

## Zygon @ 49

with Karl E. Peters, "The Changing Cultural Context of the Institute on Religion in an Age of Science and Zygon"; and Philip Hefner, "Ralph Burhoe: Reconsidering the Man and His Vision of Yoking Religion and Science."

### THE CHANGING CULTURAL CONTEXT OF THE INSTITUTE ON RELIGION IN AN AGE OF SCIENCE AND ZYGON

by Karl E. Peters

*Abstract.* Since *Zygon: Journal of Religion and Science* was founded 49 years ago and since one of its co-publishers, the Institute on Religion in an Age of Science (IRAS), was founded 60 years ago, there have been significant developments in their various cultural contexts—in science, in religion, in culture, in academia, and in the science and religion dialogue. This article is a personal remembrance and reflection that compares the context of IRAS in 1954 when it was first organized with the context of IRAS and *Zygon* today. It considers the contemporary niche of IRAS in relation to the developments that have occurred over the past 60 years.

*Keywords:* Ralph Wendell Burhoe; context; Institute on Religion in an Age of Science (IRAS); religion and science; Harry Nelson Wieman; *Zygon*

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*Zygon: Journal of Religion and Science* is 49 years old, and many of us are anticipating its 50th anniversary. This essay is a remembrance and reflection on one of the publishers of *Zygon*, the Institute on Religion in an Age of Science (IRAS), which this year is celebrating its 60th anniversary ([www.iras.org](http://www.iras.org)). The other publisher of the journal, the Center for Advanced Study in Religion and Science (CASIRAS), has a history that goes back 49 years to when the journal was founded ([http://www.casiras.org/?page\\_id=3](http://www.casiras.org/?page_id=3)). In many ways, the history of CASIRAS, IRAS, and *Zygon* is intertwined, although the journal reaches out to and includes the writings of a much larger constituency.

What became IRAS, *Zygon*, and CASIRAS were envisioned and inter-related in the mind of the one person who could be called the "founder"

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of all three. This is not to diminish the necessary and important work of many others. Nevertheless, Ralph Wendell Burhoe was the visionary, catalyst, and organizer of the membership society, the center for advanced study, and the publication.

That this is accurate is indicated by a set of letters in 1952 regarding the publishing of a science and religion journal. The correspondence was between the 41-year-old Burhoe, who was then the Executive Officer of the American Academy of Arts and Science, and the philosopher of religion Henry Nelson Wieman (age 68), who had taught at the Divinity School of the University of Chicago (1927–1949) and was at that time at the University of Houston, Texas. The two men had met at the 13th “Conference on Science, Philosophy, and Religion” on September 2–5, 1952 at Columbia University in New York City. In a letter written on September 7, Burhoe expressed that it was “a pleasure for me to meet such a kindred soul” and that he was taking up Wieman’s invitation to write. Wieman responded on September 16 to Burhoe’s suggestion for a scholarly journal as follows:

I am heartily in accord with the project you propose of having a journal devoted to joining the resources of science and religion in the common endeavor to mark out the way that man must go to attain his best and avoid self destruction.

We shall have to make it plain with constant reiteration that our understanding is not merely to reconcile the beliefs of religion with the theories of science. Every liberal publication that has ever brought religion and science into relation to one another has had this apologetic purpose so exclusively that everyone immediately jumps to the conclusion that this must be the goal of such a journal. We shall have to work out very carefully a number of formulae with which to state as clearly and forcibly as we can that we want to provide a medium in which science can cooperate with religion in finding the major directives for human living and in symbolizing and proclaiming them in such a way that men may be induced to follow them. (Burhoe and Wieman 1952)<sup>1</sup>

On November 29, Burhoe apologized for his delay in responding, which was due to “unexpected responsibilities, particularly at the Academy. . . .” He also said that it looked like he would not have much time to develop a journal until the end of the academic year. Then he agreed with Wieman about the need to work out a clear statement of “just what we intend to build.”

As you point out, it would be easy to sink this venture by letting it get swamped by the usual misunderstandings and confusions, particularly the feeling that the only goal of such a journal is apologetic. I envision along with you a medium for setting forth the major directives for human living in terms that are motivationally effective. Such major directives should be the product of our contemporary epistemology and cosmology, and would agree with previous directives only because such agreement might naturally

ensue, not because we premise any agreement. I agree with you too that this kind of a sound and modern set of directives (and sanctions) for living is the fundamental master key to the social and individual problems that threaten man today. (Burhoe and Wieman 1952)

Fourteen years later, when the journal was established, the thinking of Wieman and Burhoe was symbolized by the word “zygon,” which means yoking as a team to work together for human welfare and the good of all species and the planet. This cooperative understanding of science and religion is also represented in the modified yang-yin symbol on the cover of each issue of *Zygon*.

