

Editorial

Zygon: Journal of Religion and Science was established ten years ago, not on the conviction that we need to wage the old war between religion and science but on the basis of a new hypothesis (1) that scientific information about man, his world, and even his religion had grown to the point where the sciences could be very fruitfully applied to advancing religion as they already have to advancing medicine, agriculture, and other technologies, and (2) that the evils befalling man because of the weakening of his morals, morale, and sense of meaning—at a time when he was needing them more than ever to guide his handling of his alarmingly vast, new technological capacities—made it imperative that his religious enculturation be revitalized.

During this past decade we have sought to publish new information supportive of this hypothesis: that the time was at hand for the generation of a “theology” or rational interpretation of and help for religion in the light of the sciences. The *Zygon* fare has been primarily at an intellectual level necessary for understanding the application of science to resolve man’s religious problems. The problems of the religious arts—which involve man’s morals, morale, meaning, and hence his understanding of his long-term destiny in relation to the superior powers that be—are perhaps more complex than those of any of the other arts or technologies by which man’s behavior is shaped or guided.

The goal in *Zygon*’s presentation of its array of highly complex, interdisciplinary communications—whose relation to religion may sometimes seem enigmatic—has been to assemble an intellectual foundation for the revitalization of the practical arts of religion and to advance them the more effectively to provide man with the necessary enculturation of a larger and truer vision of himself and of what is sacred for him than that which his animal heritage supplies. Religious visions customarily reveal to man that his true nature transcends that of his body. Scientific views also confirm such religious views as that the essential elements of man’s nature extend back *in time* to ancient ancestors and forward in the future indefinitely after the death of his body; that *in space* man’s nature has been revealed as closely knit not

only with all men (even aliens and evil and wretched men as well as close family and saints) but also as an image or a reflection of a long and continuing history of the larger ecosystem, the dynamic, providential, and judging nature or power which created and sustains all life and determines all destiny. Man's destiny seems to be to reflect that process ever more fully and to participate more consciously in its advancement.

Such religious visions have resonated with man's genetically programmed or instinctual desires, goals, and needs for hope and meaningful life in the presence of perpetual threats thereto. Hence, religions have succeeded in tying man's basic instinctual drives to motivate the higher hopes, courage, and spiritual drives that distinguish man's noblest behavior. Such religious convictions about his true but not immediately apparent reality and its relation to long-range future goals of evolving life have enabled man to become a social and intellectual being capable of a high civilization. Such widened social and rational life would not be possible to him without this cultural modification and extension of his basic genetic information and the motivational system that it empowers.

At the present moment of human history, as in the period during which the great world religions were formed, a new eruption of cognitive knowledge is forcing a revision and extension of our hypotheses about our nature, meaning, and destiny. *Zygon* might be concerned to revitalize religious belief merely because man wants and needs it for the consolation of his heart and hopes and because he needs it to make him a social and moral animal. But *Zygon's* editor with several others goes further and finds evidence that religious beliefs and visions have constituted an essentially valid and vital information for human cultural evolution in the past. We also see that such socially transmitted beliefs about what is sacred, necessary, and of ultimate concern for man are essential in any further evolution of *Homo* in an age of science. We must stress the essential "objectivity" and "truth value" of religious belief systems (with respect to their particular stages of cultural evolution) and hence their kinship to scientific belief systems.

In the first ten pages of *Zygon*, in 1966, I presented our platform in an editorial, and we still stand upon it. In part it read:

Lest there be some who fear that we look forward to revising old religion or fabricating new religion to suit the whims of some particular group of men, let it be noted that neither science nor traditional religion permits man to believe simply what he happens to wish or want. We hold that true statements and valid patterns of life are those which can bear repeated tests for validity by many experiencers in many ways, times, and places. We adopt for prob-

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lems of religious believing and behavior this criterion for validity which has been formulated by the philosophy of science and which is attested to by the evolution or history of both organic and cultural life forms—including religions.

