

Biography

RALPH WENDELL BURHOE: HIS LIFE AND HIS THOUGHT

II. Formulating the Vision and Organizing the Institute on Religion in an Age of Science (IRAS)

by David R. Breed

Abstract. This second installment from the author's book-length study of Ralph Wendell Burhoe's life and thought details the background of the establishing of the Institute on Religion in an Age of Science in 1955 and its intellectual rationale. A group of clergy from the Coming Great Church Conference and scientists who were members of the Committee on Science and Values of the American Academy of Arts and Sciences came together to form the new Institute on Star Island, off the coast of Portsmouth, New Hampshire. From the beginning, with the guidance of Burhoe, the chief concern of these scientists and clergy was the need to regenerate a contemporary civilization that was on the brink of danger due to its inability to discipline its own burgeoning scientific and technological prowess. Revitalizing religion was deemed essential to this regeneration of society. Since religion is largely destabilized by science, the major task is to emphasize how contemporary scientific understandings support religious wisdom and accentuate its importance. This task is to be accomplished through a science-based theology which reformulates religious wisdom for a culture that accepts science as the most reliable form of knowledge. This rationale for IRAS also articulates the program to which Burhoe committed himself.

Keywords: Burhoe; IRAS; Star Island; scientific theology; American Academy of Arts and Sciences; Coming Great Church

In the previous chapter I traced Burhoe's life to the founding of the Institute on Religion in an Age of Science (IRAS), which joined the Conference on the Coming Great Church and persons

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associated with the American Academy's Committee on Science and Values in 1955. With the establishment of IRAS, Burhoe began the development of a scientific theology, and until he resigned his position with the Academy in 1964, the record of his thought is largely (though not exclusively) contained in his memos, correspondence, reports, and proposals for conferences and other IRAS projects. Burhoe served as IRAS secretary-treasurer from the group's beginning until 1961, and as chairman of its Program Committee from 1953 (when he was asked to plan the first conference) to 1958, when he resigned and was appointed chairman of a new Publication Committee and editor of a proposed quarterly journal (IRAS 1958d, 1958e). In July 1957, he was designated Executive Secretary (IRAS 1957a) and in 1961 he was elected Honorary President for Life in recognition of his service and leadership. During the formative years of the Institute, Burhoe was the primary author of most of the documents that guided its programs and recorded its affairs. In fact, the formulation of his position, which he published in "Salvation in the Twentieth Century" in 1960, was the result of a conversation with "intellectual architects" of "a fruitful program for integrating religion and science" (Burhoe 1956b). There can be little doubt that IRAS was the primary source of inspiration, critique, and testing for the formulation of Burhoe's thought as well.

Almost from its beginning, IRAS focused on four components: (1) conferences and seminars, (2) a publications program, (3) lectures and seminars at colleges and theological schools, and (4) a center for research and advanced study. Since its beginning, moreover, its annual conference on Star Island has been central, along with seminars arranged with other groups. Whereas the first section of this chapter dealt with Burhoe's vision in the context of IRAS, the second section deals with the development of seminars at theological schools, which led to the involvement of Burhoe and some IRAS members with a Unitarian commission for assessing the free church in a changing world, out of which developed a Department of Theology and the Frontiers of Learning, a center for advanced study, and the journal *Zygon* (at Meadville/Lombard Theological School in Chicago). Accordingly, this chapter concludes with a discussion of Burhoe's vision for integrating religion and science as the program was formulated in 1960.

ORGANIZATION OF THE INSTITUTE

During the 1955 Star Island conference (30 July to 6 August), when IRAS was organized, twenty-two "leading contributors to the

thinking of the conferences were elected to the governing board of the institute” (Burhoe 1955). Three scientists were part of the Steering Committee, rounding out an Executive Committee of eight. During the following year, on 5 May 1956, the members approved a constitution and bylaws, and the Institute was incorporated. Its Advisory Board, which until 1959 was the entire membership, made recommendations to a Council of twelve members who conducted the affairs and business of the Institute. In the first years, Edwin Prince Booth served as president; Burhoe was secretary-treasurer; and Harlow Shapley was vice president and chairman of the Advisory Board.

In addition to almost daily meetings during the week-long summer conferences on Star Island, the Advisory Board met several times during the academic year in the Boston area, usually at luncheons or dinners at the Harvard Club, the Harvard Faculty Club, or the House of the Academy, and often featured a famous speaker and discussions. For example, Paul Tillich and John Dillenberger were guests at meetings during the 1955–56 academic year. The Council often met at the conclusion of a board meeting, but when there was extensive business to discuss, the Council occasionally convened at a member’s home. After Burhoe went to Chicago in 1964, the Boston meetings of the Advisory Board ended and its function was absorbed by the Council, which then met once or twice during the year in addition to the meetings at Star Island. On 29 July 1970 the bylaws were changed to reflect this operation, eliminating the Board and expanding the Council in number and function.

