

## Editorial

The desperate need of our time is for a faith that can direct man's commitment to the creative source of human good as it works in the temporal world, open to rational-empirical search and to service by modern technology.

Henry Nelson Wieman

It is well understood by many people how a scientifically informed technology affects the lives of all of us, both in terms of the benefits it has created and the problems to which it has led. What is not so well understood, however, is the impact of scientific theory on our ways of understanding the world and ourselves and of scientific method on our ways of testing the validity of our understandings. While a scientifically informed technology has contributed to a new set of ethical issues, such as questions concerning abortion, euthanasia, population control, and environmental planning, the impact of scientific theory and method has reopened perennial questions of meaning such as what humanity's place is in the scheme of things, what fundamental purposes all humans should be seeking to fulfill, and how we come to know our place and purpose. In other words, technology tends to direct us to specific questions calling for ethical decisions, but the new theories of science and the methods through which those theories are established generally prompt us to ask religious questions.

Both types of questions are important. However, while not ignoring the good work that currently is addressing specific ethical issues, *Zygon's* concern has been to consider science's implications for broader, more fundamental questions of human meaning, purpose, and destiny. It has been *Zygon's* concern to do this partly because the resolution of difficult, concrete ethical questions can come only when there are some shared understandings not only of the facts of the situation and the consequences of various courses of action but also of human purpose and destiny according to which the facts can be interpreted and the consequences evaluated.

Two general features of the current state of humanity on our planet stand as obstacles in the way of reaching shared understandings. The first is that many people, even in scientific-technological societies, still appeal to the ideas and methods of knowing of traditional religions without integrating their traditional insights with the theories developed and tested by the powerful rational-empirical methodologies of modern science. The second is that there is a plurality of religious traditions. This always has existed, but now, because the planet is becoming more unified through technology than ever before, the plurality of world views provides a new threat to human social order as well as a new opportunity for the development of a planetwide human community. Both of these general features are exemplified in part by the conflict between an industrialized Judeo-Christian society, which over the past few centuries has adapted at least partly to the modern scientific world view, and a developing, energy-rich Middle-Eastern nation that (from a Western viewpoint at least) seems to be currently experiencing a reactionary, fundamentalistic, nationalistic movement in Islam. This movement, however, may be part of a more comprehensive and constructive Islamic adjustment to modern scientific ideas

and ways of thinking, parallel to the reconciliation between Moslem theology and Aristotelian science and philosophy in the Middle Ages.

A viable intellectual solution both to the task of relating traditional ideas about human purpose to modern scientific concepts about the world and human nature and to the problem of religious pluralism was advanced over seven hundred years ago by Thomas Aquinas. In his *Summa Contra Gentiles* Thomas stated how Christians should try to deal constructively with the great Moslem theological and scientific ideas that were penetrating the Holy Roman Empire. Although he held that there were truths about divine matters that exceeded human reasoning capacity, he argued that the only common ground for trying to convince others of the validity of his Christian position was to appeal to something shared by all humans regardless of their faith—"natural reason." Today this appeal seems to be even more important because the complex, interdependent, international energy-economic networks make the actions of various small groups around the world more threatening of large-scale disorder than ever before and because the means for destruction through scientific-technological weapons are more extensive than at any previous time in history. Moreover, the logic of Thomas is still necessary today because of the extensive spread of a scientifically informed technology, which provides a common world view for leading citizens around the world. This planetization of scientific theory and method provides the only intellectual common ground currently available for developing shared understandings of human purpose and life's meaning. Therefore, through the use of reason—the refined rational-empirical inquiry of modern science—it is intellectually desirable for the great religious and philosophical traditions to restate, test, and reform their life-guiding insights in an effort to move toward a more common human outlook concerning human meaning, purpose, and destiny and thus to a more satisfactory and lasting resolution of important ethical issues.

However, the achievement of a shared religious understanding based on the common ground of scientific reason will not be easily realized partly because the relation of reason and religion is itself very complex. The intention of this issue of *Zygon* is to illustrate this complexity and to state two of the many underlying issues that will have to be resolved if some kind of worldwide scientific-religious synthesis is to be realized.

All the essays in this issue illustrate the use of reason in religion. At the same time they represent three different approaches to relating religion and scientific reason, approaches that differ in the degree to which each author is writing in the framework of one of three communities: the scientific community, the community of a particular religious faith, or the academic community that is neither explicitly scientific nor religious in a specific sense.