What follows consists of reflections that are based on my own personal experience from 1957, when I entered college, to the present. My reflections are also based on my understanding of IRAS that has resulted since my extensive personal involvement beginning in 1972, my deep relationship with IRAS founder Ralph Wendell Burhoe, my experience as Burhoe’s successor as Editor of *Zygon* from 1979 to 1990, and my readings of some documents from the early years of IRAS in the 1950s. I will attempt to describe some of the changes and developments in science, in religion, and in relating religion and science. I will also attempt to draw out the significance of these changes for IRAS as it attempts to move into the future with strategic foresight.

#### IRAS IN THE MID-TWENTIETH CENTURY CONTEXT

*The Sciences.* When IRAS was founded in 1954, science in the wider culture was dominated by twentieth century developments in physics and chemistry, by scientific technology developed during the Second World War, and by the beginnings of the Cold War and the space program. While WWII had helped pull the economy out of depression, after the war with the return of soldiers to industry, women to the home, and the increased birth rate of the “baby boomer” generation, there was a need to develop the domestic market to receive the products of industry. In 1955, economist and market consultant Victor Lebow wrote this much quoted statement: “Our enormously productive economy demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek our spiritual satisfactions, our ego satisfactions, in consumption” (Lebow 1955). Scientific technology helped produce new goods in industry. What was good for General Motors was good for the Country. “Better living through chemistry” was accepted as a value, and better living meant the increase of manufactured and consumption of material goods.

Other sciences were also an important part of the cultural landscape. The Neo-Darwinian synthesis, the discovery of the DNA code, developments in psychological learning theory and in human development were also present.

However, the culturally dominant sciences were physics and chemistry and their technologies that put people to work in a society and culture of materialistic growth. New housing boomed; the two-car family began to emerge; new cooking and laundry appliances were bought. A growing middle class—almost exclusively white—experienced the “happy days.”

*Religion.* In the 1950s, religion in the United States of America consisted mostly of Protestants, Catholics, and Jews. Sociologist Will Herberg published his famous book *Protestant, Catholic, Jew* in 1955 (Herberg 1955). About Herberg’s book, Martin Marty, a foremost religion and culture scholar, commented: “The most honored discussion of American religion in mid-twentieth century times is Will Herberg’s *Protestant-Catholic-Jew*. . . . [It] spoke precisely to the mid-century condition and speaks in still applicable ways to the American condition and, at its best, the human condition” (Marty 1983). In his book, Herberg advances the thesis “that America is not so much a melting pot as three fairly separate melting pots” (Niebuhr 1955).

In colleges, there were few departments of religion. My own experience attending a liberal arts Presbyterian college was of two professors in Bible—one in Old Testament and one in New Testament. Everyone was required to take a course in Bible, and the Old Testament professor taught a course in Christian church history. The same school today offers a major in religious studies that “seeks to understand the full range of human religiosity as it appears in diverse cultures, in many times and places, from ancient Greece to modern Thailand, from Christianity to Buddhism and Islam, from women in religion to religion and politics.”

Protestant theology in the 1950s was dominated by confessional, neo-orthodox theology headed by Karl Barth with his 14-volume *Church Dogmatics* (Barth 1932–1968; to more easily access Barth’s thought see Barth 1959). Barth held that Christian theology was distinct from the rest of culture (including what Barth considered religion), and had as its primary audience the Christian Community. In contrast to Barth, the work of Paul Tillich (e.g., *The Courage to Be* [1952]), the Jewish philosopher Martin Buber (e.g., *I and Thou* [German 1923, English 1937]), and other existentialist theologians was more accepted by the academic community, partly because they related Christianity and Judaism to the wider culture.

On the whole, the academic world of the 1950s was epitomized by C. P. Snow’s Rede lecture of 1959 published as *The Two Cultures and the Scientific Revolution*. Snow’s thesis was that the intellectual life of the whole of Western society was increasingly being split into two polar groups: “literary intellectuals at one pole—at the other scientists, and as the most representative, the physical scientists. Between the two lay a gulf of mutual incomprehension” (Snow 1961, 4). He wrote:

A good many times I have been present at gatherings of people who, by the standards of the traditional culture, are thought highly educated and who have with considerable gusto been expressing their incredulity at the illiteracy of scientists. Once or twice I have been provoked and have asked the company how many of them could describe the Second Law of Thermodynamics. The response was cold: it was also negative. Yet I was asking something which is about the scientific equivalent of: Have you read a work of Shakespeare's? (Snow 1961, 15–16).

