Readers' thoughts on science and religion

As a retired physics professor who has made the occasional foray[1] into the topic of science and religion, I thank Tom McLeish for his civilized and hopefully civilizing approach to the discussion ("Thinking differently about science and religion," PHYSICS TODAY, February 2018, page 10). Center stage is too often dominated by militant atheists, willfully ignorant antiscience religionists, and cynical politicians who feed on the fears of a badly educated segment of the public. McLeish eloquently catalogs the harm done by the rabid nondialog from those groups.

I believe there is a silent minority—at least—of capable academics who could bring their expert views to provide a much-needed elevation of the science and religion discussion. The task is daunting for those professionally involved in a single discipline, be it physics, biology, philosophy, theology, or other, but we need to step outside our comfort zone and take back the center ground of discourse on this important topic.

Reference

1. G. L. Baker, *Religion and Science: From Swedenborg to Chaotic Dynamics*, Solomon Press (1992).

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I am a committed student of science and have been a member of the American Physical Society for 40 years. As a practicing applied physicist, I enjoy reading PHYSICS TODAY and the weekly email alerts. I am also a practicing Christian, like William Newsome of Stanford University and Tom McLeish of Durham University.

I have always claimed that if PHYSICS TODAY is to remain open-minded to worldviews other than the ontological naturalist approach,[1] it needs to consider other views such as those of Newsome, McLeish, and John Polkinghorne. Those scientists adhere to a Judeo-Christian worldview in the tradition of Michael Faraday, Johannes Kepler, James Clerk Maxwell, and others.

You have finally done it. Thank you very much for publishing McLeish's commentary "Thinking differently about science and religion" in your February 2018 issue.

Reference

1. See, for example, L. M. Krauss, "Cosmic humility," *APS News* (April 2017), p. 8.

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With some interest I read the commentary by Tom McLeish regarding the influence of Christianity on the works of Isaac Newton, Michael Faraday, and other figures in the development of modern science. I'm certain that those men were engaged in the critical issues of their time, and theology was one of them. But let's remember also the distinction between theology and science: Theology is sacrosanct; science is fluid. Theology resists innovative ideas; science thrives on new data.

Let's also remember the influence of the Inquisition: Nicolaus Copernicus did not publish his findings until he lay on his deathbed and could no longer be subject to the Church's wrath; Galileo Galilei was nearly deemed a heretic and confined to his home for the last years of his life; Giordano Bruno did not believe that man was the center of the universe, one of the reasons he was burned at the stake; and Isaac Newton's theological work was not published until well after his death, because his beliefs were at odds with the Church of England.

I'm not trying to drive "an unhistorical and unrealistic wedge between science and religion," but I think it's important to recognize our differences. In the pursuit of our common work of bettering the human condition, scientists welcome the support of religious organizations, but we must also remember that theology cannot be made into science, and science is not meant to test theology.

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To underline a common thread that connects the scientific and spiritual realms, it is necessary to first examine the scientific method and process from historical and modern perspectives.

At the foundation of the scientific method is the principle that every claim or hypothesis must be proven by experimentation and data. Fortunately, most scientists understand that claims or assumptions not backed by experimental observations can be discarded as patently false or as an impetus to revise the starting hypothesis. However, when Greek philosophers held sway, they widely believed that facts could be discovered simply based on reason.

Alhazen (Ibn al-Haytham) of Iraq, the great polymath who lived from circa 965 to 1040, was the first among scientists to insist that every claim must be proven by critical examination. Alhazen stated, "The duty of man who investigates the writings of scientists, if learning the truth is his goal, is to make himself an enemy of all that he reads and . . . attack it from every side. He should also suspect himself as he performs his critical examination of it, so that he may avoid falling into either prejudice or leniency."[1]

Tom Kibble and Frank Berkshire, two notable physicists, have offered a modern perspective on the scientific process: "Every scientific theory starts from a set of hypotheses, which are suggested by our observations, but represent an idealization of them. The theory is then tested by checking the predictions deduced from these hypotheses against experiment. When persistent discrepancies are