The primary activity of the Institute, and the only one mandated in the bylaws, is the annual Star Island summer conference—on a rocky 40-acre island in the Isles of Shoals, about ten miles out from Portsmouth, New Hampshire. In the 1600s it was an English fishing village and port, and its highest point is crowned by a stone meeting-house, built in 1800. In the mid-nineteenth century a resort hotel was built, as the isle was a favorite summer colony for artists and writers. At the turn of the century, while the island’s resort business declined, it was replaced by a growing program of Unitarian and Congregational summer conferences, and in 1915 the island was purchased by a group of Unitarians and Congregationalists as a religious conference center. In *IRAS: A Ten-Year View*, Sanborn Brown wrote about the first IRAS conferences: “It was the plan at first to enter the quest [of the meaning of science for morals and religion] from the religious frame of reference by using the traditions of Star Island in morning Chapel and evening ‘candlelight’ services as well as lectures and discussions. Within this environment the men of the sciences set forth, lecture by lecture, and day by day, the

findings of the areas of investigation committed to them" (Brown 1963, 5). The morning started with a chapel service, at which Edwin Booth was usually the preacher, followed by a lecture and discussion. In the early afternoon the Advisory Board often met, followed by special colloquia, and in the evening there was another lecture and discussion, followed by a candlelight chapel service (which continued a tradition dating back to the first settlers). Then, in an "Owl Session," Harlow Shapley presided over an informal discussion called The Hollow Square. Thus the Star Island conferences provided a rich and intensive intellectual and spiritual experience, which is still at the center of the Institute's program. Indeed, the Institute fostered a dialogue out of which came a new paradigm for integrating religion and science, and Burhoe, as the scribe at the center of this dialogue, came to embody this emerging paradigm in both his person and thought.

PURPOSES OF THE INSTITUTE

IRAS was established "to promote creative efforts leading to the formulation, in the light of contemporary knowledge, of more effective doctrines and practices for human salvation." Beginning with the election of the first members in 1955, elaboration of this statement was the focus of meetings of the Advisory Board and the Council. Among the first concerns was a journal to integrate religion and science, employing the highest scholarly and scientific integrity, and an early discussion indicates the approach: "We viewed religions as cultural products whose evolutionary selections guaranteed [all] values in them, and we viewed science not as a substitute but as a means of clarifying and supplementing the existing religions. But we would not look for unlikely scientific confirmations of abandoned cosmologies and concepts . . . but would seek to understand the more fundamental values described in terms of those cosmologies and look to see whether and how current cosmologies support or modify them" (IRAS 1956a). In a proposal for the 1956 Star Island conference on "Goodness and Motivation in 'the Light of Evolution,'" Burhoe formulated a summary of agreements, reached by IRAS leaders, that was distributed at the 25 January 1956 meeting:

In the summers of 1954 and 1955 the Conference reached considerable agreement that religion can and must be approached rationally, even scientifically. We roughly defined religion as man's effort to orient himself in his total environment. In biological language this might be translated as: man's effort to adapt to the conditions which the environment demands for life. We have presented the idea that the laws of the cosmos discovered by science are not separable from what has been meant by God's laws. In the

summer of 1956 we plan to examine this scientific picture of that in which we live and move and have our being, and to search for meaning and for hope for human life—a story of salvation.

Two major questions will concern us:

- A. What can modern knowledge say about goodness—values for life?
- B. What can modern knowledge say about motivating man to do the good? (IRAS 1956a).

Two questions in the proposal indicate the approach to religion: Insofar as we define religion as that aspect of a culture bearing the more generalized and integrated forms of its values, how far can we expect rational analysis and development of religion on the basis of the new knowledge to provide improvements in world civilization in ways analogous to those responsible for the improvements in transportation and communications? . . . Defining religion as that aspect of culture wherein one finds the highest or most inclusive generalization of values or goals for men to seek, how effective are the religious institutions in motivating relevant behavior? (IRAS 1956a, 4, 7).

The good or “highest” value was formulated:

We shall suppose that goodness for humans means life; that badness means death. Probably this statement is too simple, but let it stand for something to be amplified. . . . The finding of life and avoidance of death are central in much of religious literature.

Let us look to see what science says about life and how life is achieved. . . . We shall also look at the scientific picture of what makes for life and more abundant life for the individual. Perhaps here we shall find the pathway to our salvation, our highest life (IRAS 1956a, 1).

The program for the 1956 summer conference shows that the initial proposal was transformed to address this question: “In the light of the description of the universe and life which the scientists are now giving us, what content can we ascribe to the words ‘good’ and ‘evil’?” Additionally, the program describes some beliefs of the founders:

It seems clear that science and scholarship have laid the groundwork for tremendously significant advances in our understanding of man, of the source of his being, and of the requirements laid upon him if he is to live and evolve to a higher life. We suspect that new religious doctrines based on these revelations will not destroy the values achieved by our religious inheritance any more than the new doctrines of Einstein destroy the value of the Newtonian or Archimedean doctrines of physics. If the progress of science and the history of man thus far be any guide, we suppose that the reformation should unite the religious doctrines of all people into a single evolving system of beliefs continuous with the evolving doctrines of human knowledge or sciences in general. . . .

Many of us suppose that a positive body of belief about the more ultimate values is essential to civilization, and that the revelations from science should be and can be usefully integrated with it. . . . A review of the list of Conference Members or a short conversation with a few of them will reveal that there are gathered on Star Island . . . a company of high and varied talent who for the most part are seriously dedicated to the search for useful and acceptable religious doctrine that fits both the world view of science and the moral requirements for a viable human society and a satisfying personal life (IRAS 1956c, 3-4).

This declaration echoed the “purpose statement” of the constitution adopted 5 May 1956:

The Institute on Religion in an Age of Science is established to promote creative efforts leading to the formulation, in the light of contemporary knowledge, of effective doctrines and practices for human welfare; to formulate dynamic and positive relationships between the concepts developed by science and the goals and hopes of man expressed through religion; to state human values in such universal and valid terms that they may be understood by all men whatever their cultural background and experience, in such a way as to provide a basis for world-wide cooperation (IRAS 1956b).

