolution is True* (which, he proudly notes, made its way “briefly onto the *New York Times* bestseller list”) failed to change the poll numbers appreciably. Rather than considering the possibility that the difficulty lies with evolutionary biologists’ failure to make a convincing case for their theories or with the generally dismal state of the American educational system, Coyne is convinced that he has identified the source of the problem: religion. So Coyne’s latest book *Faith Versus Fact* has as its aim to annihilate religion, and thereby (as he sees it) to make the world safe for evolutionary theory and other forms of right thinking.

One might think that, if Coyne’s goal is to increase the acceptance of evolutionary ideas, he would emphasize their compatibility with religion, thereby reassuring religious

Americans that evolution poses no threat to their belief systems. However, Coyne, a professor at the University of Chicago, has nothing but disdain for any such “accommodationism,” as he calls it. Rather, he argues not only that certain religious ideas (like “young-earth creationism”) are incompatible with dominant paradigms in biology and geology but that *all of religion* is incompatible with *all of science*. This is a rather extraordinary claim, and the arguments Coyne develops to support it are extraordinary mainly for their speciousness.

Coyne cites with approval the writings of the “new atheists” such as Richard Dawkins and Sam Harris, and much of his writing is derivative of their already highly derivative writings. Coyne also shares

with the new atheists an almost complete ignorance of three disciplines that would seem essential to any serious discussion of the topic he has set for himself; namely, religion itself, history, and philosophy. For example, as regards the supposed history of conflict between science and religion,

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Coyne limits his citations to two late-nineteenth-century books that no intellectual historians take seriously today, entirely avoiding the rich scholarly literature on the role of philosophical and religious ideas in the genesis of what we now call science. Coyne is understandably dismissive of the “flood geology” school of creationist writings, but he fails to appreciate that his own approach to history is every bit as unscholarly as are creationist forays into hydrology and biogeography.

Coyne’s basic strategy is to contrast two monolithic entities that he calls “religion” and “science.” But he constructs his two monoliths in diametrically opposite ways. The “religion” monolith consists of everything that has ever been said by any person belonging to any religion whatever, lumping together official dogma, theological speculation, and popular belief. Putting all of this under one umbrella makes it possible for him to discredit “religion” in general by citing some of the more outlandish beliefs and practices. Joseph Smith and Thomas Aquinas, Mary Baker Eddy and Mother Teresa were all “religious” figures; so in Coyne’s eyes they are all tarred with the same brush.

Coyne’s procedure for describing “science” is very different; his “science” monolith represents only the very best of science, only those theories that are strongly supported

by evidence and have withstood the rigors of numerous attempts at empirical falsification. Although he speaks eloquently of the constant criticism and examination of hypotheses that is a prerequisite to progress in science, he neglects to mention that in practice this process can be quite messy. Even apart from cases of outright fabrication, the mainstream scientific literature is full of false inferences and of theories so untestable that they fully merit designation as “pseudoscience.”

I know by painful experience that a continual admixture of junk with solid science is characteristic of my own field (which, like Coyne’s, is evolutionary biology). I mention this not to give aid and comfort to the creationists, but to highlight a reality with which every practicing scientist is familiar; and I have no reason to believe that my field of scientific endeavor is different from any other in this regard. Separating the wheat from the chaff is a day-to-day struggle in all of science. It is never easy, and its outcome is by no means guaranteed. We all know of ridiculous theories (Social Darwinism, eugenics, Marxism, Freudianism, Lysenkoism, and so forth) that in the not-too-distant past claimed for themselves the mantle of science, and it would be naïve to assume that the same thing can never happen again. Much of so-called “evolutionary psychology” (hailed by Coyne as a promising new development) is

every bit as pseudoscientific as its Social Darwinist precursors; indeed one would be hard pressed to find a reason for saying that much of it is any more “fact-based” than the ideas of Mary Baker Eddy.

As with the new atheists, what Coyne is attempting in *Faith Versus Fact* falls under the general heading of philosophy. But his philosophical training seems inadequate to the task, since he fails to develop a consistent terminology and to construct arguments with any degree of rigor. For example, he states that “truth is simply what *is*”—a statement which (if it is not a tautology) seems to represent some sort of groping toward the Scholastic *adaequatio mentis ad rem* and an acknowledgment that there is such a thing as objective truth (a rather bold and controversial position to take in some academic circles these days, unfortunately). But on the very next page, Coyne states that “widespread agreement by scientists about what is true does not guarantee that that truth will never change.” What he is trying to express is something about the provisional nature of scientific theories, with which virtually all scientists and philosophers of science would agree. But Coyne’s inability to formulate his thoughts in clear and distinct form makes it look as if he is writing nonsense.

