

# IRAS

## **The God Question in an Age of Science**

**Schedule and Program**

**Institute on Religion in an Age of Science, Inc.**

**38th Annual Star Island Conference, July 27 to August 3, 1991**

## Conference Statement

Developments in modern science have had a major impact on how people think about God. For some, these developments have called into question cherished traditional beliefs; for others, the scope of thinking about God has been expanded. As a consequence, there is increasing uncertainty and a diversity of viewpoints that many regard as destabilizing. Many Western thinkers have rejected the validity or usefulness of the concept of God altogether. There is also increasing interest in non-Western traditions wherein God does not play the same central role.

In this conference the concept/symbol/experience of God will be explored by theologians, scientists, and philosophers. Topics addressed will include the following: (1) Meaning. To what does the word "God" refer? For example: Is God an objective reality? A transforming experience? An internal mental construct? Or. . .? What, if any, is the action of God in the world? (2) Functions. What are the functions of the concept/symbol/experience of God? What role does it play in formulating, transforming, and transmitting our values, our ethics, and our identity? (3) Methods. How can we talk about God? How do we articulate, justify, and validate statements about God (including statements which reject the concept)? How do we evaluate the testimony provided by tradition, by personal or collective experiences, by reason, by scientific research, by prediction or prophecy? How do we know God--or can we? (4) Alternatives/Equivalents. What symbols/concepts/experiences are alternatives to God for individuals who are not theists and for religions in which God does not play a central role?

## **IRAS WELCOMES YOU TO THIS CONFERENCE!**

"The God Question in an Age of Science" is both the theme of this conference and the basic theme of the ongoing work of the INSTITUTE FOR RELIGION IN AN AGE OF SCIENCE (IRAS) since 1954.

IRAS has been a pioneer in promoting dialogue between religion and science and a primary influence in the emerging religion/science field.

On Star Island each summer IRAS brings together scholars and practitioners of several religious traditions with scientists from a wide spectrum of the sciences. Some are designated "speakers," others as "conferees." All are invited to contribute fresh ideas and unique perspectives to the dialogue.

It is the hope of IRAS that this week will enrich the lives of all participants and make a major contribution to the religion/science endeavour.

Marjorie H. Davis

IRAS President

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### **Program**

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## Origin and Purpose of IRAS

In the late 1940's the American Academy of Arts and Sciences organized a Committee on Science and Values to address topics relating contemporary scientific knowledge to fundamental human concerns about life's morals and meanings. The Committee, which included astronomer Harlow Shapley, neurobiologist Hudson Hoagland, geologist Kirtley Fletcher Mather, biologist George Wald, and Ralph Wendell Burhoe, the executive secretary of the Academy, stated that "we believe that . . . the survival of human society depends on the reformulation of man's world view and ethics, by grounding them in the revelations of modern science as well as on tradition and intuition."

Several from this committee accepted an invitation to bring their views to an interfaith group at the Coming Great Church Conference on Star Island in the summer of 1954. Later in 1954 the group from the American Academy accepted an invitation of the Coming Great Church Conference to form the Institute on Religion in an Age of Science, a multidisciplinary society, which carried forward the work of both predecessor groups. Other leaders involved in the establishment of IRAS included Brand Blanshard, Edwin Prince Booth, Dana McLean Greeley, Donald Szanthy Harrington, Henry Murphy, Lyman Rutledge, and Malcolm Sutherland.

Since 1954 IRAS has held an annual conference on science, values, and religion on Star Island, ten miles off the coast of Portsmouth, New Hampshire. IRAS has also conducted--on its own or in collaboration with other groups--conferences in other places with universities and theological schools, the American Academy of Arts and Sciences, the American Association for the Advancement of Science, and the American Academy of Religion.

In 1965 IRAS joined with the Meadville Theological School of Lombard College (later Meadville/Lombard Theological School) to establish a journal: *Zygon: Journal of Religion and Science*. The first issue was published in March 1966 under founding editor Ralph Wendell Burhoe, director of the newly-formed Center for Advanced Studies in Theology and the Sciences (CASTS) at Meadville/Lombard. In 1979 when Karl Peters succeeded Ralph Burhoe as editor, the editorial offices moved to Rollins College in Florida and IRAS, the Center for Advanced Study in Religion and Science (CASIRAS--successor to CASTS), and Rollins College became the joint publishers. In 1989 the editorial offices moved back to Chicago under the editorship of Philip Hefner, director of the newly-formed Chicago Center for Religion and Science. During the past quarter century, *Zygon* has been the chief international voice for the scholarly community in science and religion, and has become very influential in the extending the influence of the IRAS-CASIRAS approach to relating religion and the sciences.

IRAS is a society of natural scientists, social scientists, philosophers, scholars of religion, theologians, and many others who seek to provide a forum for discussing issues of relevance to religion in an age of science. In its Constitution, the IRAS purpose is stated as follows:

"The Institute on Religion in an Age of Science is established:

- (1) to promote creative efforts leading to the formulation, in the light of contemporary knowledge, of effective doctrines and practices for human welfare;
- (2) to formulate dynamic and positive relationships between the concepts developed by science and the goals and hopes of humanity expressed through religion; and
- (3) to state human values in such universal and valid terms that they may be understood by all peoples, whatever their cultural background or experience, in such a way as to provide a basis for world-wide cooperation.

The Institute is to carry on the work initiated by the Conference on Religion in an Age of Science, first held on Star Island, off Portsmouth, New Hampshire, USA, July 31 to August 6, 1954, and to engage in the development of such additional conferences, lectures, study groups, seminars, research projects, publications, etc., as may be useful for its purposes."