Furthermore, we have repeatedly presented papers, by some of the world's best seers in science and values, who increasingly demonstrate that the solution to the problem is to abandon the battle between these cultures and proceed to show how to reunite facts and values, science and religion. To unite, join, or yoke the two is what the term "zygon" (which is also cognate to zygote and yoga) means. Preconscious human "values" and "facts" are two essential elements of an integrated system in man's brain that have to remain harmoniously joined if there is to be any life. To the extent that man's conscious mind and cultural language diminish this integration they diminish life.

But in our Western culture (and following it now in world culture) facts and values have been almost lethally disjointed.

The present disjunction between man's facts and values and the consequent rejection of one of these subcultures by the other—with the consequent threat to the viability or stability of human societies as well as psyches—are in some ways analogous to the immunological rejection of, say, a transplanted heart, not because the heart will not work but because the genetic language of the donor (heart or religious values) does not fit with that of the recipient (body or the modern scientific picture of the facts) and thereby produces a rejection reaction. Contemporary human societies are akin to men whose hearts have gone and who are kept alive only by some synthetic machinery that is too expensive and too ineffective to be viable in the long run, or by a transplant of a religious value system from a prior culture that worked well in its earlier cultural context but which is so alien in its linguistic coding to the new culture that our problem is how to prevent its being rejected, lest both the heart and the man cease to be.

In this analogy, I have used the word "heart" because it is in prescientific language a symbol of man's values and goals. Of course, in scientific language man's values and goals are known to be located not in the heart but in an organ which is so much the core of man that it cannot be transplanted: the brain. If it were possible to put Brown's brain into Black's body, one would have to say that Black's body was transplanted to keep Brown alive.

Our analogy is thus only crudely suggestive and is confusing at this point because it is not the heart but the brain that houses both man's facts and his values. Such *Zygon* papers as those by José M. R. Del-

gado, Ralph W. Gerard, Hudson Hoagland, Paul D. MacLean, and R. W. Sperry lead us to say that the “heart” is now known to live in certain specific areas of the brain and that we recently have come to know some of the reasons why the “heart has reasons that the mind [at least in the pre-1950 scientific understandings] knows not of.” The papers in this issue by Solomon H. Katz and by Eugene G. d’Aquila and Charles Laughlin, Jr., provide some new insights relevant to the role of the brain in the “heart” and religion. Such papers shed light upon the wisdom of the nonlogical or nonverbal elements of religious tradition and experience. They seem to reflect real wisdom on the part of those theologians who insisted on the importance of the religious affections, feelings, or emotions in transforming human attitudes and behaviors, such as Jonathan Edwards or Friedrich Schleiermacher. I suspect religion’s prime function may lie in this capacity it has adaptively to reorient human attitudes and behavior from the inside by cathecting the brain’s beliefs in hypothecated realities about self and the world to the genetically programmed, instinctual goals or motivational system.

However, we also know today that a brain (and also a sociocultural system) that keeps its values or goal motivations separate from its facts leads to degeneration of both the individual and the society. For this reason, one cannot hope that traditional religions in their prescientific language and symbol system will very long be vital value cores (“hearts”) for societies living in the scientific-technological world, unless and until we can resolve the alienation or rejection reaction—generated by the mutual feelings of incredibility and irrelevance—by translating or transforming the basic language code or symbol system so that they will have a common meaning, credibility, and relevance in both subcultures. My hypothesis has been that it is more such a translation than a radical revision of religious wisdom that is needed if the religious and moral hearts of human societies are to be viable in an age of science.

I also hypothecate with some empirical support that traditional religious beliefs implicitly contain much still valid wisdom that science does not fully understand.

We are not unmindful of the necessity for a new convergence of values of all the newly interdependent societies of the world so that they may live harmoniously together. From some perspectives this might suggest that a radical reformation of most if not all of the religions of the world would be required. But it has been *Zygon*’s basic hypothesis that the differences among the various religions are more in their symbol-system clothing rather than in the moral and spiritual facts or the behavior they engender. Moreover, it is exactly because

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science is already a universal or common language or subculture in whatever country it is known that we may very reasonably expect that a translation and revision of the religious symbols about values in any culture into scientific modes of expression will engender this newly necessary congruence of the cultural symbols generative of a vital community of values.

