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# You Can't Have It Both Ways: Irreconcilable Differences?

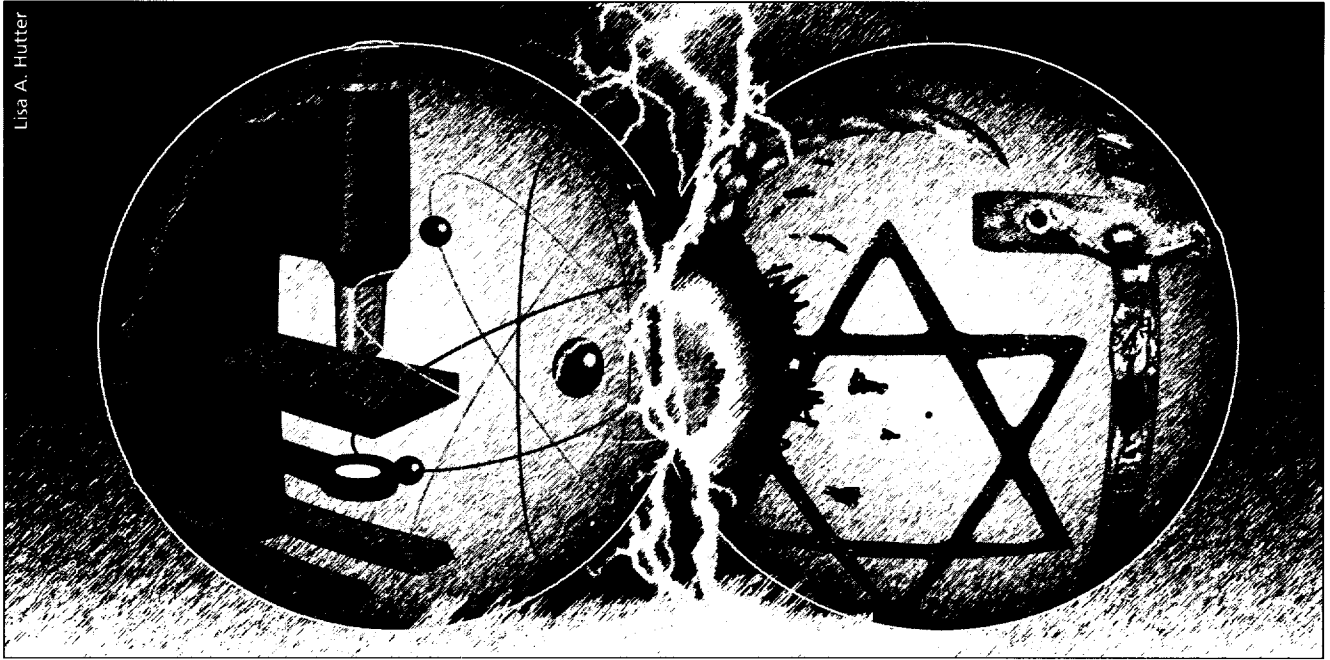
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*There is something dishonestly self-serving in the tactic of claiming  
that all religious beliefs are outside the domain of science.*

RICHARD DAWKINS

**A** cowardly flabbiness of the intellect afflicts otherwise rational people confronted with long-established religions (though, significantly, not in the face of younger traditions such as Scientology or the Moonies). S. J. Gould, commenting in his *Natural History* column on the Pope's attitude to evolution, is representative of a dominant strain of conciliatory thought, among believers and nonbelievers alike:

Science and religion are not in conflict, for their teachings occupy distinctly different domains . . . I believe, with all my heart, in a respectful, even *loving* concordat [my emphasis]. . . .

Well, what are these two distinctly different domains, these "Non-overlapping Magisteria" which should snuggle



up together in a respectful and loving concordat? Could again:

The net of science covers the empirical universe: what is it made of (fact) and why does it work this way (theory). The net of religion extends over questions of moral meaning and value.

Would that it were that tidy. In a moment I'll look at what the Pope actually says about evolution, and then at other claims of his church, to see if they really are so neatly distinct from the domain of science. First though, a brief aside on the claim that religion has some special expertise to offer us on moral questions. This is often blithely accepted even by the nonreligious, presumably in the course of a civilized "bending over backwards" to concede the best point your opponent has to offer—however weak that best point may be.

The question, "What is right and what is wrong?" is a genuinely difficult question which science certainly cannot answer. Given a moral premise or a priori moral belief, the important and rigorous discipline of secular moral philosophy can pursue scientific or logical modes of reasoning to point up hidden implications of such beliefs, and hidden inconsistencies between them. But the absolute moral premises themselves must come from elsewhere, presumably from unargued conviction.

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*Richard Dawkins's latest book—which has nothing to do with religion—is Unweaving the Rainbow (Houghton Mifflin). He is an Oxford University zoologist and CSICOP Fellow. This article was originally published in Quarterly Review of Biology, Vol. 72, pages 397–399, 1997, as one of a series of four commissioned commentaries on the Pope's Message on Evolution. The title chosen by the Editors of Quarterly Review of Biology was "Obscurantism to the Rescue." The article was subsequently reprinted in Free Inquiry under a different title again.*

tion. Or, it might be hoped, from religion—meaning some combination of authority, revelation, tradition and scripture.