The founders of *Zygon* and of IRAS interpreted the two cultures more broadly, to include all the sciences and all of religion, both in the academy and in religious congregations. Yet, like Snow they were concerned about the consequences of this separation for the future of humanity. Without knowledge of the sciences regarding how the world works, religions can be misguided. Without religious wisdom about guiding values, science offers little guidance for what should be explored and how and which discoveries should become a part of people's lives.

*IRAS in the Mid-Twentieth Century.* Snow's thesis was reflected in the way in which the founders of IRAS also formulated the Institute's central issues. IRAS grew out of two movements. One was the Committee on Science and Values of the American Academy of Arts and Sciences, involving, among others, astronomer Harlow Shapley, neurophysiologist Hudson Hoagland, biochemist George Wald (a Nobel Laureate in 1967), and Ralph Wendell Burhoe. This group was concerned with promoting world peace. The second was a multifaith organization, which, in contrast to the dominant cultural view of religion mentioned above, saw the need to include all the world's religions. Yet its title "The Coming Great Church" reflected the Christian-dominated culture of the day. Led by Professor Robert S. Illingsworth, Unitarian ministers Lyman Rutledge and Dana Greeley, Methodist minister and historian of Christianity at Boston University Edwin Prince Booth, and others, the "Coming Great Church" was a series of annual, week-long conferences held on Star Island, beginning in 1950.

After attending one of these conferences, Ralph Burhoe was asked to lead the 1954 Coming Great Church conference. Its theme was "The Coming Great Church in the Age of Science." This conference was such a "huge success" that it was decided to combine the CGC conference with members of the American Academy Committee on Science and Values, and in the fall of 1954, IRAS was born. (For more on the history and thought of Ralph Burhoe, see Breed [1990–1991, 1992].)

From its beginning, IRAS drew on an array of scientists, philosophers, theologians, and clergy. This was reflected in the organization's leadership. At the beginning, IRAS was run by a combined executive committee and advisory Board. The first of these bodies, elected on August 5, 1955,

consisted of three ministers, two theologians, a philosopher, two philosophers of religion, a philosopher of science, a historian, two zoologists, a biologist, two psychologists, an anthropologist, three physicists, a mathematician, and Burhoe. Burhoe was the only one who did not have a higher education degree. He attended Harvard University and Andover Newton Theological School, but never graduated because of a paucity of financial resources during the 1930s depression. Otherwise, the board consisted entirely of academics and ministers, all male; many were professors at major universities such as Harvard, MIT, Brown, and Yale. A year later, Dr. Sophia Fahs, Unitarian religious educator, was added to the Advisory Board. Gradually more women were invited into membership including Jeannette Hopkins, book editor, and some of the wives of men who had already been admitted to membership, such as Deborah Greeley, Fran Burhoe, and Lois Brown.

At its beginning, IRAS was mostly a local society centered in the Boston area. There were meetings, presentations, and discussions throughout the year. The fact that the summer conference was held on Star Island brought in people from a wider area. Nevertheless, the leadership of IRAS that directed its activities was headquartered in Boston. It wasn't until Burhoe was called to direct the new Center for Advanced Study in Theology and Science (CASTS) at Meadville/Lombard Theological School in Chicago and until the journal *Zygon* was co-published by IRAS and Meadville/Lombard in 1966 that IRAS began to have a wider impact. Throughout the following years, many have joined IRAS from across the nation and around the world as a result of reading the journal.

Most important, IRAS developed in a context of science that drew on the neo-Darwinian synthesis of evolution and extended evolutionary thinking to culture, values, and religion. This essentially was Burhoe's doing, but in cooperation with other charter leaders. An example of this is Burhoe's proposal for the 1957 IRAS Star Island Conference on "Truth." This proposal is significant for two reasons. The first is Burhoe's definition of religion, the second is his understanding of the sources of knowledge to be considered. The statement begins:

Because of the interest of the Members of the Institute on Religion in an Age of Science in establishing the relevance of scientific knowledge for religion, it is suggested that the 1957 summer conference should undertake a broad review of the contemporary views of the nature of man's knowledge, and should examine in this light the nature and validities of religious "truth" and how religious "truth" is related to other sources of knowledge including science.

