cover it. When threats of revenge are implied—"pushback" was the term an administration spokesperson used—then we should cover that as well. The funding of science is, by its nature, political.

Jim Dawson
PHYSICS TODAY
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Middle Ground in the Creationism Debate?

The two opinions in the ongoing discussion of creationism versus evolution (PHYSICS TODAY, June 2005, page 26) are not that far apart. Adherents of both believe in a common origin of modern humans. Creationists call the origin "Adam." But they obviously believe in evolution; otherwise they cannot explain the differences in Africans, Asians, Europeans, and other groups. Darwin became interested in evolution when he observed naked natives in Tierra del Fuego living in freezing temperatures. They had evolved to survive under those conditions.

The difference in beliefs is in the time period involved. A clear track goes back through Arab traditions to Abraham. Before that there are lists of names, the so-called begats in the book of Genesis. In ancient usage, the term "son of" could either mean son of an actual person or son of a tribe established by the person. Religious fundamentalists—that is, creationists—use the more restrictive meaning and come up with a time period that is too short. Use of the latter meaning results in a much longer time period that matches scientific evidence for events such as the great flood, and puts Eden at the end of the last ice age, which is where it should be if it is the origin of modern humans. The ice melted, and the population expanded into new areas, evolving to best survive the environment.

The problem is that Genesis is a very brief document that gives no history of the world outside Eden. It simply states that "sons of God married daughters of man." So Adam and Eve were exiled from Eden, and their sons married daughters of the indigenous people outside Eden, about whom Genesis gives no information. Everything is left to interpretation, scientific investigations, and opinion. The amount of material manufactured on the basis of such a brief document is truly amazing.

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Wigner Not the 'W' in WKB

David Stevenson's Reference Frame piece on tsunamis and earthquakes (PHYSICS TODAY, June 2005, page 10) is excellent. However, I offer a correction and an emendation.

Although Eugene Wigner did many things, he did not cofound the WKB approximation in 1926. Physicist Gregor Wentzel did. I got that information from the online encyclopedia Wikipedia, which despite beginning with a W was also not founded by Wigner.

And in a story devoted to the linkages between the physical and Earth sciences, it's too bad Stevenson didn't refer more accurately to the approximation as "WKBJ," and thereby give due credit to geophysicist Harold Jeffreys, whose work on the subject actually preceded that of Wentzel and coworkers by three years.

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Stevenson replies: I thank John Knox and several others for pointing out my incorrect attribution of the W in WKB. The approximation predates their quantum mechanical application and was indeed to be found in the work of Harold Jeffreys. An interesting website, http://www.du.edu/~jcalvert/phys/wkb.htm, gives more historical details. The essential features of the so-called WKB or WKBJ approximation were known even earlier[1] but Lord Rayleigh already has too many things named after him.

Reference

1. Lord Rayleigh, *Proc. R. Soc. London*, series A, **86**(586), 207 (1912), eq. 67.

David Stevenson
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Correction

August 2005, page 16—In the second paragraph of the Albert Einstein letter to Max Born, the first parenthetical comment in the fourth line should read "such as a macroscopic parameter." ■