## General Information

The motif of the conference is dialogue: between conferees, between speakers and conferees, and between speakers. The focus of the dialogue is the God question; the scope is unlimited.

The keynote talk on Saturday evening and the talks on Sunday by theologians establish a focus. Philosophy, a discipline that bridges theology and science, will be on center stage on Monday. The sciences will be on center stage on successive days.

Several features are intended to facilitate the dialogue. One is the panel sessions at the end of each day. The topical panels will consist of speakers for the day plus a few individuals representing other disciplines. The summary panel on Friday will consist of individuals from several disciplines. Lecture and panel sessions, one hour each, will consist of about 40 minutes of lecture or panel discussion followed by questions and *short* comments from the audience.

A key feature is the religion workshops. These are small discussion groups in which conferees explore ideas on the God question and examine the ideas presented by the speakers in the light of their own experience, knowledge, and beliefs. Workshop leaders have been asked to function primarily as moderators. Some speakers will be workshop leaders, other speakers will participate as members. Workshop leaders have provided statements of their religious views in order to help conferees identify leaders and groups with whom they will feel comfortable in exploring the God question, which touches on our deepest, innermost thoughts and feelings. The purpose of the dialogues, within the workshops and elsewhere, is to facilitate mutual understanding of different religious experiences, beliefs and conceptualizations. Evangelizing and proselytizing are alien to the spirit of mutual understanding and respect that is a part of the IRAS tradition.

In addition to the religion workshops, there will be three topical workshops. Two -- one on the role of music in religion and on one on the role of art in religion -- will address aspects of the God question that cannot be captured in words. The third will address the topic of the God question in the education of children.

For those with sufficient stamina, there will be an "owl session" every evening after the candlelight service where questions, issues, and ideas that did not receive adequate attention during the day can be explored.

Afternoons from 1:30 to 4:00 pm are free for reflection, recreation, discussion, rest, or whatever. For those who have ideas they would like to present and discuss with others, the option of organizing a "free university" session during this period is available. Please check with Ursula Goodenough the day before for a space assignment and, after doing so, give a written note to Jane Bengtson, editor of the *Star Beacon*.

The chapel service each morning, led by our chaplain, Rev. Elaine Barrett, and the candlelight service each evening, organized by Julianne d'Aquili and led by different individuals, offer interludes for worship and reflection.

## Lecture Schedule

It would be appreciated if speakers and conferees would keep in mind the following protocols.

The porch bell will be rung (a single stroke) at 9:55 am (five minutes before the beginning of the morning session) and 7:25 pm (five minutes before the beginning of the evening session). Please be in your seats in Elliot Hall by 9:59 am in the morning and 7:29 pm in the evening.

Chairpersons have been asked give a warning sign to the speakers after 40 minutes, another warning sign during the open discussion, 2 minutes before the end of the allotted hour for speaker or panel plus open discussion, and to terminate the discussion at the cutoff times of 11 am, 12:15 am, 8:30 pm, or 9:30 pm, respectively. The porch bell will be rung at 11:13, two minutes before the end of the coffee/lemonade break in the morning, so that the second half of the morning session can begin promptly at 11:15 am.

# LECTURE ABSTRACTS

## OUR ILLUSORY RELATION WITH GOD: A NEUROTHEOLOGICAL APPROACH

**James Ashbrook**

Garrett-Evangelical Theological Seminary

While recognizing a distinction between God and ourselves (among a host of others, such as matter and meaning, objective and subjective), I explore a way to make sense of ourselves (experientially and conceptually) as object-seeking creatures in response to a meaning-making universe. Attachment theory describes the contextual matrix of our being together as the origin of object-distinctions, evolving from the startle reaction and the separation or connection responses, through transitional objects, into symbolic images, with the image of God being the ultimate (objectless) object. Attribution theory identifies the representational features of our putting things together as the destiny of subject-distinctions, beginning with pattern-recognition, through pattern-making, into pattern exemplification in making meaningful what matters to genuine human life. As an analogical expression of this illusory relation, the human brain provides a privileged exemplar of what that relation might consist, that is, the mind of God is more than just a picture of the human brain while the human brain is less than the image and likeness of God.

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## THEOLOGICAL AFFIRMATIONS AND SOCIO-POLITICAL ARRANGEMENTS: TWO WAY TRAFFIC

**Anna Case-Winters**

McCormick Theological Seminary

There is a fundamental connection between our concept of God and our social-political constructs. The influence here is mutual; it goes both ways. On the one hand the concepts and images we employ are drawn from the realities of our context and reflect the values and arrangements which we find there. On the other hand the ways we think of and talk about God may have real influence in reshaping these realities. The images used for God take on an enhanced status by virtue of that association. Thus they may function either to legitimate and reinforce current arrangements or they may assist in challenging and dismantling them. If this is the case, then a central task for constructive theology is to formulate a concept of God that is theologically sound, religiously viable, and morally adequate. My paper will explore important questions pertaining to this larger project.

## COSMIC EVOLUTION: THE "RELIGION" OF A SCIENTIST

**Eric J. Chaisson**

Space Telescope Science Institute and  
Johns Hopkins University;

Cosmic evolution is the study of the many varied changes in the assembly and composition of radiation, matter, and life throughout the Universe. At one and the same time, cosmic evolution represents a search for our cosmic heritage, for a principle of cosmic selection that transcends neo-Darwinism, indeed for a holistic cosmology wherein life plays an integral role. This talk will sketch the grand scenario of cosmic evolution by mathematically examining the temporal dependence of various energy densities in current cosmological models. The early Universe will be shown to have been flooded with radiation whose energy density was so severe as to preclude the existence of any appreciable structures. As the Universe cooled and thinned, a preeminent phase change occurred about 100,000 years after creation, at which time matter's energy density overthrew the earlier primacy of radiation. Only with the emergence of technologically manipulative beings (on Earth and perhaps elsewhere) has the energy density contained within matter become locally exceeded by the flux of free energy density flowing through open organic structures. Using aspects of non-equilibrium thermodynamics and information theory, it will be argued that it is the contrasting temporal behavior of various energy densities that have given rise to galaxies, stars, planets, and life forms. It will be furthermore argued that a necessary (though perhaps not sufficient) condition--a veritable prime mover--for the emergence of such ordered structures is the expansion of the Universe itself.