"Religious truth" is here to be understood not simply in any parochial sense of the term, referring to the doctrines of a particular religious group, but broadly as whatever set of beliefs do in fact provide any human group with their ultimate concerns or goals or values. (Burhoe 1957)

Burhoe then writes that the kinds of knowledge that could be considered are (1) knowledge through the genotype, (2) knowledge by perception, (3) knowledge by intuition or imagination, (4) knowledge through the mores and myths of culture, (5) knowledge from deductive reasoning or logic, and (6) knowledge through science. Under each of these forms of knowledge, Burhoe lists a wide array of questions. He concludes with a general evolutionary perspective that suggests how these ways of knowing may be analogous.

To what extent are all six of these methods of acquiring knowledge analogous? How does the mechanism of trial-and-error search differ in each level? How does the mechanism of selection differ in each? To what extent is it fair to say that this picture of knowledge implies that man's or any creature's understanding reflects the realities of the cosmos of which he is a part insofar as his own particular life needs are concerned? In what way is knowledge to be distinguished from structure or motivational source of living systems at any of these levels? (Burhoe 1957)

From my experience with IRAS and other science and religion organizations, I believe that the use of this evolutionary perspective, in formulating many conferences, is part of what makes IRAS unique.

#### IRAS IN THE CONTEMPORARY CONTEXT

Today, 60 years after the founding of IRAS, our scientific, religious, and science and religion contexts have expanded and changed considerably. This has been driven by various changes in our culture and, for our purposes, by science-based technologies of discovery, transportation, and communication.

*Some Changes in Science.* Fundamental physics has continued to grow in exploring the extremely small, lately leading to the experimental confirmation of the Higgs boson. At the same time, astrophysics and cosmology are able to explore more and more of the very large.

In the 1920s, an IRAS founder Harlow Shapley achieved a scientific breakthrough that located our solar system in the “suburbs” of our galaxy. However, in contrast to Edwin Hubble, who discovered the “red shift,” Shapley believed that there was only one galaxy in the universe. In subsequent years, cosmology and astrophysics proved that Shapley was wrong. Today we talk about a universe of 100 billion galaxies, each with 100 billion stars, which has evolved for 13.7 billion years. And some hypothesize that there may be a plurality of universes—the multiverse theory.

This has created what Philip Hefner has identified as the “problem of scale.” In January 2014, Marjorie Davis and I viewed with some friends the Emmy award-winning documentary DVD *Journey of the Universe*, created by IRAS friends and conference speakers Brian Swimme, Mary Evelyn

Tucker, and John Grim (2011). In our small, highly intelligent group of friends, a well-educated woman Episcopal priest, said, after seeing the video, “our whole theology has to change.” She has shown this video to people in her church as setting a new context for theological reflection.

Since 1954, science has expanded in other ways. A year before IRAS was formed, Francis Crick, James Watson, Rosalind Franklin, and Maurice Wilkins discovered the molecular structure of DNA. This gave considerable impetus to the growth of the field of molecular biology, culminating after 2000 in the mapping of the genetic code of a number of species, including humans, in using DNA typing in forensic law, and in helping determine the evolutionary history of *Homo sapiens*. As geneticist Lindon Eaves said earlier in a *Zygon* article, DNA became an “icon,” a new window through which to see a significant part of reality (Eaves 1989). (Eaves further suggested that for different reasons Jesus was also an “icon.”)

Another highly significant way in which science has grown is neurobiology, with the current goal of mapping the human brain using various scanning methods, and most recently developments in nanotechnology that can reveal what is happening at the cellular level (Silva 2006). Early child and teenage brain development and their relation to trauma and nurturing are more fully understood. Brain development has also been linked to violent crime—psychopaths—and to a particular kind of leadership style that is highly intelligent but shows no empathy—“almost psychopaths” (Schouten and Silver 2012). The brain development of psychopaths has also been linked to particular variations of a few genes. So genetics, neurodevelopment and function, and human behavior are becoming more clearly understood (e.g., Beaver et al. 2011).

Brain chemistry also is better understood, as evidenced by the pharmaceutical industry and its manufacture of chemicals to control a variety of mood disorders. New developments in chemistry, in this case the organic chemistry of animals, are opening up issues for science and religion understanding and practices. The field of chemistry has usually been absent from science-religion study almost until now.

Augmenting this basic research are studies that correlate brain neural circuits and chemical neural transmitters with a variety of subjective practices such as breathing, centering prayer, various of meditation and states such as the oceanic experience and compassion for all beings, as well as emotions/feelings of fear, anger, calm, and empathy. All this opens up possibilities for new understandings of experiences and practices that are relevant to religious and secular ways of living (Davidson and Begley 2012).

