Debating evolution: The God who would intervene: Religion meets science

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In the days before the Kansas School Board's August decision to strip the teaching of evolution from state science standards, the presidents of the Kansas university system issued a statement. "The simple fact is," they said, "people can believe both in God and in evolution."

Lots of Americans believe that they can do just that. Nevertheless, it's not clear how belief in a personal God—a God who creates and who answers prayers—is to be aligned with the scientific view of the cosmos as an ancient universe governed by impersonal and tightly knit laws. Debate on how God can work in an evolutionary universe is unlikely to go away, since most scientists reject the notion that God works in the world while nearly all citizens accept it.

There is some common ground among scientists and religious Americans. Forty percent of Americans hold that God "guided" evolution from simpler to more complex life forms over millions of years. Similarly, four out of ten middle-ranking scientists—a random sample we took from American Men and Women of Science (AMWS)—also believe that God "guided" evolution. These believing scientists also said in the survey that they can accept a God who answers prayers. This implies a God who intervenes in nature and the world, though we did not probe the God question further. Some of the scientists, however, were obviously concerned about how to put a personal God into the world without disrupting any chains of natural law. One biologist said, "God created the universe and principles of energy and matter, which then guided subsequent evolution," and another asserted that God only created "the conditions that allowed the process to take place."

Only about 5 percent of the natural scientists we polled—some 4,000 such professionals—think that God created humans "pretty much in their present form at one time within the last 10,000 years." While rare among scientists, this is the view held by nearly half of all Americans—a striking figure, considering that fundamentalists and conservative evangelicals make up only a quarter to a third of the population.

To get a further sense of the American debate on evolution, this year we surveyed deans at theological seminaries about their schools' approach to the topic. Seventy percent of academic deans at schools in the Association of Theological Schools responded. (The ATS has 237 members.) We asked them which view of natural history and human origins predominates on their campus, and gave them five options: "Theistic evolution," the belief that God works in and through the evolutionary process; "progressive creation," in which God creates at various points over millions of years; "young earth creation," according to which God created the cosmos within the past 10,000 years; or, a mixture of the first two categories or the latter two. About two-thirds of the deans indicated that their schools adhere to either theistic evolution, progressive creation or a mixture of the two—all suggesting an ancient universe. Less than a tenth of the schools supported a young-earth stance. Most of the rest of the schools—about 25 percent—mix progressive creation and young-earth creation, both having an emphasis on God's intervening acts of special creation.

Catholic schools made up the largest proportion of those at which theistic evolution dominates (50 percent). As recently as 1996 the pope stated that evolution was "more than a hypothesis," as long as one accepts that God intervenes to create the soul. Slightly over a third of the Protestant schools and nearly a fifth of the nondenominational enclaves also were thoroughly evolutionist.

Young-earth creationism dominated at less than a tenth of the Protestant outposts and a fifth of the nondenominational schools. Progressive creation is the dominant view at less than a tenth of Protestant institutions, and barely more of Catholic. Nearly a third of the Catholic schools reported a mix of theistic evolution and progressive creation. Each of the mixed stances, moreover, is established at roughly a quarter of the Protestant and nondenominational schools.

On the basis of this data, we suspect that at one-third of the schools—the ones that are purely evolutionist—students struggle to understand God's creative acts and

response to prayers in a material universe that runs according to strict laws. The young-earth schools solve this problem by believing that miracle overrides nature. The majority of the schools—nearly six in ten—try to combine the view of a material universe driven by natural laws with a God who, in principle, can miraculously intervene.

Overall, nearly seven in ten students (66 percent)—there were about 70,000 enrolled last year—study God and the Bible against the backdrop of belief in an ancient earth and universe. That antiquity for them included evolution—total or in part—of life, a process that nearly all scientists define as purposeless, unguided, random.