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## MYSTICAL STATES AND THE EXPERIENCE OF GOD: A MODEL OF THE NEUROPSYCHOLOGICAL SUBSTRATE

**Eugene d'Aquili**

University of Pennsylvania

This paper first considers the current confused state of categorizing, and even describing, mystical states including experiences of God, the Void, and lesser religious experiences. The necessity of understanding the neuropsychological substrate of such experiences is presented both to understand such experiences in greater depth and to help resolve scholarly confusion in this area. As a prelude to presenting a neuropsychological model, the

basic principles of brain organization are reviewed including hemisphericity; primary, secondary, and tertiary sensory receptive areas; their motor analogues; prefrontosensorial polarity; and the integration of limbic functioning into cortical activity. A neuropsychological model for mystical states is then presented in terms of differential stimulation and deafferentation of various tertiary sensory association areas along with integration of various patterns of limbic stimulation. The paper concludes with a neuroepistemological reflection on the significance of this model, and a relating of the experience of God to the experience of baseline reality.

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## GENETICS AND THE IDEA OF THE HOLY

**Lindon Eaves**

Medical College of Virginia,  
Virginia Commonwealth University

Humans are projected into a few thousand years of history and culture bearing the marks of several million years of evolution, which are imprinted in their DNA. Any concept of God, metaphor for the sacred, or theological anthropology which ignores the precultural history of human life and the current impact of genes on the highest human faculties of cognition, feeling, and value is simply out of touch both with reality as it is understood by science and culture as it is being transformed by modern biology

As our understanding of genetics grows, and takes on cultural power through such programs as the Human Genome Initiative, it will be necessary to relate concepts of God to models of reality emerging from the life sciences. This is not only important for "aesthetic" reasons; it will affect people's ability to appropriate new findings about who they are and new technological opportunities offered by genetic research. Theologies which restrict their models and data to those from the humanities and social sciences are unlikely to remain intelligible to a genetically-informed culture.

All humans begin life as code which unfolds during development in conversation with the environment. This fact alone may provide the starting point for such contemporary concepts of God as "ground of being" (Tillich) and the development of theologies around the notions of "absolute dependence" (Schleiermacher) and "the Holy" (Otto).

Research is outlined which suggests that human behavior is far from emancipated from its genetic roots. Strands of such a biological understanding are then considered in critical dialogue with theological constructs in the attempt to identify areas where traditional concepts of God and God's relationship to nature are either illuminating of or apparently in tension with a biologically-informed view of reality. All this will be done, it seems, in forty-five minutes.

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## THREE CONCEPTUAL MODELS FOR CONSTRUCTING THE GOD-QUESTION

**Nancy Frankenberry**

Dartmouth College

Despite the appearance of a confusing diversity of symbols and images of the divine which proliferate in today's highly destabilized theological climate, there are only three broad conceptual models, philosophically speaking, for rendering theology's language of devotion into philosophy's language of reflection. These are the models known as classical theism, pantheism, and panentheism. This paper canvasses and updates each conceptual model in the light of recent philosophical writings and scientific theories, and suggests a feminist response to each.

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## BELIEF, PRACTICE, AND RELIGION

**Ward Goodenough**

University of Pennsylvania

The "god question in an age of science" takes its meaning from the Christian religious tradition that emphasizes belief as the primary requisite for membership in a community of correct personal salvation. Such emphasis on belief characterizes religious traditions founded on prophetic visions of how to achieve salvation in which people are confronted with a decision as to whether or not to believe the truth of these visions. There are other religious traditions that emphasize observance of taboos and rituals as the basis for acceptance into a community of people who are similarly committed to such observance. In such traditions it is the sharing of commitment to observance of particular rites and customs that matters by contrast with those where it is commitment to a creed that matters. For people who emphasize observance or who emphasize a personal quest for more rewarding understandings of self and world, the problem of how to reconcile belief in God with the findings of science is of little concern. To understand that belief in any kind of divinity is not necessary to a religious life and that the religious rituals that have been important in one's life can continue to be spiritually rewarding without one's having to accept the truth of the beliefs from which they arose historically may be helpful in resolving the "god question."

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## AFTER CHRISTIANITY

**Daphne Hampson**

St. Mary's College, University of St. Andrews

The question is for most of us how we can be spiritual or religious persons in the age in which we live. I shall argue

that it is perfectly possible to think in terms of God and a life which involves prayer, but that Christianity is neither true nor moral. By 'Christianity' I mean the myth which has carried religious consciousness in the west. I believe this untrue because it proclaims a particularity which, since the eighteenth century Enlightenment, would seem to be clearly impossible. I find Christianity unethical because it distorts human relationships through giving priority to the male. I think, therefore, that, discarding this myth, we need to find a way to envisage what we mean by God in this day and age. For me, theology -- talk about God -- is founded on awareness of God, particularly the experience of the effectiveness of prayer. Paradigms in particular which have been developed in feminist thought in recent years may be helpful in allowing us to envisage what God may be.

