

SCIENCE ON FAITH

By ELAINE HOWARD ECKLUND

OVER the past few years I have asked hundreds of university scientists whether or not they engage with religion in their classrooms. The majority say they do not, and they refer to the idea of “nonoverlapping magisteria” (NOMA), made famous by the late evolutionary biologist Stephen Jay Gould. He believed that science and religion are two totally separate ways of discovering truth. Religion, he said, operates within the realms of purpose, meaning, and values, while science operates within the realm of empirical facts—and the two should respect but never interfere with each other. In other words, the proper relationship between science and religion is no relationship at all.

But does the concept of nonoverlapping magisteria work on a college or university campus? And if not, what are the alternatives?

I’ve surveyed nearly 1,700 scientists and interviewed 275 of them in depth. While many are completely secular, nearly 50 percent say they identify with a religious label, and almost one in five attends services at a house of worship more than once a month. Even among those scientists who are not religious, many see themselves as spiritual. Yet almost none of the scientists—religious or nonreligious—talk with their students openly about how to respond to religious challenges to science—such as opposition to the teaching of evolution in public schools—and few of them formally teach their students how to connect the facts of science with its moral implications.

Whether or not Gould intended to further divide science and religion, many scientists have interpreted NOMA to mean that they should not talk at all about the connection between science and values.

Yet my research shows that while the idea of nonoverlapping magisteria may provide scientists with a theoretical framework for dealing with religion, it is a framework that is not easy to use, especially with students in a university environment. Scientists in academe have a pedagogical imperative, which makes their life’s work somewhat different from that of scientists working in industry. University scien-



MARTA ANTELO FOR THE CHRONICLE REVIEW

tists must think about how to translate science to a broader public: the very students in their classrooms and research labs.

Talking with these scientists, I have found that many of them simply don’t know what to do when their students bring up issues related to religion. Academic scientists want models that involve more than just asking students to compartmentalize their thinking. They want to know what aspects of religion are acceptable to talk about in a university context, where they should direct students to find resources about the relationship between religion and science, and where in the university it’s acceptable to talk about religion. Many of them believe that in educating young scientists—who need to be equipped to deal with such topics as human-embryonic-

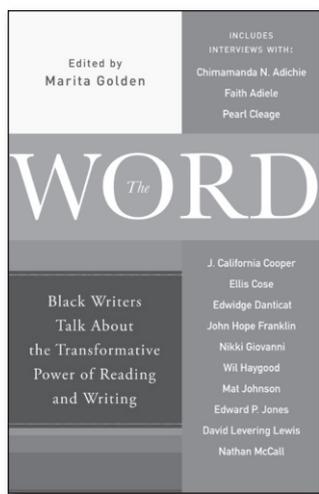
stem-cell research and global warming—religion can no longer be isolated from scientific scholarship.

According to my findings, a sizable minority of natural and social scientists—about 20 percent, some religious and some not—now think that although the scientific method ought to be value-neutral, religion can meaningfully intersect with the implications of their research and the education of their students. A scientist’s faith might motivate her to fight global warming, for example, or to decline research grants from sources that support nuclear proliferation.

These academics also see religion as potentially helpful in understanding the purpose and meaning of their scientific work. They think their students ought to understand ethics and values based on religious teachings alongside value systems derived independently of religion. And they believe that students must learn how to connect scientific facts with what Gould called the “spiritual and ethical questions about the meaning and proper conduct of our lives.” That is, students need to be able to wrestle with the ethical impact of scientific findings.