During the conference, Advisory Board meetings focused on the purposes and program of IRAS, and by the end of the week agreement was reached on a five-point recommendation to the Council for elaboration into a proposal for funding foundations:

- (1) Establish a journal on religion in an age of science of high scholarly and scientific level.
- (2) Establish a center of advanced studies on religion in an age of science.
- (3) Undertake a program of meetings and conferences, led by teams from our membership at various universities and other centers to establish cooperative contact with other persons already working in kindred ways, and to find or stimulate new work.
- (4) Establish a popular magazine in due course to carry to a broader public, including clergymen, religious and other educators, the better established contributions of science to a reinterpretation of man’s religious traditions.
- (5) Explore the possibilities of working with theological and other schools on [a] curriculum relating religion and science (IRAS 1956d).

In a report for *Science*, Burhoe wrote that the conference concurred on the basic program of the Institute:

There has been established a rather unique concurrence on the part of professional people from a wide range of the spectra of both science and theology on a fruitful program for integrating religion and science. . . .

This concurrence on a basic approach to the problem of religion in an age of science can perhaps be stated as follows. Knowledge of good and evil

or of values or of man's ultimate concerns—that is, the area of religious doctrine—is considered to be essentially one with, and inseparable from, all other knowledge and to be capable of extension and correction in the same ways. This does not mean that our acquisition of knowledge (about ethics or the nature and destiny of man) is limited to knowledge gained by recent scientific methods; but it does not exclude them. Science, in short, is a part of the process by means of which valid information about man's highest concerns is revealed to him. Because of the very rapid current advance of scientific knowledge and the patently growing incompatibilities of various religious doctrines, the conference members, for the most part, seem to feel the need for a restatement of religion.

At the same time, there seems to be among the members of the conference the scientist's respect for the facts of religion and religious institutions. These are looked upon as evolved structures or patterns of human culture having the same kind of validity and usefulness in supporting life as do other evolutionary structures. And there is also a scientist's hope that one can find beneath the seemingly paradoxical and irrational phenomena of religion some kind of rational conceptual scheme to account for them. . . .

It is also a positive and new approach, since even in the heyday of religious liberalism during the earlier part of the present century, there seems to have been no comparable coming together of scientists at the invitation of religious professionals to reconsider religious doctrine for a new age (Burhoe 1956b).

As indicated by these excerpts, those who formed the initial core of IRAS reached substantial agreement on a number of operating premises, which can be summarized as follows. The primary concepts are truth, value, and religion as seen in a scientific view of the world. Science and what characterizes the scientific worldview, namely evolution, form the new light in which to see old and new observable facts. To be scientific is to be concerned with truth or matters of objective fact. Religion and science are concerned about the same truth, although it may be formulated differently. This truth, at which both science and religion aim, is empirically verifiable—that is, is open to objective scrutiny. This means that the criterion for a valid truth is scientific verification. That an ancient authority has made some claim about truth may have been of vital importance, and even correct, but for that truth to be credible today its scientific validation is essential.

These purposes suggest that the scientists in the Academy's Committee on Science and Values joined the clergy associated with the conference on the Coming Great Church out of religious affinity (see Breed, *Zygon* September 1990). Both were seeking a scientifically respectable forum for religious concerns. In particular, the scientists wanted a forum in which they could explore religious life without

sacrificing their integrity; in short, they were seeking a way of being religious in a scientific way. They knew that being religious in this way was not widely acceptable among either their colleagues or their former religious communities and for the same reason: being religious meant a form of life based on the authority of a religious tradition. This was abhorrent for scientific intellectuals because it introduced criteria that were unacceptable and perspectives on world realities that were incredible, having been transformed by developments in the sciences. For the religious, on the other hand, traditional forms of the devout life were the only forms that preserved religious integrity. The IRAS founders, nonetheless, were deeply religious, in the broadest sense of the word, and were seeking new forms of religious expression that would not sacrifice their intellectual and scientific commitments. Thus the burning question was how to be religious scientifically, and this entailed exploring and testing new forms of religious life that took traditional forms of religion, as well as science, seriously. The founders wanted to find a form of life that integrated their religious feelings and their scientific rationality with the wisdom of religious traditions and the worldview revealed by the sciences and thereby find a new orientation to the total environment. Thus their concern was to formulate effective doctrines and practices for human welfare.

“PROPOSAL FOR DEVELOPMENT OF PROGRAM”

On 14 September 1956 Burhoe sent his “Proposal for Development of Program” to all IRAS members for discussion at a meeting on 2 October (Burhoe 1956a). Of particular interest for this study is the rationale he developed:

1. [IRAS] seeks funds to initiate a fundamental program to formulate dynamic and positive relationships between the concepts developed by science and the goals and hopes of man expressed through religion. . . .
2. Religion is regarded as that element of human culture which forms man’s attitudes towards the forces within and around him on which his life depends, attitudes whose function is to provide ultimately successful adaptation or adjustment with respect to these forces. Religious knowledge is knowledge about those areas of man’s ultimate concern.
3. In the light of anthropological and sociological studies it is presumed that each of the world’s religions embodies valid and useful doctrines and practices which have evolved in the experience of its respective culture. . . .
4. It is further presumed that, just as constructive aids to agriculture or medicine in the light of science have been welcomed in every culture and

given man greater opportunities in these areas of life, so also will be welcomed scientific aids to religion.

5. However, in the evolution of Christian or Western civilization, the impact of science and technology . . . has increasingly tended to dissolve the faith of the educated leaders of that civilization in the great Christian conceptual scheme of values and sanctions. . . . Thus, historically, science would seem to be lethal to religious institutions. . . .

