

Guest Editorial

COMMENTARY ON THE SCIENCE-RELIGION CONTROVERSY

by *Frank T. Birtel*

Abstract. The science-religion exchange in failing to address fundamental issues is popular but ineffective. Reductionism and determinism, teleology, the assumed centrality of ethics in religion and progress must be reexamined to unify the task of science and religion into a common search for meaning in its eschatological dimension

Keywords: eschatology; ethics-religion; progress; reductionism, science-religion controversy; teleology.

Recent comments on the relation of science and religion belie the favorable climate for discussion which those of us who work on such questions are prone to assume. Although the science-religion dialogue expands daily through the writings of both scientists and of theologians and not only in scholarly journals and books but also in the popular press, many educated persons continue to regard the interest as little more than recognition of an ongoing inevitable conflict. That real progress is being made in increased understanding of compatible contributions eludes the general public. We need to analyze what causes the prevalent refusal to recognize the intellectual validity of the joint study of science and religion.

Emotional effects of questions of science versus questions of religion pervade our culture and lure us into various partisan allegiances which serve to titillate public interest. For those who see science and technology, in particular, as an increasing threat to survival, the religious alternative extends a comforting hand, even though present events and historical perspectives should caution us that religious zealotry can wreak evils proportionately devastating—war, intolerance, fratricide, etc. Scientists rightly do not underestimate the need to protect a rational enterprise like science from the influence of religious bigotry and superstition. On the other hand, science does very little to alleviate our existential insecurities, even if no one can deny the success of science for sustaining life

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[*Zygon*, vol. 28, no. 4 (December 1993).]

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in face of constant uncertainties. Both science and religion have emotional attractions which serve to define the science-religion controversy falsely by calling for some "modus vivendi" which would allow for the survival of religion and for the freedom of science. This approach germinates much misunderstanding, having within itself the seeds of schizophrenia.

Citing only a few examples of recent commentary should suffice to underscore the confusion and superficiality of the popular dialogue. An anonymous editorial opinion in the British science journal *Nature* first sparked my reaction (*Nature*, April 1993). Aside from *Nature's* foolish attack on the qualifications of Susan Howatch, the donor to Cambridge University of a lectureship in theology and natural sciences—no one is so foolish as to consider the qualifications of donors a prerequisite for accepting largesse—the editorial implies that the university sacrificed its academic integrity for money. *Nature* instructs its readers that it is "more common to reconcile the inevitable intellectual conflict . . . by supposing that there are *two truths* . . ." or by supposing that religions afford only "an allegorical function of *great moral value* to believers" (emphasis added). What better evidence does one need to show the persistence of emotional blindness and ignorance of the substantive discussions in the areas of science and religion of some in the scientific community? In a letter to the editor under the title "When the Twain of Science and God Meet" (*New York Times*, 18 April 1993), Jerome Gross, who elsewhere is sympathetic to the religion-science dialogue, calls the likelihood of resolving centuries of conflict between these areas "nil," since scientists recognize "the probabilistic nature of what they do and learn," whereas proponents of religion insist upon "the absolute nature of what they know is the truth." Or take another example, from the article "Science Confronts the Ultimate Question: Does the Universe Hold Clues to God?" (*Chronicle of Higher Education*, 12 May 1993, p. A6). In this article, William Stoeger of the Vatican Observatory is quoted as saying, "Science is one of a number of different ways of knowing and experiencing." The complete article provides many more references to curious assertions of Hawking, Davies and others. Or one can sample the opinions expressed in *Wall Street Journal* Letters to the Editor (16 June 1993) under the title "Science and Religion: Still Searching" to realize the minimal impact which more profound writing has had on the educated public.

Among scientists who grapple with the dilemmas in religious belief, too many compare the insights of twentieth-century science with thirteenth century (or earlier) theology. By doing this, they tacitly accept that theological thought, unlike scientific thought, does not progress. Or perhaps dogmatic or fundamentalist theological formulas are more easily grasped by those who lack the nuanced sophistication required by modern theology. But is this tactic fair? In either case the analysis of scientific-religious "conflict" may be prejudiced from the start by incorrect epistemological assumptions. On the other hand, theologians, when facing the same questions, point either to inherent limitations of the domain of scientific knowledge or to the restricted nature of rational inquiry. The first is a prescription for progressive theological retreat, which history shows to be true, and the last is epistemological dualism, which forever precludes a wholistic synthesis.