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## GOD-TALK AND OUR EXPERIENCE OF THE WORLD IN AN AGE OF SCIENCE

**Philip Hefner**

Lutheran School of Theology at Chicago

The paper moves through 4 sections:

- (1) What does the conference theme pertain to?. In previous generations, the theme may have carried defensive or polemical overtones: that science renders the concept of God unnecessary or impossible, or conversely that concepts of God need not take science into account. In our time, however, it is clear that both science and God-talk are deeply rooted in human experience and perhaps both are permanent features of that experience. *Consequently, we conclude that God-talk expresses something about our contemporary experience of a world that is scientifically understood (and ourselves in that world).* The conference theme suggests that this conclusion must be unpacked and more clearly understood.
- (2) Our concept of *nature* may well be determinative of how we respond to the "God question." Therefore, we must give attention to the concept of nature at the same time as we think about the concept of God. The concept of nature in an age of science is inseparable from our theme, and we look to scientists to clarify this concept for us.
- (3) For Christians (and here we shall focus primarily on Jesus of Nazareth), God-talk emerges from and is necessitated by experience of the world in which there is a sense of the following: (a) the "personal" quality of the experience; (b) coherence as a constituent of the experience; (c) that individuals count for something and that what they do counts--this involves a sense of meaningfulness and moral earnestness. As we reflect on the God-talk that emerges from this experience, questions of subjectivity, projection, objective referentiality, "interest," and the like arise.
- (4) Issues that have emerged from the discussion include: (a) recognition that God-talk is experience-based as much as it is conceptually formed; (b) God-talk

functions to ground experience most deeply in the fundamental nature of reality; (c) the God concept functions like Whitehead's metaphysical concepts, to contextualize actual experience within an ordered set of relations to the world. Thus, God-talk is in touch with the real world outside our subjectivity, but it is also the product of human constructive imagination. The impact of science upon God-talk may take one or more of three forms: (a) providing alternative, more cogent concepts for interpreting the experience in question--E. O. Wilson; (b) attaching the concepts to alternative experiences--Burhoe, Tipler, Pugh, Eaves, Ashbrook; (c) employing God-talk under alternative concepts, applied to alternative experiences--Kaufman, Chaisson, Peacocke.

In considering the conference theme: religious thinking is challenged to take seriously the scientific experience of the world; scientific thinking is challenged to help persons understand and interpret the experience from which God-talk emerges.

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## THE SCIENCE QUESTION IN A GODLESS AGE

**Mary Hesse**

Cambridge University

In the Western world we live in a deeply secular society. The Western world is that most permeated by science and technology, both in its practice and in its culture. We are told that in such a society it is impossible to believe in a transcendent, much less a personal, God, or in the significance of religious ritual. We need to distinguish here between two senses of impossible to believe. It may mean impossible for individuals to internalize due to their education and conditioning in this scientific culture -- or it may mean "impossible to make logically or rationally consistent with rational scientific knowledge." Both propositions are relevant to the theme of this conference. I do not believe the second proposition to be true.

My talk will be in two parts, starting with the claim of logical incompatibility. This is fairly easy to dispose of, given recent analyses of the natural sciences. We are now familiar with the "Kuhnian revolution," and understand the natural sciences to be theory-laden with respect to their observable data, underdetermined by data with respect to the truth of their theories, and subject to periodic radical revolutions in those parts of theory that extrapolate furthest from the data. It is just those parts of theory that would be required to answer our deepest religious questions about the world if natural science were competent to answer them. But it is not competent: examples will be given from physical cosmology and evolutionary biology. Natural science is competent only where experimental test of theory is relatively direct, only where scientific practice (experimental test) is concerned. Natural science is a pragmatic enterprise and properly valued as such: as Francis Bacon said, "It provides fruit for the benefit of mankind."



That transcendental religion is impossible to believe because of the conditioning of our culture is a much more serious matter for the god-question. The historical roots of this social fact are many and various. Fortunately, we can get some understanding of them from the 19th century extension of "scientific" thinking into human affairs in the social sciences: sociology, anthropology, psychology, and history itself. Despite early attempts to claim that these sciences are subject to the same rational rules as the natural sciences, it is now generally agreed that where human affairs are concerned, the elements of theoretical underdetermination and plurality, and hence of permanent diversities of interpretation, are much more significant than in the natural sciences, and that the possibility of experimental prediction, application, and control are correspondingly less. These are hermeneutic sciences, depending heavily on interpretations of human intentionality, and on the presuppositions and values brought to the subject matter by the investigator.

This does not mean, however, that we cannot obtain relatively objective accounts of social phenomena, among which are the religions of the world. The sociology of religion can, therefore, help us to understand our present secular predicament. I conclude by suggesting some features which have been shown to be required for the proper functioning of the social institutions we call 'religious,' among which are: integration of individuals in communities by providing, across the generations, a nexus of meaning embracing all significant aspects of their life, from provision of physical needs to interpersonal and social relations and institutions; a value system for necessary regulation of aspects of life; the possibility also of critique and novelty in the conduct of social life; and the possibility of transcendence via prayer and worship and communal ritual. It is my contention that the natural sciences can provide none of these without calling upon the categories of traditional religion.

