To the MDJ Dec. 28, 2004

Dear Editor:


I appreciate Mr. Edison’s kind words in his opening paragraph. I must note that, for good or ill, I am not a scientist. I am a student and teacher of the history and philosophy of science. I submit that in the course of his thoughtful letter Mr. Edison made several errors of definition. While seemingly trivial, these errors are the source of so much confusion in the discussions of evolution and creationism.

It is often asserted by advocates of creationism (or intelligent design) that the situation at the time of Copernicus and Galileo is now reversed, that where the religious community once suppressed uncongenial scientific ideas, now the scientific intolerantly suppresses religious ones. Mr. Edison makes this common claim. The comparison is only partly apt. In the 16th century the church suppressed Galileo because of his insistent public advocacy of his Copernican views. It forced him to stop discussing the objectionable ideas in public. No comparable prohibition of public discussion is suggested for today’s creationists. They are completely free to advocate publicly, and do so energetically, as the many letters to these columns illustrate. That is a huge difference between Galileo’s situation and Mr. Edison’s.

What members of the scientific community do resist is the creationists contention that their ultimately supernaturalist views qualify as natural science, and should be given standing with evolution in science classrooms. Mr. Edison objects that creationism is scientific “there is sufficient evidence in the natural world to support [it]”. But he misunderstands the nature of scientific proof. In common parlance it is praise to say that an argument is irrefutable; but that is precisely the difficulty with creationists’ supernatural theories. There is no possible way to prove them wrong. To use the terminology of the distinguished 20th century philosopher of science Karl Popper, creationism is not “falsifiable.”

As Popper noted, it means little to “verify” one’s ideas about nature by pointing to natural events consistent with those ideas. Astrologers, for example, regularly point to instances when their predictions are correct as proof of their legitimacy. But one hundred thousand such “verifications” do not make their predictions scientific. The question is not whether an idea can be “verified” in this way, but whether it can withstand efforts to falsify it. With the astrologers falsification is easy. One has only to ask “What will Coca Cola stock be worth next Monday at 5:00 PM?” Falsification will surely follow. (If it doesn’t, could I please send you astrologer’s name.)

The astrologist’s pretensions to being scientific are easily exposed. But how do you falsify the believer’s argument that one can see the hand of God everywhere in our lives and in nature? Science has no position on this contention, except to say that the idea isn’t science because it
isn’t testable, i.e., it isn’t falsifiable. Exactly the same reasoning applies to the notion that God created the world just a few thousand years ago as the Bible describes, that it only looks like millions of years of evolution took place to those who cannot see God’s hand. Views that cannot be refuted are perfectly fine as personal beliefs; some of them are indeed among the great legacies we draw upon to make sense of our lives. But, for all that, theories that cannot be falsified cannot justly be called scientific, and have no place in the science classroom. It is not a question of being intolerant of creationist thinking; it is a matter of being clear-headed about what science is and must remain if it is to retain its intellectual rigor.

Cordially,

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