Writing and thinking within the framework of the scientific community, although he is addressing the World Council of Churches' conference on faith, science, and the future, R. Hanbury Brown analyzes the nature of science and its general implications for questions of human value and religious meaning. Like many of the articles that have appeared in *Zygon*, Brown's discussion is appropriate for a wide range of religious traditions because here he affirms no particular religious stance but instead deals with the relation between science and values and with the implications of science for a religious outlook from within the general world view of the scientist.

By contrast Philip Hefner's and William S. Hatcher's articles represent constructive, rational dialogue between science and religion from the standpoints

of particular religious traditions. Hefner, a Lutheran theologian addressing a conference of Christian teachers, scholars, and pastors, outlines effectively the rational dialogue between science and the Christian faith. In this dialogue considerable weight is given to the understandings of contemporary science and to how primary human values are established according to the criterion of evolutionary survival. At the same time Hefner's interpretation of the scientific understanding of survival in terms of salvation—even as the scientific understanding helps to define "salvation"—illustrates the Christian framework in which a person of faith rationally is reflecting.

Hatcher, a mathematician, addresses fellow members of the Bahá'í Faith on the importance of using scientific reason in religion. For him the crucial issue is how religious revelation may be compatible with hardheaded scientific inquiry. The Bahá'í response to this question is interesting because Bahá'í was founded as a religious movement in 1844 in Persia; and Hatcher's essay illustrates how its founder, Bahá'u'lláh, and his son and designated interpreter, 'Abdu'l-Bahá, were aware of and responded to the scientific view of the world and to the modern scientific way of knowing as they understood it. Thus Hatcher, like Hefner, illustrates how the theories and methods of science may be incorporated rationally into the views of a particular community of faith.

The last two articles, through which *Zygon* celebrates and discusses Albert Einstein's impact on science and religion, represent a third type of community of rational inquiry in relation to religion. The framework represented by Roy D. Morrison II and Dean R. Fowler is one neither of strict science nor of a particular community of faith (even though Morrison teaches in a Protestant seminary, and Fowler in a department of theology at a Catholic university). Instead Morrison and Fowler adopt the point of view of the general academic community and philosophically analyze and critique Einstein's contribution to achieving a synthesis between science and religion.

In a paper that is rich in suggesting the historical connections of Einstein's ideas Morrison argues that there is an underlying methodological unity between science and religion in Einstein's thought. Even though Einstein rejects the idea of a personal god—a god with a center of consciousness—as the foundation of the universe, he does hold, Morrison explains, to the religious conviction that the empirical world is intelligible. This conviction of the rationality of the universe provides the motivation for searching out those metaphysical categories that must be postulated (although not regarded as inherent in the structure of the human mind as Immanuel Kant would hold) if thinking is to be justified and also for carrying out the more detailed rational inquiries of modern science. Thus, for Einstein, the essence of religion is rational, and the religious conviction of rationality provides the motivational basis for scientific thought.

Fowler's discussion of Einstein's cosmic religion parallels Morrison's. However, there is a difference between the two on the question of values. While Morrison suggests that Einstein's religious attitude about the intelligibility of the universe "motivates the striving for the highest ethical ideas" as well as "for the deepest possible grasp of the intelligibility of the cosmos," Fowler argues that Einstein's cosmic religion "seeks to be free from values, purposes, aims, goals, and desires. In short, it seeks to be free from subjectivity." Fowler suggests, first, that this devaluation of the subjective occurs in Einstein's thought because Einstein shares the presuppositions of a "two-sphere" approach to science and religion, although he modifies the two-sphere approach

by emphasizing the objective pole of the dichotomy in religion as well as in science. Fowler then suggests that Einstein's own epistemology and his analysis of the nature of scientific discovery (which is consistent with the work of such men as Karl R. Popper, N. R. Hanson, Michael Polanyi, and Thomas S. Kuhn) transcend the dichotomy between subject and object and thus allow for a more integrated formulation of the relation between science and basic guiding values. However, Einstein himself did not realize this more unified outlook.