If one looks at science in the context of the wider culture, one can see, on the one hand an increase in scientific literacy in a portion of the population, and on the other hand a significant shift in attitude by many toward science. When IRAS was founded, modern science could be considered “foundational”—a carefully opening window to the way things are. The



natural sciences and their methods of knowing were readily accepted by academics, as worthy of emulation by the social sciences (e.g., behaviorism), and as significant by very few in the humanities and religion—many in IRAS.

Today, however, as a result of postmodernism that sets science in a wider social/cultural context and challenges its “foundationalism,” and of a pluralism that brings to the fore some ancient medical sciences that are still practiced as “complementary medicine,” modern Enlightenment science is more relativized by many.

Among the wider public, an anti-intellectual strain, which has a long history in American religious thought (Hofstadter 1966), is resurfacing from its partial eclipse in the mid-twentieth century. Conservative religious movements challenge scientific understandings of evolution and use scientific technology and emotional language to fight for their beliefs in the marketplace of ideas. On the left of the social-political spectrum, exemplified sometimes by movements in health, food, and diet, there is a challenge to science that can become just as ideological as the religious-political right. An example of this is the controversy over genetically modified foods (GMF). On the one hand, a general (but not universal) consensus among agricultural and environmental sciences holds that foods can be carefully modified genetically with little risk to humans, other animals, and the environment. On the other hand, organic farmers and various dietary movements challenge this, especially when GMF science becomes allied with big agribusiness. Sometimes those attacking GMF science make their own scientific claims based on questionable sources (Harmon 2014).

Today, there seems to be more suspicion of science in the academy and among the public than 60 years ago, even as much new scientific technology such as Internet technology is used by the public in the marketplace of life. To me it seems as if theoretical science is becoming regarded by many as more an ideology, competing with other ideologies both traditional and contemporary, than as a reliable foundation for human knowledge.

*Religion Today.* According to social scientist Robert Putnam, since the 1950s and 1960s there has been a steady decline in group membership and participation in virtually all forms of communal activities, including religious congregations (Putnam 2001). Having studied membership in groups since the early 1900s until today, Putnam found that active membership peaked at near 50 percent in the 1950s and 60s, largely as a continuation of national solidarity in the War effort into the domestic sphere. Then, due to several factors, social group membership steadily declined during the remainder of the twentieth century. The most important factor was that postwar generations did not experience the national solidarity of their parents against outside enemies. The second was the extremely rapid rise of the number of television sets from 6 million in 1950 to

60 million in 1960—one TV in over 90 percent of American households (“Television” 2003, 119).

Religious congregations were no exception to the more general decline in group membership and participation, as is illustrated by the following table (Table 1) on church membership and attendance. The table is my short compilation from the graphs of Figures 12 and 13 in *Bowling Alone* (Putnam 2001, 70–71). The percentages are of the U.S. population.

**Table 1.** Rise and fall of church membership and attendance—1940–1995 based on the work of Robert D. Putnam

Year	1940	1955	1970	1995
Church Membership—Gallup Poll	75%	79%	73%	68%
Church Membership—Church Records	49%	62%	64%	58%
Average Church Attendance	35%	49%	40%	37%

The decline in church attendance was more notable in mainline, liberal congregations; evangelical and fundamentalist forms of Christianity have grown. However, the social network of the conservative churches is more inner-directed, making tight bonds, while the social network of mainline churches reaches out to other religious and secular communities, building bridges in the wider community (Putnam 2001, 77–78).

Overall, religious organizations have fewer members who are directly involved in and who benefit from the connection with others in their communities. However, these communities have been able to communicate their messages to an ever-wider audience—now worldwide. Scientific developments in communication—not only television but cable television with a multitude of networks and the Internet with its development of social media—have made it more possible for single individuals or small groups to attempt to shape the thinking of a wider range of people than ever before.

Like many scientific developments, the Internet and social media have had both positive and negative applications. On the one hand, Putnam suggests that the Internet may be a part of a solution to the decline of group membership. Existing group membership may be enhanced and new virtual groups formed to help foster increased community and a sense of belonging. The nature of the Internet and its accessibility to the population opens the possibility for more democratic interchange, although an Internet group can be controlled by a few people who “post the most” just as some speak the most in groups of people meeting face to face.

