

Editorial

Zygon's editor has many times been challenged by people who have read in the first issue the editorial stating our goals and who find the journal not to have fully lived up to what was there promised or at least hoped for. This is admittedly true. But there is raised the further question as to whether our goals are impossible. As we enter our ninth year, I have received, from two distinguished scholars who would like to be friendly, letters which I think reflect characteristic misgivings or complaints concerning *Zygon* on the part of scientists and religious scholars.

One view, expressed by a psychologist, reflects widespread views that religion is a dying or dead institution for managing man's psychosocial problems, so that we are now forced to replace it as best we can by a scientifically valid successor, but that, in any case, one cannot mix traditional religion and science:

My personal venture into the realm of psychology and religion has been, in many respects, a rather punishing one. When I speak of institutional religion in psychological circles, the lack of interest and even some hostility are apparent; and over in the religious field, I have found that my lack of orthodoxy has often been held against me and . . . prejudicial to approaches to church renewal. . . . There has been and is a tremendous hiatus here, and I think it centers very largely around the issue of naturalistic versus supernaturalistic suppositions. . . . Certainly we very much need in our society an institution with the personal and ethical concerns of the traditional church, but there seems to be a strong swing towards a naturalistic ethic of some sort; and it is not at all sure but that the established church may not be a dying institution. . . . In some respects, individual psychotherapy and group therapy have been designed to help people with guilt and related problems, but there is a great confusion of voices here, and we have no consolidated facility or guidelines to take the church's position. However, there seem to be a great many people who today feel that the church in its traditional guise simply isn't worth saving.

The other view, a religious scholar's reaction on reviewing our first editorial, reflects common views, fears, and confusions concerning science and scientific technology as well as religion's independence:

Fundamentally, the problem seems to me to be that whereas the title of the Journal, and much of the eloquent presentation, is articulated in terms of religion and science as "a team which must effectively pull together," other sections seem quite firmly to subordinate religion to science. Perhaps this would not trouble me quite so much, were it not that somewhere lurking in the background is the spectre of subordinating man to science.

The general flavour of the whole seems to be that science is given, and is an absolute.

Central to the problem of modern man, surely, is precisely this issue. Science has been produced by man; but is man now to be in some fashion subordinated to it, or reduced to a sub-aspect of it? Science has proven spectacularly successful in dealing with the natural world (at least until the ecological problem reared its disquieting head); but science when applied to man seems to me . . . to have done conspicuously less well. . . .

I fundamentally feel, therefore, and with great force, that science is not above criticism. My conviction that the religious systems of the world are also not above criticism, no

doubt, goes without saying. Nor am I sure that, while religion should be criticized from the point of view of science, science should symmetrically be criticized from the point of view of religion. I could entertain that argument; but could also recognize that some, probably including you, would feel that it is going too far. Basically what I wish to preserve is the recognition that man as such must always preserve to himself the right to criticize both. Perhaps one must have some basis for critique; and perhaps in an old-fashioned way I feel that this is human reason (or: divine reason?).

The conflict between these common antipathetical views of religion by scientists and of science by religious scholars is resolved by a new and I believe more correct perspective of both that has shaped my policy for *Zygon*. My response to this conflict will be to elaborate this perspective.

The religious scholar's impression that for *Zygon* science is a given, an absolute, and does not tolerate reciprocal criticism from the point of view of religion is common. But if science is understood to be that search for and findings of more universally valid statements or symbolic models for explaining events in human experience (which is further described below), then instead of being authoritarian and closed to criticism, science has become the paradigm of human culture's most open and universal institution. Its systematic criticism and revisions of its own models and myths—such as the Ptolemaic model of the heavens, the “caloric” theory of heat, the concepts of atom or ether—have produced an explosion of valid knowledge.

Many criticisms of “science” are not really directed at science as valid knowledge but at the misapplications of such information in technology. Technology is a socially transmitted behavior pattern to satisfy needs or wants. Like any technology, scientific technology may be ultimately harmful to man, as in the use of DDT to solve agricultural or health problems. The ecological harm comes not from any scientific truth about DDT but from misguided use of DDT for a supposed gain. It is not valid knowledge but rather insufficient truth that leads to evil deeds. Both the discovery and the correction of technological dangers often require sophisticated scientific information. In *Zygon* we have tried to be clear about the distinction between technology and science—an excellent treatment by R. B. Lindsay appeared in volume 7. *Zygon*'s primary focus has been on the relation of religion to science as a source of truth or valid knowledge, for I believe religious and scientific truth must be one before religion can be revitalized to save man even from traditional evils, to say nothing of the new evils from scientific technology.