As Coyne notes, certain “accommodationists” attempt to paper over apparent contradictions between religious and scientific accounts of

nature, often by denying that religious speech is really about anything at all. Coyne will have none of that; rather, he recognizes that religious statements make truth claims, thereby showing a greater respect for religious thinking than do those who would reduce religion to mere emotive lyricism. But Coyne goes on to assert that, since religious statements purport to tell us something true about reality, they are scientific hypotheses and deserve to be treated like any other scientific hypotheses. Coyne repeatedly equates making truth claims with stating “empirical hypotheses” or “empirical claims,” a rhetorical bait-and-switch that is central to his critique of religion.

What Coyne means by an “empirical claim” can be gleaned from what he has to say about the scientific method. As regards the philosophy of science, Coyne is a follower of Karl Popper; he views falsifiability as the hallmark of an empirical hypothesis and (in agreement with most practicing scientists) the attempt to falsify hypotheses as the ordinary activity of empirical scientists. However, even though Coyne claims that religious statements are empirical hypotheses, he holds religion to an entirely different standard. Though Coyne is a Popperian falsificationist when it comes to science, he is an old-fashioned verificationist when it comes to religion.

As an epigraph to *Faith Versus Fact*, Coyne offers the following from the poet Shelley: “God is an hypothesis,

and, as such, stands in need of proof: the *onus probandi* [burden of proof] rests on the theist.” Throughout his book, Coyne rejects religious “hypotheses,” from the existence of God to the Resurrection of Jesus and miracles at Lourdes, because (according to him) there is no evidence proving them. But to a Popperian, no scientific hypothesis would be tenable if we demand that it be proved in order to accept it; the best we can say about any empirical hypothesis is that we accept it provisionally as long as we have no evidence to falsify it. If religious beliefs are indeed empirical hypotheses, why do they not benefit from the same treatment? Surely no rational person can claim that we have evidence sufficient to falsify even the occurrence of miracles at Lourdes, let alone the existence of God.

In fact, we can easily see that the “God hypothesis” is nothing like a standard scientific hypothesis if we consider what sort of evidence might serve to falsify it. A favorite ploy of atheists old and new (including Coyne) is to claim that our universe is not the sort of universe that we would predict if God exists. For example, they may suggest that if God exists there would be less suffering in the universe, and therefore the fact of suffering is evidence against the existence of God. But this kind of argument totally misses the point of the “God hypothesis.” The “God hypothesis” holds not that the universe would take this or that form if

God did not exist, but that if God did not exist, neither would the universe. The only evidence that would count as falsification of the “God hypothesis” would be if there was nothing at all—in which case there would be no one to formulate the hypothesis or to observe that it had been falsified.

By equating “truth claims” with “empirical claims,” Coyne denies the existence of propositions that make truth claims but are not empirically testable. Yet ironically, throughout his book, Coyne makes arguments that rely implicitly on just such propositions. Statements about ethics provide an example. In Coyne’s final chapter (“Why Does It Matter?”), he describes various practical consequences of religious belief, which he believes to be ethically wrong or socially undesirable, including the death of children whose parents belong to sects or cults that deny needed medical care. Most readers will surely agree with Coyne that such deaths are terribly wrong, but not on empirical grounds. The statement “Denying needed medical care to a child is wrong” makes a strong truth claim, but not an empirical claim.

Even more central to Coyne’s argument is yet another class of statements that make truth claims but are not empirically testable: the statements of metaphysics. Coyne clearly believes in the reliability of the scientific method, but whatever reason one gives for concluding that the

scientific method is reliable inevitably falls outside of science itself and thus in the domain of metaphysics.

Coyne emphasizes that doubt “is endemic—and necessary—in science.” But if we push our doubt far enough, won’t we eventually end up doubting even science? At the founding of the modern scientific revolution René Descartes faced precisely this question. Descartes of course responded with his famous *cogito* (borrowed from St. Augustine): even if all I do is doubt, I still cannot doubt that I exist. Starting with the certain knowledge of his own existence, Descartes went on to argue for the existence of an all-knowing, all-powerful, and all-good God. It was on the existence of God, in turn, that Descartes based the reliability of science; without the knowledge of God’s goodness we would never be sure that our perceptions of nature are not the work of a malign demon out to deceive us. Although Descartes was a practicing Catholic, he did not view the above argument as religious *per se*; rather, he viewed it as the result of metaphysical reasoning available to followers of any religion or none.

My point here is not to convince anyone of the validity of Descartes’ reasoning, but merely to show that the founders of modern science realized that in order for us to trust science it has to be grounded in something outside of science itself. As Descartes expressed it, our knowledge is like a tree, the branches of which are

the natural sciences and ethics, but the root of which is metaphysics. Coyne himself does not explain why he thinks the scientific method can arrive at truth, though I think it safe to say that his answer to the question would be rather different from that of Descartes. If you were to ask him, I imagine that Coyne might (in common with many empiricist philosophers) point to the practical successes of science. Our airplanes (mostly) do not fall from the sky; our antibiotics (mostly) kill the target microbes. But even the statement “we can trust science because it leads to practical solutions that generally work” is not itself a statement of science, since it is not subject to falsification.