Perhaps we have even instigated confusion by our striving for a painless compatibility of science and religion, all the while trying to project a modest

and humble awe. Most often we resort to reinterpretation or modification of doctrine and refuse to face the more fundamental and underlying basis of conflict, whereas those who dismiss the appropriateness of joint discussion of science and religion often point directly to the fundamental differences.

Some of the fundamental issues are reductionism and determinism, the necessity of progress, the use of teleological explanation, and the presumed centrality of the ethical contribution of religious belief.

Reductionism seems to be a dirty word in the science-religion controversy. Yet every good scientist practices reductionism in one form or another. Some critics can live with reductionism as a methodology but firmly resist the possibility of ontological reductionism. For example, the critical realists stress complexity and organization giving rise to emergent properties which are not present at simpler levels (Barbour 1990). Their purpose clearly is to avoid the possibility of reducing more complicated attributes to lower-level explanation. However, isn't this approach either a form of dualism, which the same writers reject, or else an offense against elementary logic? For, if entities organize, then that possibility for a particular relationship must already be present in these entities or else come from something added. Why do we engage in these evasions? I think the principal reason is the perennial tendency to assume that once reductionism is accepted, determinism must follow. A new reflection on these matters is called for. Terminological reductionism, when embraced, enables comparison between seemingly different fields of inquiry and thereby facilitates uncovering otherwise veiled errors and inconsistencies. In fact, with my colleague Frank Tipler (Tipler 1989), I cannot dismiss the bold assertion that if theology is not theoretically reducible to physics—the most terminologically reduced of the sciences—then there is no corroboratable truth in theological argumentation. That chemistry is terminologically (or ontologically) reducible to physics does no violence to chemistry. Finite humans will always employ composite concepts; however, that does not preclude their terminological reducibility. In one sense at least then, reduction is not to be spurned; rather it must be pressed if religion and science are ever to engage in a productive encounter.

Reductionism relates to determinism only by implying that indeterminacy must be present at every level of reality, if our freedom is not illusory. Scientifically, quantum cosmology confirms that reductionism does not imply determinism (Tipler 1989), and that information is coded in certain parts of reality and nowhere else, even if the whole is nothing but the organized sum of its parts.

Furthermore, when we view mathematics as the language of relationships we begin to understand why the hard sciences become heavily mathematicized. Relationships are increasingly describable when the constituents of those relationships are terminologically the most elemental. There is no fundamental reason why theology itself cannot be mathematically modelled after the relationships have been terminologically reduced.

A second basic hangup in the science-religion dialogue is teleology. Monod tells us that the crucial and differentiating element in modern science is the rejection of purpose (goal, aim, final cause) as a means of explanation (Monod 1970). No one denies that nature exhibits purposefulness. But that purposefulness arises from structure rather than structure

arising from purpose. Monod calls such purpose *teleonomic*. Frequently the use of teleological argument in theology is a thin disguise for the assertion, I know something, which you don't. When used in this way, teleological explanation becomes bigotry, and science cannot deal with or even interact with the conclusions which ensue. Until we purify our intellectual support for religious belief, making theological explanation teleonomic by reducing to the experiential, how can we hope to coordinate our scientific and religious insights? I believe that good modern theology (Schillebeeckx 1990) embraces this methodology. Modern theology seeks validity for the religious interpretations of human experience.

Third, science and religion present a fundamentally contrasting view of progress. Cultural and social critics warn against placing our faith in progress, whereas science promises continued progress. Therefore, religious discussion, which regards progress unsympathetically, must be highly suspicious of science. But even a "Theory of Everything" does not project the eschatological future, and neither can religious belief. Unless humans freely shape their future, regarding that endeavor a task which hope mandates, religion and science lack a common project; for meaning, as Pannenberg tells us, is realized only at the end (Pannenberg 1970). If the future becomes a common project, then we have discovered a fundamental unity in both scientific and religious activity. Too often though, scientists are reluctant to extrapolate their finding into the future, and theologians act as if they know what the future holds. Both orientations are destructive of dialogue. (This insight inspired the mysticism of Teilhard de Chardin.)