A basic question then arises as to whether religion is an independent source of truth and whether, as our religious scholar says, there is “some basis for critique” to judge which statements are more valid. While many scholars are satisfied with “human reason” as a sufficient criterion of judgment, scientists are not. Since Galileo the sciences have insisted on the systematic application of a criterion lying beyond human reason: empirical confirmation of judgment by “nature.” With this criterion of judgment (which, incidentally, von Weizsäcker has traced to the Judaic religious tradition of seeking to provide historical or factual grounds for the validity of religious assertions), accelerated by techniques designed to elicit more rapid judgments, together with methods of imagining invisible forces or substances such as gravity or atoms to account for observable phenomena (which, of course, are akin to the myth-making in all religions), the sciences have unprecedentedly advanced human knowledge. While religious authorities have freely criticized science, such criticism has often been put in ways that cannot be logically integrated into the scientific conceptual system tied to empirical tests. Such criticisms by their nature are not accepted as valid for science. Criticism of science by religion cannot be “sym-

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metric" unless there are common criteria for validity. However, even if we grant science to be currently man's most effective way of augmenting valid information, this does not in the least diminish the significance of religion, any more than it diminishes the significance of medicine, and for the same reasons.

One reason is that religion, like medicine, is more an art or technology than a science. Whether or not it is conceived of as ordained by transhuman powers, religion is undeniably a sociocultural institution designed to satisfy human needs, in this case man's need to be culturally as well as genetically informed if he is to rise above animal to human life. For this, socially transmitted information must be enculturated in each person effectively to motivate his increasingly consciously directed roles in his ecological niche (his relation to the gods of nature) and in his society (morals), and at the same time to provide the personal satisfactions required by his genetic endowment (morale, meaning, hope). I shall say more later on cultural evolution and the necessity of culturally transmitted information at the top of man's value hierarchy or cybernetic controls. But first, the technological nature of religion is indicated by one of the foremost anthropological investigators of religion, A. F. C. Wallace, in his definition of religion as "a set of rituals, rationalized by myth, . . . for the purpose of achieving or preventing transformations of state in man and nature." Wallace finds the functions of religion, among others, are to "organize human behavior, save souls, or revitalize society." All these tasks have made religion probably the primary societal technology for motivating the basic behavioral patterns required for the emergence of human society above the animal level.

Even though it is a culturally rather than genetically defined and transmitted behavioral pattern, religion (like music, drama, language, agriculture, medicine, and all other arts or technologies in the past) at first evolved with no scientific, little rational, and sometimes only fragmentary conscious information. But, nevertheless, it evolved a *wisdom of the culture* just as our genes accumulated the *wisdom of the body*. In order to motivate a society's basic goals or values, a religion must have evolved and at least implicitly embody the definition of those prime values. Hence I would go further than the religious scholar actually urged and say that, insofar as there may be inherent in a religion the definition of a society's prime values, then religion is the proper base for criticizing all lesser values, including those of other technologies.

Thus, in addition to being a technology or art for transmitting it, religion embodies at least *implicit* information or wisdom concerning the prime or "ultimate" values of a society. But, furthermore, perhaps the earliest *explicit* or cognitive postulates for explaining otherwise irrational or meaningless events by imaging the existence of unseen or intangible entities and conditions were religious myths—long antedating the formulation of the postulates of an electromagnetic field or the ether of recent physics. Clifford Geertz is another anthropologist who has provided a very insightful understanding and definition of religion as "a system of symbols which acts to establish powerful, pervasive, and long-lasting moods and motivations in men by formulating conceptions of a general order of existence and clothing these conceptions with such an aura of factuality that the moods and motivations seem uniquely realist." This definition suggests why *explicit* or cognitive "truth" in some degree is essential for religion. To the degree that a belief loses its aura of factuality, it loses its power to move the believer. While the wisdom in religion has a basic technological function of cultural transmission of basic long-range social as well as personal goals or values, such wisdom cannot effectively motivate behavior if it violates what a man finds *credible* with respect to his own

ultimate destiny or concerns. Thus whatever superhuman powers reward and punish and whatever future of self is promised must seem real if the belief is to motivate behavior. In today's culture, where the greatest aura of factuality is possessed by scientific models of what is true, religious myths or theologies may find a new resource for interpreting the invisible realities. The program set forth as the basis for *Zygon* is to provide translations between the truths latent in traditional religious symbol systems and the scientific symbol systems, thus to restore a genuine aura of factuality.