Further, the Internet can facilitate the effectiveness of groups for various causes. Since IRAS was founded there have been significant gains in the rights of racial minorities, women, persons of various sexual orientations, and animals. The biological and human sciences have played an important

role in this by clarifying significant commonalities and differences pertinent to these rights. The Internet provides forums for more people to engage in political processes that incorporate the findings of such science into law and regulations for human well-being. The Internet can also help create major political and social reforms and revolutions: Facebook was a significant factor in overthrowing dictatorial regimes and promoting more democracy during the “Arab Spring.”

However, as we all know, technology itself is largely value-neutral (although it does contribute to the disposition that “if we can do it, we should do it.”) Even though the Internet can support the expansion of rights as indicated above, it can also be used to prevent such expansion. It can be used to increase the power of those who wish to hold on to old ideas, attitudes, and behaviors or to foster personal and group agendas. Sometimes, regardless of the cause, the Internet provides the means to offer to others, often with emotional language, the “truth” only as a particular group sees it. With new widespread methods of communication (such as websites, Facebook, and Twitter), bloggers can say almost anything they want as long as they can attract and encourage like-minded people. There is little that one can do to check whether the facts cited are correct besides listening to the other side.

Many conflicting values or sets of values can be promoted by new science-based technologies. One value that seems to be in decline is that of “truth.” So the question “what makes something true?” has become more significant. One of the strengths of the “modern” sciences is that they have developed a general method of resolving differences between ideas. Differing hypotheses about how the world works can be decided through intersubjective empirical testability with experiments and controlled observations, and with further scientific exploration that can disconfirm once accepted theories. From a methodological naturalism that assumes that the world can be understood in terms of relations (ideally expressed mathematically) between emerging forms of energy-matter, science has given us new knowledge of the world, and based on that knowledge the new technologies that we use.

However, when scientific naturalism is understood as a worldview (ideology), analogous to other philosophical and religious worldviews, there is no way of testing scientifically whether it is more true than any other particular worldview. This is because worldviews include comprehensive statements of the nature of reality, ways of knowing, and of values to be affirmed for living. These may be tested pragmatically by seeing where different worldviews lead in our search for understanding and guidance for living, but this takes time for an individual and lots of time for societies. Further, when one thinks of truth not as something that is empirically testable but as that which works in relationships—including the relationships among those with differing worldviews—to further a shared humanity on a sustainable

planet, one must become more open to the pluralism of ways of living and thinking emerging in our understandings today.

Today, in our understanding, the wider culture has also become more global and more pluralistic. Transportation and communication technologies have increased our awareness of the vast variety of human cultures and religions and the plurality even within a single religious tradition. Because of immigration, white middle-class residents in northern European and North American countries are directly encountering people of other religions traditions in their communities. And in response to the rise of global terrorism that all too often affects people locally, multifaith organizations are emerging to increase mutual understanding and to act together on issues of social and environmental justice. These too are beginning to use the Internet. In Connecticut and greater Hartford, where I live, we have two active interfaith organizations: the Connecticut Council for Interreligious Understanding and the Interreligious Eco-Justice Network. In some ways, such regional organizations have actualized the 1950s vision of the “Coming Great Church.”

In the academic world, religion has also become much more pluralistic. Today, the American Academy of Religion (AAR) is a professional society of academics in colleges, universities, and theological schools, and some clergy, that has around 10,000 members. The academic work of AAR members represents aspects of the major world religions and indigenous religions, as well as a variety of ongoing theological working groups in liberation, feminist, African American womanist, Barthian, Tillichian, Adventist, Wesleyan, and liberal theology. It also has groups in queer studies, religion and ecology, science, religion and technology, cognitive science and religion, and religion and health. In spite of its name, the AAR is not composed only of Americans; scholars from all over the world are members and attend the annual meeting each November in a city in the United States or Canada.

Today, being religious in both the public and academic spheres is becoming more global–local and pluralistic than could have been conceived in 1954. One should note emphatically that this has become possible because of advances in scientifically grounded transportation and communication technologies.

*Science and Religion Today.* In contrast to only a couple of groups working seriously on issues of science and religion 60 years ago (one of them IRAS), today we have several significant organizations worldwide. Some, like IRAS, are membership societies: American Scientific Affiliation (ASA) founded in 1941; Institute for the Theological Encounter with Science and Technology (ITEST) founded in 1966; European Society for the Study of Science and Theology (ESSSAT)—an offshoot of IRAS, founded by IRAS leaders Arthur Peacocke and Karl Schmitz-Moorman; Science and Religion

Forum in England; International Society for Science and Religion (ISSR) in which being a member is by invitation only; Society of Ordained Scientists; Cosmos and Creation Conferences at Loyola University Maryland; task forces in various Christian denominations that make up the Ecumenical Round Table; and Metanexus, an international online network.