Unfortunately, the hope that religion might provide a bedrock, from which our otherwise sand-based morals can be derived, is a forlorn one. In practice no civilized person uses scripture as ultimate authority for moral reasoning. Instead, we pick and choose the nice bits of scripture (like the Sermon on the Mount) and blithely ignore the nasty bits (like the obligation to stone adulteresses, execute apostates, and punish the grandchildren of offenders). The God of the Old Testament himself, with his pitilessly vengeful jealousy, his racism, sexism, and terrifying bloodlust, will not be adopted as a literal role model by anybody you or I would wish to know. Yes, *of course* it is unfair to judge the customs of an earlier era by the enlightened standards of our own. But that is precisely my *point!* Evidently, we have some alternative source of ultimate moral conviction which overrides scripture when it suits us.

That alternative source seems to be some kind of liberal consensus of decency and natural justice which changes over historical time, frequently under the influence of secular reformists. Admittedly, that doesn't sound like bedrock. But in practice we, including the religious among us, give it higher priority than scripture. In practice we more or less ignore scripture, quoting it when it supports our liberal consensus, quietly forgetting it when it doesn't. And, wherever that liberal consensus comes from, it is available to all of us, whether we are religious or not.

Similarly, great religious teachers like Jesus or Gautama Buddha may inspire us, by their good example, to adopt their personal moral convictions. But again we pick and choose among religious leaders, avoiding the bad examples of Jim Jones or Charles Manson, and we may choose good secular role models such as Jawaharlal Nehru or Nelson Mandela.

Traditions too, however anciently followed, may be good or bad, and we use our secular judgment of decency and natural justice to decide which ones to follow, which to give up.

But that discussion of moral values was a digression. I now turn to my main topic of evolution, and whether the Pope lives up to the ideal of keeping off the scientific grass. His Message on Evolution to the Pontifical Academy of Sciences begins with some casuistical doubletalk designed to reconcile what John Paul is about to say with the previous, more equivocal pronouncements of Pius XII whose acceptance of evolution was comparatively grudging and reluctant. Then the Pope comes to the harder task of reconciling scientific evidence with "revelation."

Revelation teaches us that [man] was created in the image and likeness of God . . . if the human body takes its origin from pre-existent living matter, the spiritual soul is immediately created by God . . . Consequently, theories of evolution which, in accordance with the philosophies inspiring them, consider the mind as emerging from the forces of living matter, or as a mere epiphenomenon of this matter, are incompatible with the truth about man . . . With man, then, we find ourselves in the presence of an ontological difference, an ontological leap, one could say.

To do the Pope credit, at this point he recognizes the essential contradiction between the two positions he is attempting to reconcile:

However, does not the posing of such ontological discontinuity run counter to that physical continuity which seems to be the main thread of research into evolution in the field of physics and chemistry?

Never fear. As so often in the past, obscurantism comes to the rescue:

Consideration of the method used in the various branches of knowledge makes it possible to reconcile two points of view which would seem irreconcilable. The sciences of observation describe and measure the multiple manifestations of life with increasing precision and correlate them with the time line. The moment of transition to the spiritual cannot be the object of this kind of observation, which nevertheless can discover at the experimental level a series of very valuable signs indicating what is specific to the human being.

In plain language, there came a moment in the evolution of hominids when God intervened and injected a human soul into a previously animal lineage (When? A million years ago? Two million years ago? Between *Homo erectus* and *Homo sapiens*? Between 'archaic' *Homo sapiens* and *H. sapiens sapiens*?). The sudden injection is necessary, of course, otherwise there would be no distinction upon which to base Catholic morality, which is speciesist to the core. You can kill adult animals for meat, but abortion and euthanasia are murder because *human* life is involved.

Catholicism's "net" is not limited to moral considerations, if only because Catholic morals have scientific implications. Catholic morality demands the presence of a great gulf between *Homo sapiens* and the rest of the animal kingdom. Such a gulf is fundamentally anti-evolutionary. The sudden injection of an

immortal soul in the time-line is an anti-evolutionary intrusion into the domain of science.

More generally it is completely unrealistic to claim, as Gould and many others do, that religion keeps itself away from science's turf, restricting itself to morals and values. A universe with a supernatural presence would be a fundamentally and qualitatively different kind of universe from one without. The difference is, inescapably, a scientific difference. Religions make existence claims, and this means scientific claims.

The same is true of many of the major doctrines of the Roman Catholic Church. The Virgin Birth, the bodily Assumption of the Blessed Virgin Mary, the Resurrection of Jesus, the survival of our own souls after death: these are all claims of a clearly scientific nature. Either Jesus had a corporeal father or he didn't. This is not a question of "values" or "morals," it is a question of sober fact. We may not have the evidence to answer it, but it is a scientific question, nevertheless. You may be sure that, if any evidence supporting the claim were discovered, the Vatican would not be reticent in promoting it.