7. Probably an adequate reformulation of value doctrine can be made only by retaining the essential wisdom and truth of the old, reinterpreted in the light of science. . . . [That is,] the logical equivalence . . . of their substantial values. . . .

8. [Burhoe posits a fundamental requirement for a religion or doctrine of values.] Moreover, we believe that this approach can give religious doctrines the possibility of evolving as flexibly as the doctrines of science in general so as to conform with newly observed elements of human experience. . . .

10. In other words, if a part of a culture is determined by science, then if it is to survive it would seem its value concepts must incorporate that scientific world view. . . .

55. [IRAS] finds fruitful contributions to religion from all areas of science. From the physical sciences it finds bases for a revised epistemology, ontology, and cosmology; and from the biological and social sciences (including history) a clarified picture of the nature of man and the evolution of his doctrines of salvation. . . .

57. In general, we hold . . . that science in its most critical character does not demolish belief in a reality outside of man which he must come to know and obey if he is to have life, but establishes such a reality more firmly and truly than ever before was possible. What has been lacking has been a successful effort on the part of scientific explorers to interpret this new revelation of the reality in a way that shows its moral and religious relevance (Burhoe 1956a, 2 and *passim*).

These ideas engendered vigorous discussion over the next months, and these discussions, in turn, prompted Burhoe to present another proposal for the upcoming (1957) Star Island conference. He focused on the nature of truth as a way of addressing dissension and moving toward consensus among IRAS members. Moreover, we find in this proposal Burhoe's view of truth as an evolution of knowledge about right and wrong. This view can best be shown by outlining the topics to be covered at the Star Island conference:

1. Knowledge through the genotype/Genetically derived knowledge, or the wisdom of the body

2. Knowledge by perception/Perceived knowledge, or the revelation of the senses
3. Knowledge by intuition or imagination/Intuited knowledge, or revelation from beyond the senses
4. Knowledge through the mores and myths of culture/Culturally transmitted knowledge, or the revelation of the tradition
5. Knowledge from deductive reasoning or logic/Logically deduced knowledge, or the revelation of reason
6. Knowledge through science/Science, or revelation by a systematic involvement of all of the above

This general scheme served as the structure of his paper, "Five Steps in the Evolution of Man's Knowledge of Good and Evil" (Burhoe 1967).

"A STEP TOWARD A SCIENTIFIC THEOLOGY"

Burhoe's assessment of the 1957 conference is indicated by the title of his unpublished report, "A Step Toward a Scientific Theology" (Burhoe 1957). Indeed, by concentrating on methodological problems, the conference generated a harmonious consensus on how the Institute should proceed in developing its program, for by the end of the conference the Council had adopted these resolutions:

- (1) to continue Star Island Conferences;
- (2) to schedule lectures and conferences on the theme of the Institute wherever opportunity may be afforded;
- (3) to hold one or more winter conferences annually in the Boston area;
- (4) to publish a bulletin or news sheet to carry ideas pertinent to the Institute's interests;
- (5) to undertake other projects as experience may suggest and as are in harmony with the aims of the Institute. . . . [And] to designate Ralph Burhoe Executive Secretary of the Institute and to provide assistance to implement the above program (IRAS 1957b).

Thus, insofar as agreement on a program was reached, a step toward a scientific theology *was* taken.

Burhoe's report underscores issues that are amplified in his later writings, such as background questions of the conference. How is it that we human beings know what we know? In particular, how do we know what is good for us and what is bad? How did we come to have moral and religious understanding? What are the sources of our information? How is truth or valid information revealed to man? What distinguishes the scientific method of getting valid information and what are its potential roles in providing answers to religious questions? (IRAS 1957a; Burhoe 1957).

A basic supposition was that decisions about the validity of beliefs or claims to truth are based on empirical evidence, and on this common ground there appears to be no difference between scientific and religious discernment of the validity of a belief. When the question as to the source of new revelations was asked, Anton Boisen said that “the rise of new concepts from out of the unknown into the conscious mind seems to be a process not essentially different in the natural sciences from that in religious and in psychotic experience” (Burhoe 1957).

Scientific and religious knowing were distinguished at two points. First, “Religious knowing was felt to differ from scientific knowing not so much because of its greater emotional or aesthetic charge, but because of its greater universality and greater sense of its significance for the ultimate goals of man.” Second, by the way in which the validity of new ideas is tested. For religious knowledge or belief to be scientific entails at least making its concepts coherent within the framework of the concepts of science or objective knowledge (Burhoe 1957, 3).

Its detailed argument shows that “A Step Toward a Scientific Theology” foretells the programmatic thrust of Burhoe’s vision. As noted above, his proposal for the conference was implied in his “stage” theory of the evolution of human knowledge of values, and the argument against relativism became an important part of his later writings that justified the relevance of science for religion and the study of values. That argument also contained the core for the later development of his theory of the role of religion in biocultural evolution. Although religious faith and the sense of ultimacy seem rooted in animal faith and trust in instinctual strategies for survival, ritual and myth are rooted in prehuman behavioral strategies for survival that, at the human level, become codified in cultural traditions. Inasmuch as religions are the bearers of the ultimate values and cultural strategies for human survival, religion is the essential core of culture—its moral and motivational center. A scientific theology that shares the concern of neoorthodoxy for the wisdom of religious traditions, but reforms that wisdom in the light of contemporary science, was envisaged as a way to salvation in an age of science. This new approach would therefore be scientific in method, seeking to establish conceptual theological entities in a way similar to the way in which conceptual physical entities are established. Examples of reinterpretation were given, such as original sin and the notion of faith in ultimacy. Finally, hope for a worldwide religious reformation was expressed on the basis of scientific consensus across sociocultural boundaries. It must be stressed, however, that it was not Burhoe’s

perception that science will *replace* religion, but rather that a scientific approach to religion and morals will further the evolution of religious expression by integrating traditional religious wisdom with the knowledge of the sciences, producing a scientific theology.