One social scientist I spoke with, who described herself as a cultural Jew, feels that college students have to learn to “take responsibility for the ways in which their beliefs and values affect other people,” and

Continued on Following Page



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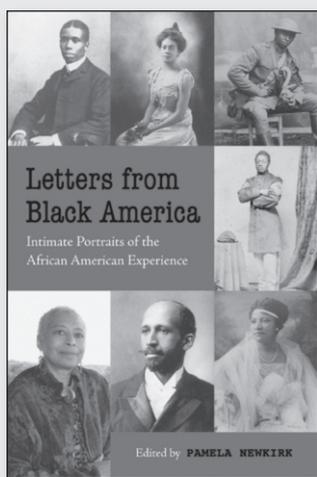
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Continued From Preceding Page
that they must understand how other people's beliefs and values affect them and their research. She strongly believes that scientists in the academy ought to begin to have "discussions and debates about how we might better address the kinds of things that religion brings up."

SO HOW should scientists on university campuses talk about religion? "Best practices" for such discussions should develop in stages.

First, academic scientists must acknowledge religious diversity. While scientists have an elaborate vocabulary for the subjects they deal with in their own fields and subfields, those without a religious identity (more than 50 percent) have limited experience, knowledge, or interaction with religion and religious people. (Thirteen percent of scientists were raised with no religious tradition, and those who were raised in religious homes were religious in name only.)

Scientists need to understand that different religious traditions intersect with science in distinct ways. Just as not all biologists study the same biological systems, not all religious people have the same beliefs or apply their beliefs in the same way. (For example, many Christians have no problem accepting evolution, while certain Christian groups reject it.)

Academic scientists have a particular intellectual responsibility—in the face of public conflict between religion and science, as well as because of the increasing diversity of their own student populations—to deepen their understanding of religion.

Second, we need to acknowledge the limits of science. Scientists should be willing to discuss what science is and what it is not, which is very much in keeping with Gould's idea of nonoverlapping magisteria. Philosophers of science and scientists themselves have discussed what they call scientism, a disciplinary imperialism that leads scientists to explicitly or implicitly assert that science is the only valid way toward knowledge, and that it can be used to interpret all other forms of knowledge.

Scientists who want their colleagues to do more to advance the public transmission of science—particularly those who think their colleagues are already doing a poor job in this regard—mention rejecting a form of scientism that has no room for meaning and morality. Teaching science, one chemist told me, can't be about just "distributing facts" to students, "because it's not really that difficult to find any sort of fact you want nowadays. [Our best students] can

go learn about a topic pretty quickly on their own, but actually thinking about the discipline and what you're supposed to be doing in science is a very difficult problem."

Science at the university level, he says, must involve teaching students to think beyond their own research—which means teaching them how to apply science, how to communicate it to a broader audience, and how to think about it from "some sort of moral and ethical standpoint."

The third stage is a willingness of scientists who are religious to talk publicly about the connections between their own faith and their work as scientists. These "boundary pioneers," as I call them, can show students that it is possible, under certain conditions, to view science and religion as compatible. And they can provide colleagues with a model for how to discuss the ways in which science and religion interact. These individuals must be well-respected scientists, yet outgoing and savvy enough to connect with nonscientists.

Francis Collins, director of the National Institutes of Health and an evangelical Christian, is the most recognized example of a boundary pioneer, among others who are less well known. For example, one woman I interviewed, an atheist, talked about a blog, to which she frequently referred her students, that was written by a scientist who is a Christian. She thought the blog demonstrated possible ways of thinking about the relationship between science and religion.

Perhaps the best place for such conversations across boundaries is campus interdisciplinary centers. They could provide ideological and structural space as well as financial support. One social scientist I interviewed, who had no religious background but finds himself occasionally "tapping into spiritual power," said the lectures given at an interdisciplinary center on his campus and the discussions it sponsors helped him to realize how central religion is to many people's lives—and how much those in academe have generally ignored it.

Several scientists I've talked with hope that, more and more, this kind of dialogue will involve those in the physical and biological sciences. Such an initiative would be a forceful step toward advancing the public's understanding and acceptance of science. ■

Elaine Howard Ecklund is an assistant professor of sociology at Rice University and director of its Program on Religion and Public Life. Her most recent book is Science vs. Religion: What Scientists Really Think (Oxford University Press, 2010).