

## Open Communication Essential to Progress in Creation-Evolution Controversy

Dear Editor:

I like the decision of *The American Biology Teacher* to use its editorial page to speak in favor of the teaching of evolution on behalf of biology teachers. Many of the editorials have been thought provoking and useful to those of us who teach biology and those of us who work to influence public policy on the issue. I thought, however, that the Guest Editorial by Bud Hoekstra on Intelligent Design (ID) in the issue for October, 2002, was not up to the quality of some of the other editorials and actually may do some harm.

As long as people involved in the creation-evolution controversy have ideological commitments that prevent their talking to each other, we will make no progress. Both sides will use the courts and legislatures of our land to decide what will be taught, and the process of good science will be short-circuited. Science is a method, whatever else it is, and if the process of science is bypassed, the conclusions that result mean very little. Political power plays are not the method of science.

Mr. Hoekstra makes several statements that are errors of fact. Such errors reduce the value of the editorial. For example, ID is said to be "a marketing ploy by fundamentalists pushing their favorite son, creationism." This statement can only be true if "fundamentalist" is defined in some way other than its ordinary meaning. Many ID theorists are not fundamentalists. Some are not even Christians. It may well be true that creationists who are fundamentalists have jumped on the ID bandwagon, but most of the writers favoring the subject are not fundamentalists. As I understand it, Michael Behe (*Darwin's Black Box*) is a Roman Catholic; Phillip Johnson (*Darwin on*

If we are going to deal with ID, we need to give up the old bromide of calling all the opponents of evolution “fundamentalists.” Many friends of evolutionary biology are evangelical Christians, strongly conservative yet understanding of the difference between a scientific hypothesis and a religious doctrine. They are uncomfortable with cavalier fundamentalist bashing because it hits close to home and makes them wonder if they are right to be evolution’s allies.

Finally, I think that no amount of sarcasm and expressions of contempt by supporters of evolution is going to win the day. We need to understand the reasons that so much opposition to evolution exists in the United States, and for that matter why so many associate themselves with conservative, even fundamentalist, churches. A power play to divert anti-evolutionists from their attempt to get ID or scientific creationism or any other idea into the biology classroom will work in the short term, but in the end, long-term solutions to this vexing controversy will require people of good will sitting down and talking ... and what’s more listening ... to the deep hopes and fears that generate such negative feelings about evolution. Mr. Hoekstra’s editorial is not a contribution to that requirement.

Sincerely,

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## More on Evolution & Creation

### Dear Editor:

Thank you to Cooper (2002) for reminding us that, in addition to

empirical (experimental) science, historical science is also a legitimate part of the scientific way of knowing. A few observations, though, if I may.

Cooper (2002) begins by challenging the following quote by creationist Morris: “Creationists and evolutionists agree on real science – that is, the nature of the present world and how it operates. What we disagree on are our speculations about the past ... . When properly understood, both evolution and creation are outside the bounds of empirical science, and, therefore, are incapable of scientific proof.” The very careful use of words in this passage appears to invite ready misinterpretation.

Both evolution and creation are indeed outside the bounds of empirical science, but for distinctly different reasons. Evolution is not an example of empirical science, but rather historical science, but science all the same. Creation, on the other hand, does not meet the requirements of the scientific way of knowing because it involves notions which cannot be tested/falsified (Popper, 1968), and also because science deals with the natural rather than the supernatural.

Both evolution and creation are also incapable of scientific proof, but again for different reasons. There is no explanation in science that can be proven absolutely correct, because further evidence may refute it. At the same time, there are different types of scientific knowledge, and some knowledge is more tentative than other knowledge (Eastwell, 2002). We are quite certain, for example, that copper is an electrical conductor, but far less certain that an asteroid caused mass extinction of the dinosaurs. When I fly, I really appreciate that the scientific knowledge involved in aeroplane design is quite reliable! As has already been said, creation involves notions that cannot be tested/falsified.

Going even further and linking these considerations with a “therefore,” as in the Morris quote, is inappropriate, because this incorrectly conveys the notion that evolution and creation have a similar lack of scientific standing (Cooper, 2002), though, after acknowledging that scientific interpretations of evidence must be tentative, appears to go too far with “and the conclusion that Darwin was correct is inescapable” (p. 431).

Sincerely,

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## References

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- Eastwell, P.H. (2002). The nature of science. *The Science Education Review*, 1(2), 43-48. ([www.flexi.net.au/~willdown/scedview.html](http://www.flexi.net.au/~willdown/scedview.html))
- Popper, K.R. (1968). *The logic of scientific discovery*. New York: Harper Torchbooks.

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## Facts vs. Theory, Again

### Dear Editor:

Becky Bosley’s letter on distinguishing “fact” from “theory” raises several serious issues related to scientific thought. It is ALWAYS true that we can only infer what has happened in the past, or indeed, at any event at which we were not present. This is at the heart of scientific inquiry! There are many ways to gain inference in science, only one of which is direct experimentation (hence the historical sciences of geology, macroevolution, and cosmology march on quite successfully). We also use the power of inference in everyday activities such as