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#### NATURE, HISTORY, AND GOD: TOWARD AN INTEGRATED CONCEPTUALIZATION

**Gordon Kaufman**  
Harvard University

In this paper I attempt to bring together the ancient symbol "God" -- taken to designate that reality (whatever it may be) which grounds and undergirds all that exists, including us humans; that reality which provides us humans with such fulfillment or salvation as we may find; that reality toward which we must turn, therefore, if we would flourish -- into a meaningful and illuminating conceptual relationship with modern understandings of the development of the cosmos, the evolution of life, and the movements of human history. I suggest that the cosmos can quite properly be interpreted today in terms of two fundamental ideas: (a) a notion of "cosmic serendipitous creativity" which (b) expresses itself through "directional movements" or "trajectories" of various sorts that work themselves out in longer and shorter stretches of time. In a universe understood in these terms,

the symbol "God" may be taken to designate precisely this underlying creativity working in and through all things, and in particular working in and through the evolutionary-historical trajectory on which human existence has appeared and by which it is sustained. The symbol "God" can thus perform once again its important function of helping to focus human consciousness, devotion, and work in a way appropriate to the actual world and the enormous problems with which men and women today must come to terms; but the ancient dualistic pattern of religious piety and thinking in which God is regarded as a supernatural Creator and Governor of the world -- so hard to integrate with modern conceptions of nature and history -- is thoroughly overcome.

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#### THE SCIENCE-RELIGION ENCOUNTER: COSMOLOGICAL AND EPISTEMOLOGICAL RECONSTRUCTION

**Roy D. Morrison II**  
Wesley Theological Seminary

The paper employs philosophical analysis to provide technical definitions and to examine the roles of cosmology and epistemology in the continuing impact of science on the god question. Four different cosmological diagrams are provided. A nineteen-point typology of the method of classical physical science is provided because it is the major engine of change in theological credibility. Some theological consequences of reconstructing a cosmology are specified. One theme is the fate of the theistic idea of god from Homer down to our time. Six different contemporary arguments for shifting away from theism are stated. Emphasis is placed on the constructive responses of systematic theology to epistemological developments during the last 200 years--basically from the time of Kant's *Critique of Pure Reason* to Paul Tillich's *Courage to Be* and Einstein's *Cosmic Religion*. The genesis and character of the terms "god-talk" and "symbolization" are examined. Changing and incompatible definitions of religion are discussed.

The conclusions include the following:

- (1) Some of the philosophical and theological impact of the age of science is epitomized in the religious decisions of Tillich and Einstein.
  - (2) When linear logic and scientific epistemology are employed, many thinkers shift to naturalistic, non-theistic worldviews.
  - (3) Contemporary protest theologies generally abandon the defense of supernaturalism and employ a scientific attitude to assess god's performance in the real world.
  - (4) Any responsible approach to the God-religion-science question presupposes technical philosophical analysis.
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A MORE ACCURATE UNDERSTANDING OF HUMAN NATURE; IMPLICATIONS FOR RELIGION AND THE CONCEPTS OF GOD

**William R. Page**

Center for Psychological Studies in the Nuclear Age,  
Harvard Medical School

In their book *Genes, Mind and Culture*, Charles Lumsden and Edward Wilson compiled descriptions of the human brain's tendencies (called "epigenetic rules") to process information in specific ways influenced by the interaction between our genes and our culture. These predispositions influence all of the many forms of human behavior, thinking, and feeling.

We are under the control of these epigenetic rules whether or not we are aware of them. That is human nature. If a person is unaware of them, he or she is in a mode which can be described as "automatic control." Being aware of them gives a person the freedom to choose which of the rules are in control at any given time. Wilson referred to this awareness mode as "precise steering," when the awareness is coupled with an intention to achieve specific goals.

Lumsden and Page ran experiments for several years, in an industrial context, to test the value of the understanding and use of these epigenetic rules. Page has since experimented with the applications of the rules in a government context and a religious context, (The Vermont Department of Corrections and the Unitarian Universalist Association). One of the things that has become obvious to us is that, in present day circumstances, control by certain ones of these predispositions tends to create problems, whereas control by certain others tends to be life-enhancing. This has implications for religious rituals.

Another way of thinking about the epigenetic rules is as evolutionary strategies, the strategies which have led to our development and survival as a human species. This way of thinking helps to illuminate the concept/symbol/experience of God. What emerges from this use of these sociobiological tools of evolutionary strategy are options for the concept of God, all of which are explainable in Darwinian evolutionary terms, (*Sociobiology, God, and Understanding*, Charles J. Lumsden, *Zygon*, March 1989).

An understanding of these evolutionary strategies reveals several disaster-creating mismatches between these strategies and our present social environment. Of special importance among these mismatched evolutionary strategies is that of deception, a primary survival strategy which is very much with us today. Loyal Rue has suggested turning this strategy to advantage by using the understanding of sociobiology as a basis for creating a universally appealing mission which is so imaginative and so compelling that it cannot be resisted, so beautiful and satisfying that it will appear non-optional.

What is opening up is the prospect of a comprehensive strategy for the survival and enhancement of the human race, a strategy powered by a belief system about our place in the universe which is consistent with the most accurate

understanding of who we are, as we build a cathedral of the mind which weds reality and idealism, verifiable truth and meaningful aspirations (Irving Singer), a cathedral which, as we build it, may close the gaps between what we want to do, what we should do, and what we are meant to do.

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SCIENCE AND GOD THE CREATOR

**Arthur Peacocke**

Oxford University

After an introduction that stresses the variety of the philosophical and theological interpretations of the significance of much contemporary science, an examination will be made of the relation of science and theology today from a critical realist perspective. It will be argued that this involves theology seeking to be at least consonant with the scientific understanding of the world, even if not determined by it. With this aim in mind, the nature and attributes of divine "being" and "becoming" will be examined in the light of various scientific aspects of a world regarded as created.

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ON THE CREDIBILITY OF ALTERNATIVE GOD CONCEPTS

**George Edgin Pugh**

Decision Science Applications, Inc.