Other organizations are academic centers housed at theological schools and universities: Center for Theology and the Natural Sciences (CTNS), affiliated with the Graduate Theological Union, Berkeley; Zygon Center for Religion and Science (ZCRS), founded by CASIRAS, a partner of IRAS, and the Lutheran School of Theology at Chicago; Ian Ramsey Center at Oxford University; Institute for the Bio-Cultural Study of Religion (IBCSR) at Boston University School of Theology; and the Center for the Study of Science and Religion (CSSR) at Columbia University. An interesting but still limited resource of organizations is at <http://www.religiousworlds.com/science.html>.

The number of science and religion publications has also increased from the original journal of IRAS and CASIRAS, *Zygon: Journal of Religion and Science*, established in 1966, to seven. More recently launched publications are *Theology and Science* (CTNS); *ESSSAT News: Religion, Brain, and Behavior* (IBCSR); *European Journal of Science and Theology* (Romania); and *Journal for Interdisciplinary Research on Religion and Science* (an Eastern Orthodox Christian sponsored journal). In March 2014, a new online, open access journal began publication, *Science, Religion, and Culture* (Caruso 2014), and in April another new journal, *Philosophy, Theology and the Sciences* was launched (Deane-Drummond et al. 2014).

Three important features together distinguish IRAS from these organizations. The first is that most are composed of academics or clergy (who are professionals in the practice of religion). IRAS however, as evidenced below, is composed of people from a wider variety of professions. Other organizations may put on programs for the general public, but IRAS is an organization in which members of the general public can become leaders in IRAS. The second is that, except for 1988–1990 when it employed an executive officer, Kevin Sharpe, IRAS has been and continues to be an all-volunteer organization. Other societies mentioned above are volunteer, but the centers are led by paid staff. In my opinion, the volunteer nature of IRAS represents the best of the volunteer movement that has been part of American society since an all-volunteer army of colonists defeated the British in the war for independence. That all in IRAS are volunteers gives to all the responsibility for the continual fostering of community. Third, many of the above organizations are located within the context of a particular religious tradition—usually Christianity. Even though they engage in excellent scholarship and most are open to other religious viewpoints, and even though some welcome people of other faiths and no faith into their work, their primary focus is to enhance the traditions in which they

are located. On the other hand, IRAS is conceptually and organizationally independent of any religious tradition. In my opinion, it is not bound by the strictures of any particular faith or even by no-faith. As its various members see fit, IRAS always has been and still is open to doing the work of exploring ways in which science and religion can be “yoked” together to cooperate and contribute to human and planetary welfare.

While other organizations may exhibit one or two of these features, IRAS is the only community of people engaged in seeking to constructively relate religion and science that is (1) is open to people from a wide variety of professions, (2) is all-volunteer, and (3) is independent of any established religion.

*IRAS Today.* How does IRAS fit into today’s more vast scientific and religious context? Since 1954, IRAS too has changed. After 1966, when IRAS invited anyone interested in the aims of IRAS to apply, the kinds of people that eventually became leaders included not just academics and clergy but professionals of various kinds—medical doctors, psychiatrists, psychotherapists, social workers, artists, musicians, research scientists in a variety of fields, lawyers, editors, bankers, and development officers for nonprofits. People from such fields began to serve on committees, on the Governing Council, and as officers. Two lawyers and a retired research physicist have led summer conferences. They have brought areas of expertise to IRAS that has enabled the organization to function well.

Since the early 1980s, more women have joined the Council and three have served as IRAS president, two as vice president for conferences, two as vice president for development, four as vice president of religion, one as vice president of interdisciplinary affairs, and several as chairs of committees. Since 1987 women have co-chaired most summer conferences.

From the very beginning, IRAS was inclusive of all of the world’s religions. Yet, even though IRAS leadership in the early years included Unitarians, Christians, and Jews, I find in the records that only one person from a religious tradition originating in South and East Asia was involved—Swami Akhilananda of the Ramakrishna Vedanta Society in Boston. Over the years, a small number of people from other religions have been active in IRAS. The most notable was Leslie Kawamura, a Pure Land Buddhist from the University of Calgary, who served as chaplain and on the Council. Currently active in IRAS are a Muslim, Tariq Mustafa, and three people from the Hindu tradition, Anindita Balslev, Sehdev Kumar, and Varadaraja V. Raman, immediate IRAS past president. All of these are academics. Even though few in number, they have had a significant impact in enlarging the horizon of IRAS toward more inclusiveness.