During the past ten years, the importance of deeply motivating, socially binding, and personally meaningful values has been emphasized by the growing anomie and discontent, especially of youth raised in cultures that have lost their value core. The need for such values also is emphasized by the dire projections of the future by such social scientists as those in the Club of Rome or by Robert Heilbroner's *Inquiry into the Human Prospect*, both of which suggest tragedy ahead and a new Dark Ages because of the incapacity of man's presently weakened value system adequately to control his technological powers. This weakness results from a lethal separation of man's facts and values, his beliefs about reality from his beliefs about what is good. The religious institutions, whose function has been to enculturate man's long-term values, his "ultimate concerns," have become relatively impotent because their beliefs and rituals concerning values seem incongruent with the scientifically generated reality pictures (facts).

In the first volume of *Zygon* we republished a classic statement by Clyde Kluckhohn on this problem of the breakdown of values resulting from their separation from facts, and his dissent with the view that now we can safely "huddle back into the older orthodoxies" or "we can bear chaos as best we are able and wait for the miracle of a new religion to occur." On the contrary, although religions in the past have evolved mostly unconsciously, and hence "miraculously," Kluckhohn's thesis was and *Zygon's* continues to be: We must and "we can bring scientific method and outlook to bear upon these problems." *Zygon* has espoused this thesis because the hitherto slow methods of evolution of religions would never allow them to catch up with the rapidly changing ambient symbol systems and needs produced by a science and technology that are advancing by a radically new and accelerated method of evolving. Also we have espoused it because we hypothecate the religious function to be necessary to any civilization. Further, we espouse it because we hypothecate religion at its most advanced levels—even more than the material scientific technologies—must be formulated in rational language (theology, but translated to the credible and effective concept system of the sciences), because religions by their very nature do involve the manipulation not of external objects but of "beliefs" and "spiritual feelings,"

whose production requires proper electrochemical flow patterns internal to the heads of men.

After presenting for nine years many papers on this thesis—that human values are discernible, discoverable, and may be highly illuminated by the sciences—and in ways that do not destroy but raise to new levels of credibility some of the most ancient but presently unappreciated aspects of traditional religions (such as ritual and theology), I undertook in my editorial in the March 1974 *Zygon* to respond to the objections, still common from distinguished thinkers in both science and religion, that there is no possibility for the union that *Zygon* seeks to achieve. I presented there some of the basic reasons for my conviction that the union is both possible and necessary. In this tenth-anniversary editorial, even though we have more subscribers who indicate wider espousal of the program we have sought to carry on, new needs for financial support have added reasons to clarify as much as possible the meaning and the worth of *Zygon's* mission. This review and explanation of *Zygon's* aims here are the more required because in this issue we are publishing a paper by Max L. Stackhouse, who is a professor of Christian ethics, on a thesis which at least on the surface might seem incredible and out of place in the *Zygon* we have proclaimed. His thesis is that there is a supranatural realm from which the natural sciences are excluded. If that were true, then *Zygon's* stated goals and policy would indeed be logically futile. The editor therefore requests readers who have not yet learned quickly to use transformation equations, or to translate symbols in one language to make them meaningful in another, to read this seeming anomaly in *Zygon* nevertheless. Readers might find it helpful first to review the *Zygon* position on the “supernatural” in the March 1974 editorial. If readers will translate Stackhouse’s “supranatural discourse” by something like the “sciences about man’s feelings, consciousness, and culturally transmitted values,” they will not be far off the track. But if they read it as meaning that religion is in a realm of discourse impossible for science, then there could be no hope for *Zygon's* meaning—union.