The first portion of this talk provides an assessment of the impact of scientific knowledge on the credibility and religious effectiveness of alternative concepts of God; while the latter part offers some scientifically oriented ideas for adapting our traditional concepts to improve their credibility in a scientific society. To simplify the presentation, the talk begins by simply assuming that God exists and that he created the universe, and it analyzes some of the ways that modern scientific knowledge has impacted on the credibility of alternative concepts of God. This assessment is focused primarily on those areas where it appears that science has degraded the credibility or the religious effectiveness of the traditional God concepts. A key finding is that science has made God-the-creator seem more remote, more awesome, and thus less approachable by mankind. The talk then returns to its initial assumptions to assess the cultural impact of science on the credibility of the God concept, and concludes that science has indeed degraded the cultural acceptability and credibility, not only of God-the creator, but of all supernatural concepts. The final portion of the talk begins with a brief review of the biological foundations of human behavior, and the role of religious concepts in enabling mankind to adapt to modern urban environment. Based on this review, it outlines some potential scientifically oriented approaches for adapting our concepts to make the creator's moral and ethical guidance for mankind seem more consistent with scientific knowledge, more relevant to the real problems of the modern world, and thus more credible and effective in an age of science and technology.

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THE PHYSICS OF ETERNITY:  
MODERN COSMOLOGY, GOD, AND RESURRECTION  
OF THE DEAD TO ETERNAL LIFE

**Frank J. Tipler**  
Tulane University

This talk will outline the Omega Point Theory, which is a purely scientific theory for an omnipresent, omniscient, omnipotent evolving personal God Who is both transcendent to spacetime and immanent in it, and Who exists necessarily. The Omega Point theory is a falsifiable physical theory, deriving its key concepts from modern physical cosmology and computer science; from scientific naturalism rather than revelation. Three testable predictions of the theory are given. The theory assumes that thinking is a purely physical process of the brain, and that personality dies with the brain. Nevertheless, I show that the Omega Point Theory suggests a future universal resurrection of the dead, very similar to the one predicted in the Judeo-Christian-Islamic tradition. In fact, the physical properties of the predicted "resurrection body" is reminiscent of the description in Luke of the properties of Jesus' post-Easter body. The notions of "holy spirit," "grace," "heaven," "hell," and "purgatory" appear naturally in the theory. The consistency between the omniscience and necessity of God and human free will may be a consequence of the theory. It may also be possible--though unlikely--to develop a Christology in the theory.

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A NON-WESTERN PERSPECTIVE ON 'BELIEF' IN  
SPIRITS

**Deborah E. Tooker**  
Harvard University

Expressing the relationship between humans and spirits (gods?) as one of 'belief' is meaningless in the so-called 'animistic' society of the Akha of Northern Thailand. Drawing from fieldwork conducted among the Akha people, I describe their alternative rendering of the 'relationship to tradition' and what it reveals about anthropological, and therefore western, theories of religious belief.

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## WORKSHOPS

Workshops are held between 4 and 5 pm, on Sunday through Wednesday and on Friday. Conferees are asked to sign up for and attend the same workshop throughout the week.

There are two kinds of workshops: religion workshops and topical workshops.

The religion workshops are discussion groups in which conferees will explore ideas on the god question and examine ideas presented by the speakers in the light of their own experience, knowledge, and beliefs. Workshop leaders have been asked to function as moderators, expeditors, and inspirers, not as lecturers. In order to enable conferees to select a workshop leader with compatible or interesting views, religion workshop leaders have provided statements of their religious views (see below). Participants will be encouraged to develop their own statements and share them with others. In order to facilitate participation and open exchange of ideas, which tend to become inhibited when a discussion group becomes too large, each religion workshop is limited to a maximum of 10 members.

There will be about 18 religion workshops. If any workshop group should be too small to be viable, it can merge with other workshop groups.

The topics for the three topical workshops are Art, Music, and Children. Synopses of these workshops are given below.

Sign-up sheets for the workshops will be available on a table in the lobby on Saturday afternoon, Sunday morning, and up to about 2:30 pm on Sunday afternoon.

For the first meeting on Sunday afternoon, religion workshop groups will, initially, gather on the porch of the Oceanic. Signs identifying the different workshops and leaders, and meeting places for subsequent discussions, will be posted at spaced locations along the porch.

The art workshop will meet in Elliott Hall, the workshop on Children will meet in Parker, and the workshop on music will meet in the Pink Parlor.

## Religious Views of Workshop Leaders

### **James Ashbrook**

Garrett-Evangelical Theological Seminary

I am a mystical skeptic, a believing unbeliever. I participate in that which I question; specifically: I construe reality according to a paradigm of a gracious God, as exemplified in the Judeo-Christian traditions (plural) and made sensible by what we are learning in the neurosciences. Influenced by Zen practice, I meditate and pray as regular parts of my life. I try to deconstruct theology in order to reconstruct it in the light of experience; and in a world burdened by oppression, I share with others in witnessing a reality illumined by justice and love.

### **Ian Barbour**

Carleton College

After being trained as a physicist and teaching physics for several years, I undertook graduate work in theology and philosophy. Since then I have been teaching and writing on the relations of science and religion, and, more recently, technology and ethics.

I hold that religious experience and the stories and rituals of particular communities are the starting point for the formulation of religious models and more systematic beliefs. However, some of these models and beliefs may need to be reformulated in light of the findings of modern science. I have

been nurtured by the Christian tradition, but I think that to be consonant with an evolutionary world the doctrine of creation must be expressed today in terms of continuing creation. The problem of evil, freedom in human life, and the presence of chance and law in nature, as well as the ecological crisis, lead me to question the monarchical model of divine omnipotence, and to seek the God of persuasion as developed by process theology and some feminist theologians.

### **Ellen Barrett**

Episcopal Priest and Historian

I am an Episcopal priest, in the Anglo-Catholic tradition but influenced by Hassidic Judaism and Zen Buddhism among other traditions. As a monastic historian I believe that to do theology (to talk *about* God) one must learn to talk *with* God, and still more importantly to listen to God. My workshop, therefore, will concentrate on various kinds of meditation techniques as ways to do that listening.