SCIENCE—A POTENTIAL BASIS FOR A WORLDWIDE RELIGIOUS CONSENSUS

At the end of December 1957 Burhoe drafted another proposal, this time for the 1958 Star Island conference, on the theme "Science—a potential common denominator for the world's religious factions or—Towards a universal belief about hope and morality for man through science." His proposal built upon a theme of the 1957 conference, that a scientific approach could provide a way to unite the different religions of the world through concurrence on the nature of reality. Also, his proposal returned to the primary aim of the Coming Great Church conferences: to lift discussions among leaders of different faiths above their boundaries of creed or dogma into the realm of common understanding. The Star Island conference was therefore proposed along the lines of a scientific study of the religious function in human culture (Burhoe 1958).

As a guide for all participants, ten common characteristics of religious faiths were proposed:

- (1) a program of human salvation;
- (2) which provides the individual believer with personal hope
- (3) in the face of catastrophe from the natural environment,
- (4) in the face of catastrophe from the inequities of human society, and
- (5) which orients the individual to a moral or socially cooperative program;
- (6) and which grounds these hopes and orientations in a logic following from special beliefs
- (7) about the ultimate nature of man
- (8) and about the ultimate reality or powers of the universe in which he lives,
- (9) which beliefs describe man and the universe in ways that usually differ drastically from the native or common-sense views,
- (10) for the purpose of making sense and harmony out of what otherwise might appear as an unreasonable and hopeless condition of man (Burhoe 1958).

Two suppositions were emphasized: (1) "kinship between beliefs about the facts of *human* values and beliefs about the facts of *mechanical* or *material* values," and (2) an evolved religious tradition is useful in its cultural setting and is not likely to be abandoned as a result of scientific knowledge.

There is respect for each religious tradition. However, this does not mean that we should expect no changes in beliefs and practices, but, insofar as any beliefs can be shown to have been primarily responsible for the basic behavioral characteristics of any viable society, it would seem that we should have to recognize their essential validity regardless of how poorly they might stand in an alien logic.

Burhoe defined *religion* as “the historical evolution of those beliefs and practices characteristic of men in contemplating the extreme conditions and ultimate goals of life.” “The conference,” Burhoe wrote,

hopes to move forward from an analysis of the functions and methods, which are more or less common to all religions as thus defined, to an attempt to reformulate these functions and methods in the light of the new vision of reality provided by the sciences. . . .

This appeals to us as a likely avenue to religious and moral belief capable of binding all men under a common and proper respect for the powers that be and an optimum development of the potentialities of human beings.

This effort further presupposes that it is not likely that man will be able to achieve a reasonably peaceful and creative society in an age of science without a specific and articulate formulation of the religious problems in a new way. . . . Man has eaten from the tree of knowledge, and he has thereby become responsible to nourish his ideals and ultimate goals as well as his more immediate bodily needs by the fruits of this tree. Not only by the sweat of his brow shall he gain life, but it seems clear that he is required to gain better knowledge or understanding of the source and potentialities of his own being, and that is what we mean by religious understanding. (Burhoe 1958, 3-4).

Members of the Advisory Board, however, were not ready to analyze historical religions; they doubted, moreover, that a liberal scholar, partisan to the Marxist and Communist faith or even to any traditional religious faith, could be found to review religions with scientific objectivity. They seemed to favor a methodological treatment of the issues raised in Burhoe’s proposal: “Mr. Phillips [suggested] that we ought to approach directly, without a review of all the historical variations, the question of the purpose or function of religion for today. . . . Mr. Harrington [suggested] that we ought to work at practical problems that concern the clergy here and now” (IRAS 1958a). It was therefore agreed that the conference “seek to clarify the function or purpose of religion in the light of modern science.”

JOINT SEMINAR WITH THE ACADEMY ON THE
FUNCTIONS OF RELIGION

Jointly, on 12 April 1958, the Academy and IRAS sponsored a seminar on the functions of religion in the light of modern science at the House of the Academy. The seminar, according to the syllabus drawn up by Burhoe, was "not to defend any existing religion, but to examine the functions of religion . . . in an attempt to define some hard core of agreement about its function in a scientific culture." Accordingly, the first session dealt with the question "What functions which properly may be called religious are also vital to a scientific culture?" Because the syllabus also directed the seminar toward defining a religious function common to every human society, the central definition to be examined was: "The function of religion is to interpret to man his ultimate concerns in relation to the totality of powers, known and unknown, with which he must come to terms."

The second session proposed "to illuminate the problem of the effective operation of religion in a scientific culture" by answering several questions: "What are the characteristics of a scientific culture? What do the traditional religions offer in terms of ultimate concerns or values which is viable and effective in such a culture? What limitations on traditional religion are placed by a scientific culture?" The third session dealt with the question "What novel or scientific contributions are conceivable to enhance the religious functions in a scientific culture?" (IRAS 1958b).

These and similar questions pertaining to the "Contributions of Science to the Role of Religion" were also pursued at the next Star Island conference (18-25 August 1958).

