A News article about the John Templeton Foundation, which funds studies of religion with the scientific method, drew much comment. A critic of the foundation says, "I have found myself continuously bewildered by the proliferation of programs, initiatives, awards, symposia, and so on proffered by this group...." The systematics of the genus *Homo* are explored. Overlooked work on the critical volume fraction for percolation of small metal spheres in a compressed powder is highlighted. And how wounds heal is discussed.

Religion and Science

Constance Holden, in her article "Subjecting belief to the scientific method" (News Focus, 21 May, p. 1257), writes that I back the goal of "understanding God and spirituality through science." Let me state unequivocally that I do not back such a goal. Rather, I maintain that science and theology are two completely separate realms of knowledge.

Holden refers to me as "an ordained priest." While this may be accurate, it is misleading. I was ordained a priest in my youth, but I renounced my vows more than three decades ago.

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God, as depicted by 17th-century Italian painter Guercino

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Holden, in "Searching for answers to cosmic questions" (News Focus, 21 May, p. 1258), reports that the John Templeton Foundation has "trotted out this polarized pair," myself and John Polkinghorne, "at several fora across the country, including 'Cosmic Questions,' an event held last month at the Smithsonian Institution...." This is incorrect. I have only participated in one debate with John Polkinghorne (or anyone else) on the relation of science and religion, the one last month at the Smithsonian. Also, far from being "trotted out" by the Templeton Foundation, I have had no dealings whatever with the Templeton Foundation, an organization with which I have no sympathy. I believe that the Templeton Foundation did help to defray the cost of the meeting at the Smithsonian, but my invitation to speak there came from the American Association for the Advancement of Science, the only organization with which I had any contact in connection with this meeting.

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Response

Science apologizes for the errors.

–News Editors

Regarding the article on religion and science, no matter how you slice it, religion will involve supernatural intervention in the universe and blind allegiance to idogma, two requirements that will be directly opposed to the scientific method. The only proper relationship between these institutions, therefore, is for social scientists to study the functioning of religion as a powerful social institution that evolved to further the interests of its adherents, which appears to be its primary function. The multitudinous ways that religion enhances the "fitness" of its followers need to be catalogued and analyzed. These include reduction of fear and anxiety, provision of social support, motivational enhancement, and the sense of security, esteem, and empowerment from belonging to a powerful group that can bring united action in the face of physical, social, and political threats. These functions could easily account for the beneficial effects of religious observance on health (if the latter are replicable). Analysis is also needed of how the concepts of goodness and god facilitate this function by providing justification for group power or possibly by disguising the parochial purpose of religion whose revelation may undermine the motivation of adherents. These would include determination of whether goodness, altruism, and forgiveness are the most winning game strategies for individual or group success in advanced social species. Other areas to be studied are whether all religious arguments of the existence of god violate the laws of logic and what the strengths and weaknesses of rationality versus faith as survival strategies in environments of differing degrees of danger are. Science and religion are in conflict because science has the capacity to objectively analyze religion and to dispel illusions necessary for its operation. The Templeton Foundation grants should therefore be given to social scientists to undertake these studies.

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May I suggest a couple of good ways to study the relation between religion and forgiveness? Compare the tendency to forgive in a highly religious country, such as the United States, and in a country with a large majority of nonbelievers, such as Denmark, in which only one person in five say they believe in a god. Having lived and worked in both places, I sincerely doubt that one would be able to find any positive correlation between the levels of religious belief and forgiving behavior.

Of course, one could also just take a look around the world. Northern Ireland, Bosnia, Kosovo, Algeria, Egypt, the Middle East, India, Pakistan, and Indonesia are all examples of countries with conflicts that are wholly or mainly of religious origin. Nor is this a modern tendency; the Crusades, the Thirty Years War, the Inquisition, and the burning of millions of "witches" and heretics by the church, the way Indians in North and South America were treated by invading Christians, all of these were the deeds of firm believers. Antisemitism, too, was inspired by religion long before the Nazis gave it a pseudobiological twist. Thus, instead of inspiring forgiveness, religion appears to be all too frequently a cause of hatred and war, often actively promoted or at least condoned by religious leaders.

It would therefore appear that a rational atheism offers much better hope for the future, and I heartily agree with the criticism of the Templeton Foundation's various activities expressed by physicist Weinberg, while wondering how a scientific society like the AAAS ever came to have a once-ordained priest as head of the advisory board of its religion program.

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As a long-time watcher of the Templeton Foundation, I have found myself continuously bewildered by the proliferation of programs, initiatives, awards, symposia, and so on proffered by this group and by the frequent about-faces they conduct: just as I conclude that they are one thing, I encounter a press release that suggests that they are in fact something else altogether. Holden's article is therefore a tour de force precisely because she captures this pleomorphism and offers the scientific community the opportunity to experience bewilderment at such a force within our midst. Whether that bewilderment is followed by outrage or something more akin to bemusement or approval, it is important that we all take in the fact that a billionaire can attempt to wield this much influence. With many more billionaires out there, it is a cautionary tale.

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The Systematics of *Homo*

Bernard Wood and Mark Collard (Review Article, 2 Apr., p. 65) propose taking the habiline species (*1*) out of the genus *Homo* and placing them in a broadly defined australopithecine group. There are good reasons to do this. I made the same taxonomic assessment in the second edition of *Paleoanthropology* (*2*), where the chapter dealing with the habilines is entitled "Homo-like Australopithecines." Moving the habilines to *Australopithecus* adds to the uncertainty and confusion of australopithecine phylogenetics, a group marked by an undue amount of parallel evolution (*3*). At the same time, it might be expected to clarify and simplify the systematics of *Homo*. But instead, the authors present a bewildering array of *Homo* species. This is not the majority interpretation of Pleistocene human evolution. Many paleoanthropologists continue to accept the traditional view of a geographically dispersed polytypic species, *Homo erectus,* evolving into a geographically dispersed polytypic species, *Homo sapiens*. Others take a phylogenetic approach, defining the unbroken human lineage as a single evolutionary species. Taxonomically, this means that there is but one species of *Homo*, *Homo sapiens* (*4*), which is the only interpretation that accounts for both species-wide evolutionary trends and the persistence of different regional features in what would otherwise have to be arbitrarily defined successive species. A network of genic exchanges, perhaps promoted by exogamy rules, provides a framework in which to promote geographic differentiation by isolation-by-distance, differentiation that also reflects adaptive variation and is tempered by historic differences, while advantageous features may spread throughout the species range (*5*). This multiregional interpretation is increasingly well supported by analyses of some nuclear DNA sequences, which reveal coalescence time estimates with ranges of uncertainty that extend to the beginning of the Pleistocene, if not earlier (*6*, *7*), and provide evidence of population subdivision that greatly precedes any skeletal or archaeological evidence of modernity (*7*).

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