In 1914 and 1933 Bryn Mawr psychology professor James Leuba asked scientists if they believed in "a God in intellectual and affective communication with man . . . a God to whom one may pray in expectation of receiving an answer." Leuba called this an "interventionist God" and explained that he offered this definition because that is the God worshiped in every branch of the Christian religion." He found a low rate of belief among scientists.

We repeated his survey in the 1990s and found similar results. Far fewer scientists than members of the general public believe in a personal God. The natural scientists, especially the elite group who are members of the National Association of Scientists, have taken Einstein's advice that a personal God could not intervene in a world of "ordered regularity of all events" and that "religion should give up a God who concerns himself with fates and actions of human beings."

When we asked the seminary deans about God as defined by Leuba, 92 percent accepted the definition: God is one "to whom one may pray in expectation of receiving an answer." The 8 percent who did not almost certainly have a less interventionist God in mind.

Some of the theologians who accepted this definition of God nevertheless expressed some caveats. "This comes close to my belief, but does not touch all points," said one. Others felt uneasy about the formulation. They felt that these "forced choices" limited the ideas of God. Another said she held "a process theology of God that includes [the] reality of communion," and so, yes, she believes in a God who hears prayers. A Jesuit said the definition of God was "inadequately differentiated to allow for a significant response."

Questions about a personal God evoked saltier protests from the scientists. "This is a lot of damn rot!" one scientist said in response to Leuba's question. Another told us that the God question is "utter nonsense" because "science presumes a repudiation of the supernatural." This kind of antagonism to religion is typical of those who hold the view that evolution actually disproves God's existence, or at least makes God irrelevant.

Theologians and scientists who do not wish to go this far have proposed two other models: a "separation" model of mutual respect between science and religion and a "dialogue and engagement" approach that says comparing the two fields is valid.

While many theologians like the dialogue model, they say the separation approach is most prevalent. In the separation model, theology and science abide by different rules on different turfs, say different things about life and bespeak "different levels of knowledge." As theologian-physicist Robert Russell of the Center for Theology and the Natural Sciences said: "Why would physics know if there is God or not? It's just irrelevant." The separation model makes it easy to reconcile God and evolution.

In the recent book *Rocks of Ages*, evolutionist Stephen Jay Gould promotes the separation model. Echoing the Vatican, Gould says that religion has a magisterium or teaching authority, but so does science. In his view, the two magisteria do not overlap—he calls this the principle of nonoverlapping magisteria, or NOMA. He quotes Galileo's famous aphorism that theology tells "how to go to heaven" and science tells "how the heavens go."

We asked two more questions of our ATS educators to find out where they stood on the question of separation or dialogue between religion and science. We asked whether their schools offer a course on theology and science (a sign to us that "dialogue" was acceptable), and we asked what was "the most important or appropriate way that theology meets science." Four in ten schools had such a course and more doubtless would have had they not been hindered by financial restraints. Forty-seven percent of Protestant schools had such courses, as did about a third of Roman Catholic and nondenominational schools.

Our survey question about the "most important" way that theology meets science offered three options: theology 1) gives meaning, 2) defends the biblical account of creation or 3) provides ethics. Eight in ten of the theology educators said that "to give meaning and purpose to life in a material universe" was the most significant

role for theology.

Fifteen percent of those surveyed said that theology's main role with respect to science is to "support the biblical account of the human creation and fall." Nearly half of those at schools favoring young-earth creation chose this option, as did a fifth of those at schools favoring progressive creation and a third of those at schools that favor both progressive and young-earth creation. Only 5 percent of the theological educators chose the third option: "to put ethical limits on sciences such as biotechnology."

One astronomer responded to our survey by saying that, though he does not believe in a personal God, "I try frequently to open my mind to an influence of what is good, and the subjective and psychological effects of this can be quite profound, such that I am happy to make contact with the religious tradition by saying that I am praying to God." Surely some Americans who believe in "God and evolution" have this sort of God in mind. But to Leuba, as well as to many others, Christian or not, such a God is no God at all. The question remains: Can a God who responds to our faith truly break into the evolutionary universe that science posits?