

The Creator and the Physicist

**How Not to Talk Physics in the Face
of God**

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This paper is less about religion than about science. It is meant as advice to physicists, physics teachers, biologists, or others who may find themselves confronted by Creationism when discussion of the theory of evolution, or of other scientific issues, is perceived as bearing on religious writings or dogma.

The Problem

The problem arises because the theory of evolution may be seen as contradicting the Bible or other religious teachings.

Because science often is difficult intellectually and may not be well understood (even by scientists), its meaning may become unclear in the presentation. Religious persons may see the theory of evolution as preaching paganism or atheism, because they can not understand how evolution might strengthen faith or recognize God.

Religious persons are concerned about morality, especially that of their young, so the threat will be seen as greater, the younger, or the less educated, the audience to be protected.

The theory of evolution deals with living things, including animals and humans. Natural selection may be seen as relegating God to the role of dumb random chance, a discomforting view to persons depending on God to dispense salvation, to right wrongs, reward the good, and punish the evil.

The Solution

1. Do not try condescension, arrogance, contempt, or name-calling. This does not actually prove that humans are the same as animals. And, even if you convinced your listeners this way, the question still would remain of whether your case was because of a rational scientific process or an act of God.

2. Avoid impossible topics. There always will be individuals you can't win over. They may be irrational and thus destined to fail to understand science of any kind. They may be persons depending on certain dogmas for their income and not willing to change.

Dealing with an impossible audience, try to be polite, and consider refusing to discuss religion or morality *per se* with such persons. Never, never tell such persons that you are using science as a substitute for religion. You might believe it, but it won't be true; and, you thereby would risk putting yourself in the "Devil's Workshop", or something similar, for no good reason.

3. Present evolutionary biology as a laboratory science with support of old-time field observations, such as those of Darwin.

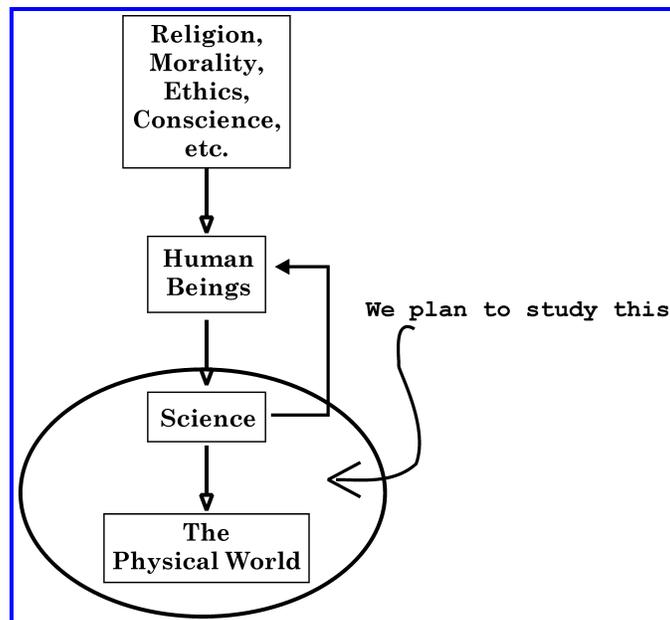
Plant or livestock breeding has been practiced by persons of all faiths and has not weakened their faith, even though in the past they had to wait for chance occurrence

of desirable traits to breed them. So long as one assume "chance" means "beyond human ability to predict", there is plenty of room for God in the old field observations. Leave some room, but leave God out of the discussion.

Genetic engineering now may be used to "evolve" species with some success. Just as humans have brought fire under control, so also are we working to master what used to be natural selection.

4. Consider raising the issue, with rational discussants, that not every word of the Bible (or, other religious tract) was meant by God to tell the reader what to do. Some parts may be viewed as instructive (God teaches how to do good or conquer evil) or even amusing (God tells a story and ends with a moral). So, just as a parable simplifies and leaves out details, so also might details have been omitted from the scriptures which would allow the reader to compute the date or time of the creation. Maybe God wanted us to figure out the age of the universe as our life work in science, as geologists or astronomers.

5. In a formal discussion such as a biology course, consider introducing the scope with an outline something like this:



6. If you don't believe in God, don't insist you are correct in such beliefs. Why not? Because it would not be honest scientifically to insist on something such as belief, which only can be held with certainty. If you insist (out of what you consider honesty, for example), you will not be teaching the doubt which always must accompany scientific progress.

7. If you do believe in God but are a scientist, then try to communicate your own perspective. Typically, you will recognize that science and religion are mutually exclusive in their approaches; religion assumes unqualified belief before everything else; science assumes unqualified criticism and doubt before everything else. You

might try to communicate this dualism; or, for example, you might try a simple approach such as the boat analogy:

"Religion and science are like the bow and the stern of a boat: They both are necessary, and neither one can be omitted. However, trying to superpose religion upon science or science upon religion is like trying to reduce the bow to the stern, or *vice-versa*; it means that the boat never will go anywhere."

In summary, recognize the different scopes of religious belief and of science and try to make them explicit. Try to avoid insisting that science is everything, including religion. Probably, such an assertion would not be truthful.