Significantly, the religious traditions represented by these people, as well as that of Judaism, offer the possibility of different foci in the science-religion enterprise. While most of the discussion has been about ideas,

which fits the concerns of many Christians, the focal points for discussion in relation to Judaism involve practice, to Islam practice as well as the concept of Allah, and to Buddhism meditative practice and experience. To the wide variety of Hindu traditions and movements, the science-religion discussion involves a pluralistic openness to various interconnected beliefs about what is ultimate, combined with a slowly changing *dharma* regarding how to live. Years ago, I personally became aware of these different foci at an impromptu lecture by IRAS member Norbert Samuelson. In response to a question, he demonstrated effectively how Jews, focusing on practice, understood the opening chapters of Genesis very differently from Christians who focused on doctrine and who in Christianity-and-Science engaged in debates about evolution and a creator God. After Samuelson's lecture I thought, wow, that leads to an entirely different discussion of the relations between religion and science.

Because IRAS is not affiliated with any particular religious tradition, it is free to develop nontraditional religious orientations. In the 1990s, Ursula Goodenough initiated a contemporary form of religious naturalism (RN)—a set of religious attitudes and values growing out of her encounter with the world through science (cf. Goodenough 2000). Although RN is relevant for a variety of religious viewpoints, it also can speak to the nonreligious, the secular, agnostics, and atheists. One of the things that make IRAS unique is its forward-looking work by many on religious naturalism.

Another way in which IRAS can be distinguished from many other organizations is that it does not engage in apologetics (in a defense) of a particular traditional religion. IRAS members who are in traditional religious communities seek to find ways to yoke together the wisdom for life from their traditions with modern scientific understandings.

Finally, some in IRAS are exploring the ramifications of globalization and pluralism to see whether traditional worldviews do not have to compete with one another and with science, but can engage one another in conversation to their mutual benefit. All the various efforts in IRAS contribute to exploring the adventure of ideas for the good of all of humanity, other creatures, and our planetary home.

*Elements of IRAS's Future.* The founders of IRAS, probably having read the 1953 English translation of Karl Jaspers's book *The Origin and Goal of History*, believed that we were entering a new "axial age," comparable to the period from about 800 BCE to 200 BCE. During these centuries, seeds were sown for the development of the current major world religions and of philosophies stemming from ancient Greece, the Middle East, India, and China (Jaspers 1953). Note that this was a 600-year period.

Key drivers for a "new axial age" today are the rise of modern science with its empirical methods for deciding between alternative hypotheses about

how various parts of the world work, the rise of democratic societies and concerns for social justice for all, the growing awareness of history including the big history of the universe that some call the epic of evolution, and the increased understanding that diversity is important both for biological and cultural flourishing. At the same time, there are still many (perhaps most) people and institutions in the world that are resistant to change. Changing one's way of thinking and living can be scary. How can IRAS respond to this?

One way to make change less frightening is by modeling how an organization can respect a variety of points of view, ancient and contemporary, even as it carries out its own work in the name of the future. It needs to be recognized that for many years, even for centuries, there will be many who will be influenced by, involved with, and wedded to their traditions.

Nevertheless, today cultural evolution can occur rapidly in a world that is becoming more and more interconnected. So, in my considered opinion, IRAS should continue to do what it does well. The first way forward is to use the best contemporary science as a significant source of our thinking about the world, life, and its meaning. The second is to explore ways that scientific understandings can help traditional religions reform and re-express their central ideas and practices about how to live. The third is to continue developing religious naturalism in a variety of ways, including theistic and nontheistic forms. My thinking is that the additional perspective of religious naturalism distinguishes IRAS from all other work in science and religion and may well be IRAS's most important gift to established religions, to the secular world, and to an emerging world culture.

Finally, we must not worry about whether we will be successful. The world is much too complex and dynamic for us to forecast the consequences of our endeavors. Rather, we should consider the work of IRAS, and the journal *Zygon*, as worthwhile in itself. We should trust that what we do now will ripple outward over the decades and centuries, joining with the work of countless others to help shape a new ecologically sound, socially just, planetary civilization.

#### NOTE

1. Today we would replace words like "man" and "men," which in the 1950s referred to all humans, with inclusive words like "people," "humans," and "human beings."

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