

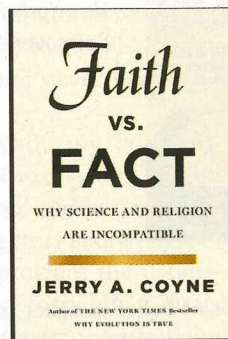
myth, that Princess Diana was “taken out” by the British Monarchy, or that Hurricane Katrina was “created” by the Bush administration using secret military weather manipulation technology have other things in common too. Fans of social cognition will be excited to read about intentionality bias, false consensus effect, proportionality bias, and other shortcuts that predict belief in conspiracy theories. To hone in on research into the belief that President Barack Obama is not in fact a U.S. citizen, research findings highlight that this perception *increased* after he released his birth certificate. Concluding that the so-called backfire effect is the ultimate demonstration of confirmation bias, Brotherton acknowledges, “Being smarter or having access to more information doesn’t necessarily make us less susceptible to faulty beliefs. Sometimes it just makes us better able to explain away unpalatable facts.” Once again reminding us that we are in fact all conspiracy theorists, the book serves as a useful reminder that we could all think more critically.

As we increasingly turn to the Internet to help us make decisions on all sorts of things, and as search results become iteratively refined based on our preferences, we must strive to better criticize the sources of information we encounter and adopt the point of view of others. This book, with its emphasis on a fun topic likely to be of interest to various parties, ought to help move things forward, if only a little. That is, of course, assuming that the book itself is not thought of as a tool of a conspiracy. ■

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Why Science and Religion are Irreconcilable

JAMES M. CLARK



Faith vs. Fact: Why Science and Religion Are Incompatible. By Jerry A. Coyne. Penguin Books, New York, 2016. ISBN: 9780143408269. 311 pp. Softcover \$18.00.

Jerry Coyne is a highly respected evolutionary biologist who blogs regularly at whyevolutionistrue.wordpress.com about the relationship between science and religion—a relationship that he has concluded after wide reading, reflection, and debate is antagonistic.

Coyne's argument is that both science and religion purport to make truth claims but rest on radically different and incompatible methods of determining the truth.

It will help, first, to appreciate what Coyne does *not* argue. He does not argue that science and religion are logically inconsistent with one another or that individuals cannot entertain both religious and scientific belief without any contradiction being perceived (at least not by them). For example, he acknowledges the latter

and identifies a number of top tier scientists who are nonetheless religious in a somewhat traditional sense. Rather than demonstrate compatibility, however, Coyne simply sees examples of how people can entertain contradictory beliefs, in part because of such psychological factors as cognitive dissonance.

Instead his argument is that both science and religion purport to make truth claims but rest on radically different and incompatible methods of determining the truth. The methods of science lead to modification and improved understanding of phenomena, whereas the methods of religion support a static worldview that fails to improve over time its impoverished understanding about how the world works.

Chapter one articulates the basic problem, namely the perceived conflict between science and religion, as manifested for example by marked differences in religiousness of scientists and the wider population of American citizens or by such incompatible claims as the age of the Earth. Here he notes that the depth of conflict is demonstrated by the intensity of debates over the issue and by ex-

pensive efforts to demonstrate compatibility, in particular by the Templeton Foundation.

Chapter two attributes the incompatibility of science and religion to the fundamental properties of scientific methods, or its *toolkit*, the term Coyne uses. To illustrate one such tool, science rests fundamentally on efforts to disprove hypotheses about how the world works through observation. Coyne relates how disturbed he first was in graduate school at the seemingly hostile way in which scientists attacked and criticized each other's ideas, only to realize later that strong challenges were necessary for science to work.

In contrast, religions adopt an uncritical acceptance of their fundamental beliefs, and in some dominant religions even to question basic tenets is to be an apostate. The apparent moderation of religions in the West (e.g., we no longer burn people at the stake for sacrilege) might wrongly be attributed to an internal process of change but is more likely due to increasing secularism, that is, the loss of religion—something that has yet to happen in too many parts of the world. Other methods in the scientific toolkit demonstrate similar irreconcilable contrasts with religious approaches to belief.

Chapter three describes the accommodationist view that science and religion are compatible, a view promoted by scientists such as Stephen J. Gould, who argued that the two occupy non-overlapping magisteria, for which he coined the acronym NOMA. Against this view, Coyne documents compelling evidence that most religions and religious people in fact do purport to make truth claims, such as that God exists, that Christ died and was resurrected, that Muhammad miraculously multiplied food and water, or that Joseph Smith translated the Book of Mormon from golden tablets that he found in 1823.

Not only do such claims often contradict one another and science, but their evidentiary base is so feeble compared to the standards of science as to

merit much skepticism about their validity. Somewhat ironically, believers of one religion will often point out flaws in another without recognizing that the same criticism holds for their own belief system. Another weakness of many attempts at accommodationism is that they espouse such a watered down version of religion as to be unrecognizable and almost certainly to be rejected by followers of most religions.

If the world was not regular and knowable, then science would fail, which it clearly does not.

Chapter four addresses some ways that people of faith have struck back at threats from science. One approach that Coyne calls "natural theology" is to try and base theological claims on scientific grounds. For example, some argue that the so-called fine-tuning of the conditions for life on Earth is evidence for the hand of God. Others look to base supernatural events, including religious ones, on some of the weirder aspects of quantum physics. But the flaws in such arguments have been convincingly discredited by such physicists as the late Victor Stenger and are nicely summarized here.

A second response of believers and their academic allies is to argue that there are ways of knowing other than science. Coyne accepts this premise but argues that these putative other ways of knowing provide solid evidence for justified beliefs about the world only to the extent that they adopt the standard methods of science. He also deals with related criticisms leveled at science: charges such as scientism, or that sci-

ence is unreliable, that it leads to bad ends, and that it is itself based on faith. To illustrate the tone of Coyne's counterarguments with respect to the last, scientists believe in the regularity and knowability of the world not because of faith but rather because of the tremendous success of a science based on those premises. If the world was not regular and knowable, then science would fail, which it clearly does not.

The fifth and final chapter documents why it matters how people derive their beliefs and the validity of those beliefs. People make decisions and take actions based on their beliefs. If disease is viewed as punishment for sins in a past life, attributed to a curse by a witch, or amenable to cure by praying to a god, then people will behave differently than if they appreciate the true nature of the ailment and take appropriate science-based action to treat and even prevent the disorder. In this chapter, Coyne takes on such issues as the controversy over vaccination, denial of global warming, and religious arguments against assisted dying, a topic now under much discussion in Canada.

Will people be persuaded by Coyne's thoughtful case for the incompatibility of science and religion and the strengths of the former? Probably not those strongly wedded to a religious worldview that defies criticism, although even they will benefit from Coyne's balanced representation of literature arguing the religious view. On the other hand, the increasing numbers of people leaning toward a modern secular worldview will find much here to appreciate and much on which to build a solid foundation for a life based on reason and science. ■

James M. Clark is Professor and Chair of Psychology at the University of Winnipeg. As a cognitive psychologist and practicing scientist, he has studied the nature of science and the substantial critical literature that claims wrongly to undermine its status as the best way to determine the validity of our beliefs.