The above presupposes there is a genuine significance and wisdom in traditional religion still of value today. I have already implied that religions are necessary because, unlike the social insects, man's genetic information does not *directly* produce the higher human societal values. A psychologist who has carefully studied and developed some of the new notions on cultural evolution, Donald T. Campbell, has suggested "the behavioral dispositions which produce complex social interdependence and self-sacrificial altruism must instead be products of culturally evolved indoctrination, which has had to counter the self-serving genetic tendencies." I also am inclined to agree with the general thrust of Campbell's strong statement that "on evolutionary grounds . . . it is just as rational to follow well winnowed religious traditions which one does not understand as it is rational to continue breathing air before one understands the role of oxygen in body metabolism. . . . If modern psychology and social science disagree with religious tradition on ways of living, one should, on rational and scientific grounds, choose the traditional recipes for life, for these are better tested." I presume not only that the *implicit* cultural wisdom embodied in traditional religions is as valid and significant for *its* functions (both in defining and motivating basic human values) as has been the cultural wisdom involved in, say, agriculture, for millenia before there were any scientists to explain it, but also that the *explicit* postulates concerning the invisible, intangible, or "supernatural" powers were as useful or as valid as have been earlier postulates of science. That is, outmoded models are not necessarily wholly untrue. For instance, we still find it useful to talk about the flow of heat, even if we have given up the once-postulated "caloric" fluid that flowed, and about the wave-character of light, even though we have given up postulating the "ether" in which the waves propagate. The same is true for religious postulates.

The relevance of the traditional religious postulates about the hidden aspects of reality requires a response to the psychologist's statement that the "tremendous hiatus [between science and religion] centers very largely around the issue of naturalistic versus supernaturalistic suppositions." The term "supernatural" has become the name for the older, prescientific postulates about the invisible forces and realities that determine human destiny. I repeat a view I presented on page 424 of volume 8: "The sovereign system presiding over the world and human destiny described by the sciences is properly 'supernatural' if the word is used in its former meaning, and is properly 'natural' if the word is used in the sense now common among scientists." One could describe the conflict between natural and supernatural concepts as one between different levels of scientific concepts. This has been brought about by the myths or symbols of religion remaining tied to those of the "sciences" of some centuries or millenia back. The reason myths and theologies of religions did not in recent centuries evolve as fast as the advancement of science—as did those of medicine, transportation, and many other technologies—is not hard to explain in terms of Western history since Galileo. We shall not go into that here, but simply state that *Zygon's* policy is to translate and update the theoretic or explanatory models of religion. We see no greater problem for religion than

was the case for the updating of theories and practices in health or transportation. Today, we are beginning not only to be aware scientifically of the hidden wisdom in past cultural evolution, but also to be able to make some meaningful scientific translations of the significance for human salvation of some of the *explicit* traditional religious postulates concerning the unseen realities (see, for instance, my "Concepts of God and Soul" in volume 8 or Clark's paper in this issue).

Recent attempts to provide some kind of scientifically grounded substitute for religion—such as the psychotherapies deriving from Freud (mentioned in the psychologist's letter) or the social soteriologies generated by Marx—are admittedly inadequate for meeting the full range of human needs that religions have filled. Some light on why is shed by recent hypotheses, such as those of Herbert Simon in *The Sciences of the Artificial*, that psychosocial evolution and even computer evolution, like previous biological evolution, is limited to building on the base of its historical precedents and can seldom revise or improve except in small steps forward from that base. This rather recent general theory embracing evolution from physics to psychosocial systems (some of which we have been presenting in *Zygon*) tends to substantiate our assumption that efforts to improve on the functions of religions must start not by throwing them overboard but by revitalizing and reforming them. We have earlier hinted at a further reason for starting from the present base of traditional religion: the fact that religion's adaptation to, or implicit wisdom on, fundamental human values may still be the best wisdom even though unevenness in cultural evolution may have caused the belief for motivating that wisdom to have become ineffective. The basic virtues of love, honesty, sacrificial behavior, etc., are generally not doubted, even among sophisticates today. What is lacking is an effective aura of credibility for motivating them.

The letter from my psychologist friend concluded with asserting the need for the religious function in society and, although he is not satisfied that psychotherapies would suffice, he reflects the widespread view that traditional religious forms are not worth saving. I ask what will then save man from his unfinished animal nature. For without being effectively completed and refined by suitable culturally transmitted values or goals, man's genetic controls are not viable and are less so the more man moves into a complex scientific technology requiring an interdependent society of the total human population. I am forced to answer that we must speedily seek to revitalize the basic functions and wisdom latent in the world's religious traditions by reinterpreting them in the light of our best science, especially by reformulating their explicit postulates about the unseen realities of the general order of existence to the point where these postulates effectively generate the essential moods and motivations necessary for human viability under the new conditions. Insofar as scientific beliefs command the prime aura of reality, contravening religious beliefs fail to motivate. Hence a theology integrated with the sciences is essential.

In this issue of *Zygon* we present four more contributions in keeping with our policy for integrating religion and science—giving the hard sciences sovereignty in the area of newer cognitive truth and religion sovereignty in the area of supreme technological or soteriological function in human culture, as well as crediting prescientifically evolved religion with much cultural wisdom (as yet only dimly discerned by scientific study of religion) still essential for the enculturation of viable human behavior patterns.

R. W. B.