In spite of the agreement on the IRAS program of the previous year (1957), differences about the direction of the Institute arose during the Star Island meetings of the Advisory Board, especially over the visitation of theological seminaries (for which the Danforth Foundation had promised a grant of \$3,000). "[Ian] Barbour suggested that we involve local people. . . . Montagu, Kemble, and Bradshaw wondered if we did not need to put our own house in order before talking with theological faculties; we really don't know where we stand and we don't have much commonly accepted material to present" (IRAS 1958d). Inasmuch as the discussions resurrected "the problem of our purposes," a committee (Rutledge, Barbour, Bradshaw, Burhoe, and Hoagland) was asked to report the next day on "our purposes," and it reaffirmed the goals or purposes set forth in the IRAS constitution.

Burhoe and Montagu recommended the September 1956 proposal for such a program and, as well, a committee of scholars to devise a program of studies for the restatement of religion in the light of science so as to make the former more effective in the modern world. The consensus was that such a program was too ambitious, and some members urged maintenance, instead, of an "open forum for exchange of ideas between professional people in religion and science rather than to present conclusions." Among other topics, discussion of the next summer conference queried the effectiveness of having such a group. "Mr. Montagu and others had been pointing out the fact that the discussions among . . . advanced scholars . . . were frustrated by answering and talking to . . . so many people whose understanding of the problems is obviously of a different level. . . . On the other hand, it has always been urged by some of the Board that the mixture is advisable" (IRAS 1958d).

It was also recommended, this time to the Council, "that the time has arrived for election of members of the Institute who are not necessarily members of the Advisory Board." Thus there was another divergence between those who wanted to pursue a more exclusively academic route, to develop a body of commonly accepted doctrine, and those who thought it best to be more inclusive, emphasizing an "open forum" for the exchange of ideas.

BURHOE'S ASSESSMENT OF IRAS AND FUTURE DIRECTIONS

The Institute again held monthly meetings in Boston during the 1958-59 academic year. In spite of reservations, the Council in November authorized Burhoe to draft an announcement of the Danforth-funded visitation program and send it to theological schools. President Booth thereupon scheduled a discussion of the goals and methods of IRAS for the January meeting: "IRAS arose, he [Booth] said, in response to a felt need of coordinating the religions and the science of our time as the basis for a more effective social ethics. Sufficient years have passed that the work accomplished can be reviewed and decisions reached as to whether the Institute should survive and, if so, in what directions it should move." After Lyman Rutledge and Edwin Kemble were asked to lead the discussions, the meeting reported that resignations had been received from Ashley Montagu and B. F. Skinner, both of whom had been members since 1955.

Rutledge asked Burhoe for a statement from his perspective as "Program Builder" for IRAS, and Burhoe responded with a lengthy

assessment of IRAS at the meeting on Sunday, 18 January 1959. Like a prophet, Burhoe espoused his vision of IRAS as a reformation movement in an age of science. He acknowledged what others had said, that he was closer to the common core of IRAS than most, but he made it clear that he was more a servant than a "program builder." "I think the program has been built by God rather than by me, if I may say so." He then reviewed events leading to the forming of IRAS, his personal history, and the severance of religion from the "insults" of modern knowledge in Barthian neoorthodoxy, which he saw as justified under the assumption that science was being used to destroy human life. Because he had "an automatic and enthusiastic appreciation of the power and beauty of rational systems for building ever more valid and useful pictures of reality," he was convinced that science could play a positive role in religion (Burhoe 1959). "In my view we do not have much time. Human destiny is being overwhelmed by a chaos of morals and of personal faith or hope that in the context of the technological products of science threatens to extinguish life on earth. And I do not believe the schizophrenic retreats to more primitive forms of religion can be a true solution. Only a religion that stands on its feet in the light of science can save man for the future. It is the formation of such a religion which I conceive to be the task of IRAS" (Burhoe 1959).

It is difficult to assess how such a prophecy was received. That it did *not* bring the membership closer to agreement on the purposes of the Institute is indicated in a letter from Burhoe to the IRAS Council at the end of January 1959. The letter was his resignation as editor and chairman of the publication committee (consisting of Carl Bihldorf, Walter Clark, Sophia Fahs, and Edwin Kemble), which had been appointed the previous summer. Suggesting that the publication program be reformulated or be abandoned for the time being, Burhoe cited "a lack of a truly common notion of and enthusiasm for a publication program," combined with his limited time "for pursuing a clarification of differences" among members of the committee, as reasons for delay in publishing the first issue (Burhoe 1959).

It is clear that Burhoe did not feel he had persuaded enough persons to engage in the publication program he envisioned for IRAS. After deliberation in August 1959, the Council abandoned publication of a journal, dismissed the committee (with thanks), and gave the go-ahead to publish a book of papers. Under the editorship of Harlow Shapley, *Science Ponders Religion* appeared in the fall of 1960 (Shapley 1960). Subsequently, IRAS published a pamphlet of a talk by A. F. C. Wallace (Wallace 1961) and another volume of papers,

edited by Edwin Booth, under the title *Religion Ponders Science* (Booth 1964). A journal of the kind Burhoe envisioned had to wait for more support, until 1966, when *Zygon: Journal of Religion and Science* was established in cooperation with Meadville/Lombard Theological School in Chicago.