In surveying this *Zygon* issue and the various communities in which reason and religion are related constructively one may notice several questions. I wish to focus on two that I think must be dealt with effectively if we are to move further toward shared understandings not only of the nature of things but also of the meaning and purpose of human life. The first concerns the degree to which a person who stands within a particular community of faith can be skeptical. In his essay Brown suggests that organized skepticism, which "requires each individual to accept nothing simply on the word of authority" but to examine rationally and test empirically all hypotheses and theories, is one of the basic attitudes of "fundamental science." Such an attitude also is basic for persons operating in the academic community, such as Morrison and Fowler. Although this community does not usually use the more precise experimental methods of the sciences, its members still critique all conceptual systems for the soundness of their assumptions and the coherence of their ideas. Furthermore, to a considerable degree Hefner and Hatcher also exhibit a skeptical attitude as they rationally examine the ways in which their respective faiths make use of the findings and methods of science. Nevertheless, it can be asked whether a person in a particular religious community can be skeptical about all beliefs, especially about the guiding insights and practices set forth by the founder of the faith. On the other hand, the question can be turned back on the scientists and academics by asking whether the value of constant questioning and testing—of organized skepticism itself—can be questioned. Or is the attitude of skepticism itself an article of methodological faith that is comparable to the central guiding beliefs of a particular religious community?

The issue of skepticism and faith is one of the most important issues in science and religion because it intellectually represents a real-life dilemma. In raising the fundamental questions about the meaning and purpose of life we are not seeking just intellectual answers. Instead we are searching for something to which we can commit our lives and perhaps also (if societies are involved in the search) our national and even planetary resources. The question then is to what degree one can be religiously committed to a particular understanding of the nature of life and its purpose, and to the values it implies, while at the same time one retains a healthy skepticism and engages in the rational analysis and critique of the very outlook to which one is committed.

The second question is raised explicitly in Morrison's and Fowler's discussion of Einstein's religious views, but it also seems to be implicit in the other essays and in fact may be a feature that distinguishes Brown's essay from those of Hefner and Hatcher. It is the question of whether one must use personal categories in attempting to delineate conceptually whatever creates and sustains the universe and whatever is regarded as the ground of humanity's highest good.

In terms of general methodology both science and religion attempt to understand observed phenomena through conceptualized realities that are not directly observable. Furthermore, both tend to construct models of these hidden

realities on the basis of analogies drawn from the experience of the observed world. However, traditional religions and the modern sciences tend to differ on the type of basic analogy used in model construction. While religion most often, though not always, has used models based on the introspective awareness of the human mind and thus has developed personalistic conceptual schemes ranging from primitive animism to the theistic notion of a single, conscious, purposive god to account for observed phenomena, modern science has populated conceptually the hidden realm with hypothetical entities and processes that are not conscious and purposive and hence not personal in the usual sense of the word. This difference seems to be the best way to understand the issue between idealism and materialism that not only often appears in discussions of religion and science but also occurs from time to time in religion or science alone.

Many have felt that religious thought must be limited to using only personal categories to conceptualize ultimate reality. However, Einstein clearly exemplifies a religious outlook that does not do this. Furthermore, some theologians, such as Henry Nelson Wieman and Ralph Wendell Burhoe (*Zygon's* founding editor), have pioneered in using nonpersonal models as they reformulate the wisdom of traditional religion in terms of the world view of modern science. Wieman conceptualizes God or the "Source of Human Good" as a social process of creative interchange among humans and between humans and the nonhuman world that creates the human mind and the world relative to the human mind. Burhoe uses a Darwinian model of the creative process as he theologizes pantheistically about an evolving physical-biological-cultural universe and the place of human beings and societies in this dynamic world system. Whether such intellectual-cultural variations will survive depends in part on further discussion regarding the relative strengths and weaknesses of using personal and nonpersonal models to conceptualize hidden realities including the ultimate ground(s) of the universe and human existence.

This issue of *Zygon* has been designed to point out that the membership of the *Zygon* community—those who are committed to joining the best contemporary scientific knowledge with historically tested insights of our planet's religious and philosophical traditions—actually comes from three other communities. As Burhoe's successor I call upon members of the *Zygon* community to reflect on such issues as the relation between faith and skepticism and the use of nonpersonalistic as well as personalistic models of conceptualizing as we work together to develop, in Wieman's words, a "faith that can direct man's commitment to the creative source of human good as it works in the temporal world, open to rational-empirical search and to service by modern technology." As we move toward a more rational-empirical faith we will also move closer to some shared understandings among the peoples of the earth regarding life's purpose and basic values and to a more solid base from which to respond to important, concrete ethical concerns.

K. E. P.