### **Phillips Brooks Benjamin**

Retired Professor of English Literature, Philosophy, and Religion

My study and research has been mainly in literature and philosophy. I have endeavored to acquire a broad, deep comprehension of both the phenomenal actuality, the object of

scientific inquiry, and the noumenal reality, the aim of metaphysical-theological aspiration.

The familiar universe, with its four dimensions of space and time, curves into a fifth dimension, the inbeing of God himself, supertemporal and superspatial. The object of life is soulmaking, the achievement of immortality, relating ourselves permanently with the Ultimate Reality.

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**Frank J. Budenholzer**

Fu Jen Catholic University, College of Science and Engineering

(1) By tradition I would consider myself a relatively center-of-the-road Roman Catholic. As a Catholic priest I have the privilege of leading segments of the Catholic community in services of word and sacrament. As a member of a religious order, the Society of the Divine Word, I live with an international community of brothers and priests, sharing a common vision and mission.

(2) My experience has been multifaceted.

I am trained as a scientist in the field of physical chemistry and currently active in university research and teaching. I believe that we scientists in some sense come to know the real world. The intelligibility of the universe and the fact that we can know something of it's mysteries is for me a constant encouragement to my faith in an intelligent ground of the universe.

For the past twelve years I have been working at Fu Jen Catholic University in Taiwan, China. In a recent survey, the students of Fu Jen stated their religious faith: (a) no religious faith, 52%, (b) Christian, 12%, (c) Buddhist, 23%, (d) Taiwan folk religion, 13%. The religious preference of my colleagues would be similar. Interacting with both secular and religious elements of China has brought me to recognize that the Lord works through various traditions.

Personal sin, societal evils are realities in our lives as individuals and social persons. Liberation will come through a combination of personal and communal effort as well as the non effort of allowing the Lord to work in our personal and social histories.

(3) Faith seeking understanding. As a matrix to bring together these various elements in an intelligible unity, I have found the critical realism of the Canadian philosopher-theologian Bernard Lonergan to be most useful. In facing the pluralism of contemporary life, without simply taking on a "lowest common denominator" theology, I have found the theological works of David Tracy to be very helpful.

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**MY VISION OF GOD**

**William Falla**

Campus Pastor, Cedar Crest College, Allentown, PA

If you ask, "do I believe in God?" I would answer "yes." If you ask, "is that God present and active in the World?" I would answer "yes." However, to go much beyond these two

statements I am much less confident. My personal study, or search for answers in this area, has borne out the statement (perhaps apocryphal) attributed to Albert Einstein that "education is the process of learning what you don't know." Thus, I continue to be struck by how little I do know, and perhaps can know.

In my search I have come to see that my picture of God, as is everyone's, is shaped by my experience as an individual growing up in a particular community as well as my hopes and dreams. Thus, my tradition as a member of the Judeo-Christian community with its book and its history provide an ever-present background. But then I must ask, as have others, "is God simply human writ large?". Or is there a reality out there that I can only experience "through a looking glass darkly"? And were we ever to catch a glimpse of that reality face to face would it be totally different from our expectations as with the travelers in Douglas Adams *Life, the Universe and Everything* who find that the answer to the meaning of life is 42? Like those travelers, the real value to me lies in the journey and in the expectation and not necessarily in the answer.

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**Thomas Fangman**

Married Roman Catholic Priest, Scientist, Educator, and Futurist

My religious outlook has been formed by a strong historical sense and the theology of Vatican II. In recent years it has been tempered by the work of Matthew Fox (Creation Spirituality) and the concept of panentheism.

I am guided by the Christian Scriptural admonition, "God is love, and the one whose life is lived in love does, in fact, live in God, and God does, in fact, live in the one." The forming of relationships (a Trinitarian notion) and the building of community are an important part of my life, whether it is teaching "cooperative learning in school," singing choral music, being involved with organizations such as IRAS, or sharing worship and prayer. In our marriage vows, my wife and I pledged service not only to each other but also to the community at large.

My notion of God has been derived from a community of believers (tradition), is nurtured by marriage, family, parish and friends (community), and is evolving into a cosmic consciousness that is limited only by human understanding (education, science, and futurism).

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**Nancy Frankenberry**

Dartmouth College

As a Catholic Emeritus (retired 1968) I have no formal religious affiliation. Academically, I view myself as a philosopher of religion rather than as a theologian, more at home with concepts and abstractions than with images, symbols, and metaphors. My research interests include processive-relational modes of thought, American radical empiricism, naturalism, and pragmatism, Buddhist religious philosophies, Chinese religions, and feminist theory. This workshop is an open invitation for discussion in the spirit of the poet Wallace Stevens' admonition:

"Throw away the lights, the definitions,  
And say of what you see in the dark,  
That it is this or that it is that,  
But do not use the rotted names"

Those who assume that "God" is one of the "rotted names" are most welcome.

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**Ward Goodenough**  
University of Pennsylvania

I believe that all humans, beginning in childhood, need means for coming to terms with the experiences that make us uncertain and anxious about ourselves, our safety, our future, who and what we are, and who and what we are to become. The means we create, including the idea of God, are myths, "security blankets," and compulsive rituals with which to reassure ourselves that all is under our control. We see these things in regard to the separation anxieties of children and in the career anxieties of adults, for example. As children, we are given myths and rituals to help us deal with our concerns by our older kin, teachers, and adults in our community. These provide the ready-made terms with which each of us then seeks to manage these concerns. To the extent that they serve our needs, they acquire validity for us, and we are reluctant to abandon them for other myths and rituals. If they do not serve our needs, we have to look for others that do or work at trying to construct our own. As an observer of this human process, I have gone my own way, seeking to come to terms with life as science reveals it, accepting the mortality of each of us as individuals, of all of us collectively as a species, and of our planet earth and our solar system eventually, as well. I find there is plenty to rejoice about even in the knowledge that nothing is or ever will be perfect (life would end if it were) and that nothing capable of human comprehension endures. If the term God refers to what is beyond human capability to comprehend, then it is an empty label and can be dispensed with as such.

