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Sun Grand Prix," held in Michigan.)

Principia's solar car effort involves about 20 students and is headed by two faculty members. A project like this is an education unto itself. Students learn the value of teamwork, as well as the mechanical and electrical details, in designing and building the cars. They are necessarily engaged in fund-raising, finding sponsors, handling publicity, and determining race strategy. The activities required in such a project provide a strong background beyond the classroom, and propel students to a high level of performance and responsibility.

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On Religion and Science and Money's Power to Corrupt

I read with interest Mark Friesel's letter on the Templeton Prize[1] (PHYSICS TODAY, February 2001, page 82). However, there are, I believe, some misconceptions therein, so I write to agree and disagree.

Most of Friesel's assertions are clear, and his reasons weighty. Science is ill equipped to discover the truth of religious belief, owing to the paucity of experimental, objective evidence. Scientists do settle on cardinal facts (for example, new species appear in the fossil record over wide expanses of time, atoms exist, the position and conjugate momentum of a quantum particle cannot be known simultaneously); this settling is not to be confused with religious faith. I wish more people of religious faith understood how this difference matters: What a scientist does to arrive at certainty is quite different from what a believer, who is taught to care more for assurance than for certainty, does. And I think religious believers would disbelieve just how provisionally scientists accept their cardinal facts. It is because of this vast difference in modus operandi that the two camps are suspicious, dismissive, and uncomprehending of each other. For my part, if the Templeton Prize can help the two genuinely know each other better, then the money is well spent.

Scientists will have met many more common corrupting influences before they come to the potential of the Templeton Prize, and with the same consequence in the event of moral failure, namely, that the credibility of science is weakened. Think of what the dissertation committee at the university offers the young candidate: the possibility of having a professional scientific life at all. What a trial it is to deal fairly and impartially with one's own research data when one's entire professional life is on the line! And the trial repeats later, with the first grant, or the first big grant, that keeps that life going and secures the possibility of tenure and promotion. Are scientists tempted to set aside "conventional morality" to secure the life they want? Of course. Scientists are no less susceptible than others. But the Templeton Prize isn't the problem: Life is the problem.

Certainly Galileo succumbed to such temptations. Passionate to defeat scientific assent based on authority as well as to prove the mobility of Earth, he relied finally on his theory of the tides. It is ironic that he would choose to browbeat his opponents into accepting his arguments. And those arguments, given what he knew, must have seemed even to him to fall short of a valid demonstration. Whether they fell short or not, the exercise was a high-stakes gamble with the credibility of science.

Finally, Friesel is too dismissive of miracles. To use his example of the virgin birth of Christ: No religious person disputes the science of sexual reproduction as the letter alleges. The question is whether something beyond Nature can act. Can the probability of a miracle even be calculated using the laws of Nature? I don't think so. Friesel and I agree that the question of miracles goes to deeper truths, metaphysical things not easily treated by scientists or believers.

Reference

1. See http://www.templeton.org.

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FRIESEL REPLIES: The danger posed to society by such attempts as the Templeton Prize to meld science and religion is greater than perhaps all other forms of corruption of the sciences. To address with honesty and integrity the weightier questions of such a melding leads to discussions that are brief, ancient, and quickly exhausted.

Those who attempt to remove evolution theory from the science curriculum of our schools, or who insist that the universe is 10 000 years old because a holy book says so and that all of physics must conform to this time line, are not trying merely to establish a scientific career or skim a few tens of thousands of dollars in program funding. They are trying to change the way we and our children think. They are not trying to establish dialogue between scientists and believers. They are attempting to replace science with dogma and myth. Theirs is a socially regressive, dishonest, and destructive program. The Templeton Prize seduces scientists to help turn this program into reality.

If anything I've written indicates that I believe miracles occur, I apologize for being unclear; I have no particular opinion on the subject.

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Credit Clarified for Biomolecules Work

Our article "The Manipulation of Single Biomolecules" (PHYSICS TODAY, October 2001, page 46) contained errors in referencing. The reference from which figure 2 on the motion of kinesin was taken is K. Visscher, M. J. Schnitzer, S. M. Block, *Nature* **400**, 184 (1999). The first observations of the stepping of a molecular motor, the 8-nm steps of kinesin, were reported in K. Svoboda, C. F. Schmidt, B. J. Schnapp, S. M. Block, *Nature* **365**, 721 (1993). Similarly the analysis of the time between steps from which the number of ATP molecules consumed could be deduced has been published in M. J. Schnitzer, S. M. Block, *Nature* **388**, 386 (1997) (ref. 4 in our article, not ref. 1) and W. Hua, E. C. Young, M. L. Fleming, J. Gelles, *Nature* **388**, 390 (1997).

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Correction

January 2001, page 34—In reference 9, the *SPIE* volume number should have been **3331**. ■