MISSION TO THEOLOGICAL SCHOOLS

One aspect of the IRAS program, which eventually led to an advanced studies center and a scholarly journal of the kind envisioned by Burhoe, was its mission to theological schools. From 1956 on, the IRAS Advisory Board had envisioned arranging conferences of IRAS scientists and theologians on the faculties of theological schools. A \$3,000 grant from the Danforth Foundation provided impetus, and successful approaches were made to several theological schools. Conferences were held at Boston University School of Theology (1957 and 1959), Chautauqua Institution (1957), Hartford Seminary (1957 and 1959), Wesley Seminary (1959), the Theological School of St. Lawrence University (1959), Colgate-Rochester Divinity School (1960), Alfred University Theological School (1960), and Crane Theological School of Tufts University (1960).

In 1960 Malcolm Sutherland, who had been a Unitarian minister in the Boston area and vice president of the American Unitarian Association, became president of Meadville Theological School in Chicago. Sutherland was acquainted with the work of IRAS and, in particular, its program of sending teams of scientists and theologians to theological schools to interest them in the potential of the sciences for theology. Shortly after his arrival in Chicago, he contacted Burhoe and IRAS to help him to test out his hope that some of the implications of the sciences for religion might become a significant element in theological education. The result was a Colloquy between Religion and Science "to provide disciplined discourse between religion and the sciences in order that the liberal ministry may reflect appreciation of the implications of those insights that illumine the nature of existence and the condition of man and to suggest [a] possible response," as the 1963-64 Meadville catalogue put it. Burhoe contributed three lectures to the first series of colloquies on 3-4 April 1961 (Burhoe 1961). In his first lecture he argued, on the basis of his interpretation of the cosmic, evolutionary picture of the modern sciences, that theology is "queen of the sciences": "As the science which by definition informs men of their highest and most ultimate goals or concerns, theology is by definition forever queen of the sciences." The second lecture, "Fall

of the Queen," on problems contributing to the decline of theology centered on its reluctance, or inability, to integrate its doctrines with the new knowledge developed by the sciences. The third lecture, "The Restoration of the Queen," argued that a new theology will be integrated with the sciences. The colloquies continued for three years and included seminars led by Alfred E. Emerson, Sanborn Brown, Ralph W. Gerard, Henry Nelson Wieman, James R. Killian, and Edwin P. Booth.

By 1961 the IRAS mission to theological schools seemed to have "paid off" rather well, and there was a good prospect of a firmer connection with the theological community. Burhoe's connection with this community was the realization of a dream he'd had from the time he went to Andover-Newton (in 1932) to express a credible credo of religious faith in an age of science. Three years later, in 1964, he was asked to join the theological faculty at Meadville in an experiment to do just that.

BURHOE'S VISION: "SALVATION IN THE TWENTIETH CENTURY"

The first expression of Burhoe's conceptual system was his essay "Salvation in the Twentieth Century," written in the winter of 1957 and revised for publication in 1960 in *Science Ponders Religion*, edited by Harlow Shapley. The essay is significant not only because it is the first published account of Burhoe's vision of a scientific theology, but because it indicates that his thought had taken an all-but-final shape as early as 1959.

The essay, programmatic in character, presents his assessment of the human condition as it was then, to which his proposal of an integration of religion and science was addressed, and outlines his evolutionary theory of religion and its implications for theological formulation and religious revitalization in light of the sciences. The following analysis of the essay will therefore give a general picture of Burhoe's vision for theological reform and revitalization of religion in the light of the sciences as it was articulated by 1959.

The essay's very title poses the question: From what does humanity need to be saved in the twentieth century? Burhoe's answer is that the emergence and development of scientific methods of knowing and the successful use of scientific knowledge in developing technologies have radically altered the conditions for human life. His assessment of the human situation is that science has so drastically altered the conditions for human survival that traditional means for organizing and perpetuating human life are no longer adequate. However, he

does not propose the replacement of traditional programs for human salvation; rather, he proposes the extension and reformation of traditional religion in the light of the sciences—that is, a “scientific religion”:

And yet I wish to suggest that our salvation today lies in religion. This suggestion is preposterous enough; but, when I add that religion must also be scientific, both the high priests of the traditional religions and the high priests of science will surely say that this is a mad prophet indeed, for he puts words together that everyone knows cannot be put together—a scientific religion! (Burhoe 1960).

In the first part of the essay, Burhoe substantiates his assessment and his belief that a scientific religion is the way to salvation. In brief, his argument is that culture is a continuation and extension of biological evolution, and religion has evolved as the integrating core of culture. Human cultures, he argues, evolve in response to their environments, and science, which is a way of acquiring and accumulating knowledge, and is also a product of this evolutionary process, has temporarily destabilized culture by producing a new environment of ideas and cultural technologies. The integration provided by traditional religions is a prescientific cultural adaptation, with the consequence that if a religion does not adapt to the environment by integrating the sciences with its traditions, the central, integrating core of the culture will dissipate. The result will most likely be the extinction of such a culture, which on a global scale means extinction of the human species. For religion to continue its integrating function for human culture, it must be integrated with the sciences.

In the second part of his essay Burhoe presents his program for integrating religion and science, exemplified in the work of IRAS. This integration must begin with imaginative attempts to reformulate religious doctrine in terms of the scientific rendering of reality. “The sciences,” Burhoe said, “are the most powerful handmaidens theology has ever had” (Burhoe 1960, 77). Thus a scientific religion begins with development of a scientific theology:

The sciences are building a more honest, more effective, [richer] picture of the hidden secrets of our own natures and of the vast reality in which we live and move and have our being than has ever before been built.

Science provides the basis for a new testament, a new scripture of truth about man and his destiny. Even if this revelation should gainsay any of the previous revelations of human destiny, it will be believed anyway. . . .