The fourth and final divisive element in the science-religion exchange which I will mention here derives from the tendency to centralize the moral and ethical contribution of religion. Although most authors go to great excess to debunk the separation of fact and value in order to apply scientific "fact" to religious "values," they act as if they do not trust their own criticism by still featuring identification of value, especially moral values, with religion. Rather, from the observation of the functional nature of fact stems whatever values religion may offer. Values ultimately derive from the trust that reality has the potential of meaning, so that the basis of moral action hinges on the meaning. Since no one, theologian or scientist, can theoretically fathom that meaning, ethics becomes a task of practical reason; viz., to eliminate the negatives and uncertainties which are destructive of potential meaning. Therefore, insofar as either science or religion offers truth, each offers values. Religion (especially belief in God) confers a categorical obligation on moral action and frequently ameliorates what justice demands. But neither of these contributions is definitive of religion. Ethics exists without religion, even without belief in God. So there is a fundamentally false dichotomy imposed by making religion the basis for our good actions. Love, hate, mercy, and forgiveness are factual matters or they are nothing at all. To remove this confusion we must emphasize the eschatological insight of religion in preference to the ethical.

Once reductionism, teleology, commitment to progress, and willingness to uncouple religion and ethics attract honest analysis, even at risk of offense to conventional wisdom, the only obstacle to unifying religious-scientific truth comes from epistemological assumptions. Earlier philosophers (and as a corollary, theologians) happily embraced a positivistic scientific epistemology, since, as good positivists, scientists could not address the

questions theology assumes to be most important. With modern studies of hermeneutics and critical theory and the rejection of positivism, it is no longer a trivial matter to divide the ways in which we know. Why do we leave unchallenged the historically comforting assertion that there are different ways of knowing? Either there is only one way of knowing, or else none of us can rightfully reject dualism. Similar evasions crop up whenever we ascribe limits on the nature of questions asked within certain fields. A good reductionist cannot welcome any such demarcations. In practice demarcation occurs principally because of the composite concepts which a field chooses to regard as basic. Any field would cheerfully tackle any question in any other field, if it could formulate the question in terms of its own basic concepts. I believe we have reached the stage of epistemological sophistication which can no longer use these differences to block attempts at synthesis.

Indeed the realization that both science and religion share a common task, which is to probe reality's potential for meaning and furthermore to understand that this task always of necessity involves the future, forges a necessary linking of the scientific and religious experiments. Scientists can no longer neglect the future in understanding the here and now any more than theologians can neglect the present reality as they play God in trying to assert the future. The question of meaning—the one, the true, and the good—is the question of truth for either rational enterprise, science or theology. Without commitment to truth there can be no critically rational hope at all.

Describing similarities and differences between science and theology, discussing those boundary situations of possible overlapping explanation, encouraging an open-minded dialogue are all insufficient tactics for resolving a centuries-old conflict. Perhaps our critics are right to disregard the seriousness of our convictions, if that is all we offer. Religion and science must be integrated at the foundations to resolve this age-old tension.

Science and religion are unified in two essential ways: both work toward ultimate meaning, and as a consequence both are oriented toward the eschatological future.

REFERENCES

- Barbour, I. 1990. *Religion in an Age of Science: The Gifford Lectures, 1989-91*. Vol 1. New York: Harper and Row.
- Monod, J. 1972. *Chance and Necessity*. New York: Vintage Books, Random House.
- Pannenberg, W. 1970. *What Is Man? Contemporary Anthropology in Theological Perspective*. Trans. Duane A. Priebe. Philadelphia: Fortress Press.
- "Religious Study." Editorial, *Nature*, 1 April 1993, p. 380.
- Schillebeeckx, E. 1991. *Church: The Human Story of God*. New York: Crossroad.
- "Science and Religion: Still Searching." Letters to the Editor, *Wall Street Journal*, 16 June 1993.
- "Science Confronts the Ultimate Question: Does the Universe Hold Clues to God?" *Chronicle of Higher Education*, 12 May 1993. p. A6.
- Tipler, F. J. 1989. "The Omega Point as Eschaton: Answers to Pannenberg's Questions for Scientists." *Zygon: Journal of Religion and Science*, 24 (June): 217-53.
- "When the Twain of Science and God Meet." Letters to the Editor, *New York Times*, 18 April 1993.