Coyne further announces a commitment to philosophical naturalism and determinism, although his definition of “naturalism” is far from clear. He evidently means something like what is ordinarily meant by “materialism,” but he chooses to avoid the latter term because he argues that we may someday discover in the universe some “stuff” that is neither matter nor energy as we currently understand them. Yet Coyne nowhere admits that both naturalism and determinism are metaphysical commitments for which there is no evidence and which could not conceivably be tested empirically. Coyne criticizes “religion” for doing the very thing he does himself—clinging to a belief system in the absence of any evidence that it is true.

One of the more curious sections in Coyne's book is one arguing that the term "scientism" is poorly defined and needs to be dropped. He seems to think of "scientism" as a purely derogatory term, evidently unaware that the term was originally coined by an advocate of scientism (Ernest Renan) as a badge of pride. Scientism can be defined as the belief that natural science constitutes the only method available to us for arriving at truth—a claim that the chemist Peter Atkins, among others, unapologetically makes. (For more background on scientism, see a previous essay of mine in these pages: "The Folly of Scientism," Fall 2012.) Of course, since the core belief of scientism is not itself part of science, scientism is logically incoherent. But it is hard to see why Coyne resists the label, since the core belief of scientism is one that he obviously shares; indeed scientism is simply another name for the worldview exemplified by *Faith Versus Fact*.

Much of Coyne's book is devoted to mockery of religious beliefs. One gets the impression that Coyne has spent a lot of time addressing audiences for whom the mere mention of the Trinity or the Virgin Birth is guaranteed to raise a laugh. Mostly it falls flat on the printed page. In comparison to the classic raillery of authors like Bayle and Voltaire, Coyne fails not only in his almost total lack of wit but in his lack

of interest in the religious doctrines he mocks. What makes the mockery of Bayle and Voltaire readable even today is that those authors made a conscientious effort to understand their opponents' beliefs.

A long chapter entitled "Faith Strikes Back" is devoted to Coyne's rejoinders to various criticisms of the new atheism cherry-picked from the writings of Christian theologians, philosophers, and scientific figures such as Francis Collins. This chapter makes for tedious reading because it lacks a coherent structure, and in it Coyne frequently contradicts himself. For example, Coyne concedes that religious faith may have been an important motivating factor for early modern scientists such as Newton, but he counters that philosophical naturalism has served as an inspiration for more recent scientists such as Watson and Crick. Fair enough, but if that's true, doesn't it imply that scientific activity is actually independent of religious belief, since science can be inspired by either a religious or a non-religious worldview? And wouldn't that mean that the "accommodationists," whom Coyne has devoted so much energy to berating, are right after all?

Coyne issues the following challenge to his readers: "Over the years, I've repeatedly challenged people to give me a single verified fact about reality that came from scripture or revelation alone and then was confirmed only later by science or

empirical observation.” I can think of one example, which comes from the work of St. Thomas Aquinas (whose writings Coyne badly misrepresents elsewhere in his book). Based on his exposure to Aristotle and Aristotle’s Arab commentators, Aquinas argued that it is impossible to know by reason whether or not the universe had a beginning. But he argued that Christians can conclude that the universe did have a beginning on the basis of revelation (in Genesis). In most of the period of modern science, the assumption that the universe is eternal was quietly accepted by virtually all physicists and astronomers, until the Belgian Catholic priest and physicist Georges Lemaître proposed the Big Bang theory in the 1920s. Coyne does not mention Lemaître, though he does mention the data that finally confirmed the Big Bang in the 1960s. But, if the Big Bang theory is correct, our universe did indeed have a beginning, as Aquinas argued on the basis of revelation.

Coyne pairs the above challenge with an earlier challenge from new atheist writer Christopher Hitchens: “Name me an ethical statement made or an action performed by a believer that could not have been made or performed by a non-believer.” I agree that there is no *a priori* reason why atheists could not perform the kinds of heroic actions of self-sacrifice on behalf of the poor and marginalized that St. Vincent de Paul or St. Damien of Molokai are known for.

It’s just that atheists so very rarely do. They have little to compare to the lives of the saints as a storehouse of examples of moral greatness.

In spite of their self-righteous scorn for the all-too-human failings of religious believers, ethics remains the Achilles’ heel of the new atheist school, including Coyne. These writers never seem content merely to criticize the evil acts that have been performed by believers, but they seem compelled to criticize the good as well. In Dawkins’s case, he cannot resist chastising Christian opposition to abortion—which will surely be seen someday as one of the great moral awakenings of all time, on a par with the similarly Christian-led campaign for the abolition of slavery. In Coyne’s case, I would not be surprised to learn that some readers follow his arguments with sympathy up until the section (very near the end) where he succumbs to the temptation to put in a gratuitous plug for what he calls “assisted dying” for the terminally ill, which he does not distinguish from euthanasia—and indeed, he implies that we should treat terminally ill patients just like the animals we “put to sleep.” His moral sense is evidently so jaded that he fails to see why anyone might find that repugnant. With enemies like Jerry Coyne, religion doesn’t need any friends.

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