But it has been the discovery of several of us that the revelations of the sciences do not basically gainsay traditional religious doctrines; science does not so much destroy as it fulfills the previous testaments. . . .

Thus the scientific approach to religion will be a humble effort to read the true story of man, his relation to the source of his being, and his consequent duties and privileges. This approach will respect the existing religious traditions in the same way that agricultural sciences respect agricultural traditions. The scientific approach to religion, like all former valid approaches, cannot possibly transgress the sovereign law of the source of being, but can only seek to discover or reveal it (Burhoe 1960, 77-78).

The goal that he has in mind is "a full system of doctrine satisfactory to both the scientifically established picture and to basic religious needs" (Burhoe 1960, 85).

Burhoe gives "in rough outline some of the major doctrines which I believe will be established and become effective in giving man a proper sense of direction and hope in the age of science." On doctrines of revelation and truth, he says:

The newly developed scientific epistemology is of greatest significance for our views of religious knowledge. . . . Religious doctrine formulated in the light of science . . . will grow and change as the sciences do. . . . In science man has found the way to build the most reliable and convincing doctrines. . . .

Concerning the doctrine of creation, he writes:

The creation of man . . . is the product of a long and complex development under what are presumed to be essentially universal and invariant laws of operation. . . . The infinity in which we live and move is in reality one, not many. . . . The scientific faith that all things are variants in a single system, that one law rules the cosmos from end to end . . . is so high that we have little doubt that there is a continuity from man to amoeba to molecule. There is no separation of man from his origin nor from his fellow men. We are indeed all brothers and all children of the same father. . . .

Concerning the relationship of God and man:

In view of the scientifically painted picture of the vastness and pervasiveness of the source and ground of our being, and in view of its orderly design and the immutable law according to which it operates, the only sensible conclusion for man is to recognize it as his "lord and master," and to spend all his days in discovering and applying what it indicates he must do if he is to have life and more abundant life. . . . Man can most properly conceive of himself as a local agent and servant of the creative process of the universe. Man is privileged through his continued searching to know ever more of its design and to participate in ever larger measure in the development of its program. . . . In truth man must identify his own meaning . . . in terms of the program of this ultimate reality. . . . Every being and event is an inseparable part of the sacred whole. . . . Each man is inextricably bound up in the web of a great whole. . . .

And finally he writes concerning the doctrines of soul and immortality:

Man's kinship with his Creator [is the basis of] man's kinship with all his fellow men, a kinship that is deeper than blood. . . . To serve my fellow beings and to serve the program of evolving life is to serve my own deepest and most significant self. This is my "true," my "spiritual" being, or my "soul." . . . [The body] must be recognized realistically for what it is, a transient and small portion of the invisible soul or whole which it is created to serve. This core of soul of my being, the sciences reveal, is older than the hills, a growth of hundreds of millions of years, still conserved as living values in my genotype. Another aspect of my enduring soul . . . is revealed in the impossibility of separating me from the cultural types or forms, which take me back thousands of years. . . . To serve this deeper self is not to discount the body or other structures of the more immediate present, for all this is a part of my being. All life is sacred. . . . More than that, all things in the cosmos are sacred, whether we call them living or not. It is this interpretation of the scientifically revealed world as sacred, including my own nature, which I think we need to recognize if we are to get away from our idiotic schizophrenia that spirit and values lie in one world, and matter and knowledge lie separately and independently in another (Burhoe 1960, 84-85).

Burhoe concludes his essay with "Call for Apostles for the New or Scientific Reformation":

The main point of this paper is simply to suggest and very roughly outline my interpretation of why some of us think a sound and effective religious doctrine now can be established in the full light of modern science (and probably cannot be without that light). Many seem to feel that the further advance of human civilization, or perhaps even the continuation of life on this planet, urgently requires such a doctrinal system to provide the grounds for a more dynamic and effective morality and morale among enlightened men. We call upon all who can see the problem and who have the background and imagination to join our mission in exploring and developing this new insight into the necessities and opportunities provided to us by that reality in which we live, and move, and have our being (Burhoe 1960, 85-86).

CONCLUSION

This discussion of Burhoe's vision and its role in the development of IRAS should manifest Burhoe's conviction that a scientific approach to religion is the most hopeful rationale for contemporary religious inquiry. His faith in a scientifically sound and morally effective system of religious doctrine was shared, to a greater or lesser degree, by many of the scientists and religious scholars associated

with IRAS. Burhoe was an interpreter of the religious and theological implications of the ideas generated and explored by this group, as well as by others associated with the Academy, and it was to this community, as it expanded over the years, that Burhoe sought to relate his developing scientific theology. Whenever he spoke about the roots of his scientific approach to religion and theology, he traced it to the beginning of his association with this community, in 1947, and it was from this community that Burhoe continued to receive new ideas and concepts with which he expanded and refined his basic argument. This accounts for the fact that Burhoe developed a scientific theology in terms of highly generalized concepts and ideas, for a scientific approach entails the search for those highly generalized conceptions in terms of which specific instances can be interpreted and explained.

The promise of such an approach for developing sound and effective religious doctrine with the resources of the scientific community prompted Unitarians acquainted with IRAS to utilize its resources. Burhoe also became the chief formulator and organizer of this approach as it was developed in IRAS activities. As a result, two parts of the IRAS program were realized: a center for advanced studies and a scholarly journal for religion and science.

The next chapter will discuss these latter developments and the further formulation of Burhoe's scientific theology within the context of the Unitarian Church.

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