The paper by Chauncey D. Leake on the sense of satisfaction may seem to the religious readers to err in the other direction. While Leake reviews some of the new information about how a human being is in fact motivated to his values, in this particular paper Leake leaves out a part of the story which is essential for both theology and science. While human values and choices are indeed structured by the genetic and instinctual bases of the brain’s cybernetic informational system and by the differentiation or elaboration of these patterns made possible by the human brain’s special transformability, Leake leaves out what Stackhouse rightly seeks to keep in the picture: the fact that

human values (and I would add all animal values) are ultimately established not by existing wishes or pleasure-pain mechanisms but by an objective reality system, adaptation to which is necessary for viability. It is the reality system, which compels this adaptation of pleasure-pain mechanisms to its requirements, that is the more basic source for the existing motivational guides which we may with Leake and others call "satisfaction." And it is this reality system or Nature that will select or reject any individual or cultural modifications of them. This objectivity and transhuman character of human values is one of the important facts that Stackhouse finds in his "supranatural" science but which I have just explained in language familiar to a naturalist. Probably some kind of pantheism will be essential for any true union of science and religion, as Harlow Shapley used to tell us (see his "Life, Hope, and Cosmic Evolution" in the September 1966 *Zygon*). A very important implication of Leake's paper is, however, exactly his pointing to the importance of pleasure in motivation. A central thesis of religion in general is to enhance life and joy by overcoming death and pain. In the Christian tradition, for instance, theologians from the beginning have pointed out how God's graciousness brings to men a gospel of joy and life even in the midst of sin and decay. For this end, of course, a special belief or understanding was necessary. Pleasure may be said to be the name for the genetically programmed neurological bases for motivating what is good for life. *Zygon* should keep hot on the trail of such scientific evidence for the role of pleasure and joy, and look more carefully at the conditions under which corrected ("converted") beliefs may be in reality selected by individuals and cultures, as has information in the gene pool by nature, to transform the pleasure mechanisms to accord with ultimate viability.

"The Dilemma of Science and Morals" by molecular biologist Gunther S. Stent provides further illumination of the problems of science, religion, and ethics being wrestled with in this issue of *Zygon*. He provides some evidence for views, like those that are emphasized by Stackhouse, that the world of human experience is so complex that scientific maps of the world cannot pretend to be absolute, all-inclusive, and ultimate truth, as some have supposed. He provides evidence of the need for the "left-hand" in practical and moral life, a view relating to themes in Katz and d'Aquili and Laughlin. He concludes with the view, underlying this issue, that what is necessary "to make the world a better place is to understand man." At the same time he presents a statement by Niels Bohr that "the use of words like thought and feeling does not refer to a firmly connected causal chain, but to experiences which exclude each other because of different distinctions between the conscious content and the background which

we loosely term ourselves.” And Stent himself concludes that “this mutual exclusion is, in my opinion, at the root of the Western dilemma of science and morals.”

The position taken by such excellent scientists as Bohr and Stent is, at least on the surface, as devastating to *Zygon's* stated goals of unification or integration of religion and science as that taken by Stackhouse and many in theology and the humanities. The claims that there is an essential discontinuity which cannot be bridged are in part the same as the grounds for the claims by humanistic, philosophic, and religious scholars: the seeming unbridgeability or discontinuity between subjective and objective, between the world of the unique feelings, moods, and perceptions of oneself and the seemingly different, cold, thin, and not always relevant world pictured by “objective” science. This is related to the paradox between the subjectively felt freedom of man to choose and to determine his ways for himself and the scientific paradigm of an objective world in which things are determined by some causal chains. One might say that Stent is one of those not uncommon men who live in or accept both cultures and, without resolving the consequent paradoxes or dilemmas, manage to tolerate them.

Therefore, in this issue of *Zygon* we again have presentations that seemingly deny the possibility of *Zygon's* stated goals of bridging the two cultures. However, the editor wishes to reiterate that he has reasons for believing it can be done—reasons which have been accumulated from his widespread contacts in both cultures. Portions of the rational scheme behind the goals of *Zygon* have been published in several dozens of *Zygon's* papers of the last ten years, and more will be published, hopefully, in the next ten years.

I conclude this editorial by pointing out that this issue of *Zygon* originated in the Institute on Religion in an Age of Science (IRAS) Conference on Star Island during the summer of 1974, developed under the chairmanship of Professor Karl H. Hertz of the Hamma School of Theology. The papers by Leake and Stent were added as relevant to the primary theme of the issue. An aim of that conference, as worded by certain members of the program committee, was to show that “recent studies of the structure and function of man’s mind and society indicate the possibility of the emergence of a new and holistic science of man,” which, it was presumed, might provide guidance or better direction and values for mankind in the future. Certain contradictory conclusions from the papers would seem to show that this goal of the conference (which is correlated with the goal of *Zygon*) has not yet been attained. But the editor suggests that, with certain “translations,” the major elements of the diverse papers will all be

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found to be relevant and valid for the *Zygon* goal of unifying the conceptual schemes or beliefs of religion and science.