Either Mary's body decayed when she died, or it was physically removed from this planet to Heaven. The official Roman Catholic doctrine of Assumption, promulgated as recently as 1950, implies that Heaven has a physical location and exists in the domain of physical reality—how else could the physical body of a woman go there? I am not, here, saying that the doctrine of the Assumption of the Virgin is necessarily false (although of course I think it is). I am simply rebutting the claim that it is outside the domain of science. On the contrary, the Assumption of the Virgin is transparently a scientific theory. So is the theory that our souls survive bodily death and so are all stories of angelic visitations, Marian manifestations, and miracles of all types.

There is something dishonestly self-serving in the tactic of claiming that all religious beliefs are outside the domain of science. On the one hand miracle stories and the promise of life after death are used to impress simple people, win converts, and swell congregations. It is precisely their scientific power that gives these stories their popular appeal. But at the same time it is considered below the belt to subject the same stories to the ordinary rigors of scientific criticism: these are religious matters and therefore outside the domain of science. But you cannot have it both ways. At least, religious theorists and apologists should not be allowed to get away with having it both ways. Unfortunately all too many of us, including nonreligious people, are unaccountably ready to let them get away with it.

I suppose it is gratifying to have the Pope as an ally in the struggle against fundamentalist creationism. It is certainly amusing to see the rug pulled out from under the feet of Catholic creationists such as Michael Behe. Even so, given a choice between honest-to-goodness fundamentalism on the one hand, and the obscurantist, disingenuous doublethink of the Roman Catholic Church on the other, I know which I prefer. □

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# The Concerns of Science

ERNST MAYR

It has been said that the scientist searches for truth, but many people who are not scientists claim the same. The world and all that is in it are the sphere of interest not only of scientists but also of theologians, philosophers, poets, and politicians. How can one make a demarcation between their concerns and those of the scientist?

## How Science Differs from Theology

The demarcation between science and theology is perhaps easiest, because scientists do not invoke the supernatural to explain how the natural world works, and they do not rely on divine revelation to understand it. When early humans tried to give explanations for natural phenomena, particularly for disasters, invariably they invoked supernatural beings and forces, and even today divine revelation is as legitimate a source of truth for many pious Christians as is science. Virtually all scientists known to me personally have religion in the best sense of this word, but scientists do not invoke supernatural causation or divine revelation.

Another feature of science that distinguishes it from theology is its openness. Religions are characterized by their relative inviolability; in revealed religions, a difference in the interpretation of even a single word in the revealed founding document may lead to the origin of a new religion. This contrasts dramatically with the situation in any active field of science, where one finds different versions of almost any theory. New conjectures are made continuously, earlier ones are refuted, and at all times considerable intellectual diversity exists. Indeed, it is by a Darwinian process of variation and selection in the formation and testing of hypotheses that science advances.

Despite the openness of science to new facts and hypotheses, it must be said that virtually all scientists—somewhat like theologians—bring a set of what we might call “first principles” with them to the study of the natural world. One of these axiomatic assumptions is that there is a real world independent of human perceptions. This might be called the principle of objectivity (as opposed to subjectivity) or common-sense realism. This principle does not mean that individual scientists are always “objective” or even that objectivity among human beings is possible in any absolute sense. What it does mean is that an objective world exists outside of the influence of subjective human perception. Most scientists—though not all—believe in this axiom.

Second, scientists assume that this world is not chaotic but is structured in some way, and that most, if

not all, aspects of this structure will yield to the tools of scientific investigation. A primary tool used in all scientific activity is testing. Every new fact and every new explanation must be tested again and again, preferably by different investigators using different methods. Every confirmation strengthens the probability of the “truth” of a fact or explanation, and every falsification or refutation strengthens the probability that an opposing theory is correct. One of the most characteristic features of science is this openness to challenge. The willingness to abandon currently accepted belief when a new, better one is proposed is an important demarcation between science and religious dogma.

The method used to test for “truth” in science will vary depending on whether one is testing a fact or an explanation. The existence of a continent of Atlantis between Europe and America became doubtful when no such continent was discovered during the first few Atlantic crossings in the period of discoveries during the late fifteenth and sixteenth centuries. After complete oceanographic surveys of the Atlantic Ocean were made and, even more convincingly, after photographs from satellites were taken in this century, the new evidence conclusively proved that no such continent exists. Often, in science, the absolute truth of a fact can be established. The absolute truth of an explanation or theory is much harder, and usually takes much longer, to gain acceptance. The “theory” of evolution through natural selection was not fully accepted as valid by scientists for over 100 years; and even today, in some religious sects, there are people who do not believe it.

Third, most scientists assume that there is historical and causal continuity among all phenomena in the material universe, and they include within the domain of legitimate scientific study everything known to exist or to happen in this universe. But they do not go beyond the material world. Theologians may also be interested in the physical world, but in addition they usually believe in a metaphysical or supernatural realm inhabited by souls, spirits, angels, or gods, and this heaven or nirvana is often believed to be the future resting place of all believers after death. Such supernatural constructions are beyond the scope of science.

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