My rational scheme might be summarized by saying that the rational, scientific formulations generated in the left cortical hemisphere now have penetrated some of the mystery and have unsnarled some of the confusion they have had about the "nonlogical" or non-verbal elements of the right cortical hemisphere and the "unconscious" elements of the lower brain centers, as well as about the seeming irrationality and injustice of other humans and of the ruling transhuman forces of the world in general. This breakthrough of rational knowledge to new understandings and appreciations of the implicit wisdom and justice of what formerly seemed irrational and unjust is in part symbolized by the new understanding of the role of the corpus callosum (a yoke or zygon of the brain) and other cybernetic information feedback channels of human brains as well as the larger cybernetic information feedback channels among individuals, cultures, gene pools, and ecosystems. The rational mind can today stand before even that which it cannot understand, and can positively declare on the basis of partially confirmed hypotheses, that, beneath all the confusions of experience of self and world, the whole of what the Lord hath made is good, indeed; and I have the possibility of joy in making my humble contributions to the advancement of life if I am converted to right beliefs or visions about myself, the other creatures around me, and the nature of the creative process itself.

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In this editorial I wish also to bring to *Zygon* readers' attention the enlargement of our editorial team and to welcome the four associate editors whom the Joint Publication Board has appointed to assist in producing *Zygon*. They have been helping informally and as members of the Advisory Board for some years but are now also listed on the masthead as associate editors and will be taking a more active part in the difficult task of a journal of pioneering synthesis. In addition to their continuing to read manuscripts and advise on policy and suggest manuscripts or special issues, as have various other members of *Zygon's* Advisory Board (without whom much of the best of *Zygon* would not be), the associate editors have agreed to be more active in these matters and from time to time to take on assignments from the editor to generate a part or a whole issue.

Sanborn C. Brown is professor of physics at the Massachusetts Institute of Technology and associate dean of the Graduate School. He has long been active in IRAS (a former president) and in the Center for Advanced Study in Religion and Science (CASIRAS) and *Zygon*

(an author, conference organizer, and for eleven years cochairman of the Joint Publication Board which publishes it).

Don Browning is associate professor in the Divinity School of the University of Chicago in the area of religion and psychological studies. He is a *Zygon* author who has recently become active in its further development. He will be the special editor for the June 1975 issue.

Philip Hefner is professor of systematic theology at the Lutheran School of Theology at Chicago. He is a *Zygon* author and has been active since 1969 in the former Center for Advanced Study in Theology and the Sciences of the Meadville/Lombard Theological School (former joint publisher of *Zygon*) and more recently in IRAS conferences. He was special editor for the December 1974 issue.

Solomon H. Katz is associate professor of anthropology at the University of Pennsylvania. He is a *Zygon* author who has been active in IRAS conferences and development.

I should also bring to your attention and welcome our new book-review editor, John A. Miles, Jr., who was assistant professor of theology at Loyola University when joining us last fall and who is now assistant professor of religious studies at the University of Montana.

For six of the past nine volumes of *Zygon*, readers and publishers owe much to Dr. Edwin P. Abaya who, during his studies at the University of Chicago, has since February of 1969 been our faithful and able part-time assistant editor. Not only has he done most of the routine work of editing, proofreading, and guiding the processes of each issue and volume from acceptance of manuscripts through printing and mailing, but he has been a significant contributor to evaluating manuscripts and policy making for the journal.

I must also in a decennial editorial recognize the many important contributions of the Journals Department of the University of Chicago Press to *Zygon*. It has worked closely and agreeably with us in copyediting, proofreading, printing, fulfillment of subscriptions, and promotion.

At the end of this issue I provide a "Note on the Institutional and Financial Support of *Zygon*," in case there may be some readers who will be concerned.

R. W. B.