The discussion theme of my workshop will be: Exploring together how it may be possible to get religious value from rituals and myths without believing the propositions about divinity and the cosmos or subscribing to the particular conceptions of the meaning of life that have been associated with them historically, and examining the possibility of finding religious value in things that have been traditionally defined as secular.

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**Daphne Hampson**  
St. Mary's College, University of St. Andrews

I am a theist, in the western tradition, who is not a Christian. I do indeed believe in God; the term for me refers (and is not, for example, a human construct). I think we need to re-envision God as something which moves between us and is present to us, yet is greater than we. I am not sure that I think that God exists 'apart' from humans (that for me is the wrong way to frame the question -- and very masculinist! -- though I clearly think God to be more than we are individually and perhaps

collectively). I am very interested in what may be the nature of prayer and its implications for how we should conceptualize God. What it means to be a spiritual person is for me very closely tied to what it means to be an ethical and a centered person. I am a ten year 'attender' of the Society of Friends (Quakers), and before I left the church and Christianity I had both an Anglican and a British Free Church background.

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**Philip Hefner**  
Lutheran School of Theology at Chicago

I was born, nurtured, and for the most part educated in a Lutheran Christian setting that communicated its tradition under the conditions of a moral earnestness, a generosity of spirit, a desire to repossess its catholic past, and the intention to be critical in the way of the great 19th century liberals. My own spirituality is hinted at in three images:

Living on the boundary--(about which Paul Tillich wrote: "to stand between alternative possibilities of existence, to be completely at home in neither; and to take no definitive stand against either.")

Landlessness--the sense that in turbulent times the safety of a comfortable port is deceptive (about which Herman Melville wrote: "But as in landlessness alone resides the highest truth, shoreless, indefinite as God--so, better it is to perish in the howling infinite, than to be ingloriously dashed upon the lee, even if that were safety!")

A tapestry is made up of many individual stitches--faithfully pursuing what we think is important, we in effect stitch together a life (about which Jorie Graham writes:

"just as we  
stitch the earth,  
it seems to me, each time  
we die, going  
back under, coming back up. . . .  
It is the simplest  
stitch, this going where we must  
leaving a not  
unpretty pattern by default.")

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**Robert M. Hemstreet**  
Minister, Unitarian Universalist Church of Flushing, NY

Often, people who come to my church for a "non-sectarian" wedding, funeral, or child-dedication ceremony say to me, "We're not religious; we don't believe in God."

I usually reply, "Neither do I, but I don't think that's what makes a person 'religious.'" I then go into my rap about John Dewey's distinction between "religion" and "the religious" as a quality of experience, as an attitude toward life, etc., which is independent of the God Question.

As a religious humanist, I do not find it comfortable or necessary to use God language to express my religious aspirations and beliefs. I oscillate between a "reverent agnosticism" (felt most strongly during IRAS Week on Star Island) and a "hard-nosed" atheism. Not a very wide range,

some would say. But within it, I find room for concepts of the Holy, the Sacred, even the Divine. Just not for God (or Goddess). As the great French scientist, Laplace, is reported to have said to Napoleon, "I have no need for that hypothesis."

That probably sounds more arrogant than I mean it to be. As a member of a pluralistic religious community, I find it helpful to engage in dialogue with those who do have a need for "that hypothesis"; it enriches my spirituality to try to understand, intellectually and emotionally, what others mean when they speak of, to, or with God. I grew up as an Episcopalian, but dropped out as a result of serious involvement in and commitment to Marxism as an intellectual system. After a period of disillusionment with the organized (non-Stalinist) Marxist movement, I discovered the religious humanisms of Sir Julian Huxley, Erich Fromm, and John Dewey, and found the Unitarian Universalist denomination to be a place where such ideas could be expressed and explored in the supportive environment of a worshipping community.

Unlike the strict Logical Positivists, I don't consider it a waste of time to talk about the idea of God. So I invite those IRASians who have problems with the theism to share their doubts and objections, and then engage in a bit of constructive a-theology -- to come up with some alternative models and concepts of the Divine/Holy/Sacred that make sense to us religiously, from our various skeptical and radically empirical points of view. Along the way, we might explore the differences among Christian, Jewish, Buddhist, and other varieties of a-theism, as Bertrand Russell once made an interesting comparison of Protestant and Catholic freethinkers.

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**H. Rodney Holmes**

Biological Sciences Collegiate Division  
University of Chicago

Ever since the social constructionists deconstructed Western culture's understanding of itself, it has been easy to justify the study of science and the study of religions. But defending their content in terms of reality or truth has become far more problematic. I understand *theological* statements about God and existence to take seriously our religious human nature, and to interpret material, psychological and social realities in terms of the divine. A theological concept like Absolute Reality, Absolute Entity, or Ground of Being Itself forms the critical principle that unifies our percepts into an understanding of what is ultimately real.

The nagging question of this conference is simply: Is there really (a) God? To articulate an answer to this question in a modern world must take into account that each of us is powerfully drawn to more than one way of understanding the world. In a complex modern world any single way of understanding is fragmentary and divisive of the kind of articulation of a critical principle that is required. At best any single framework, including natural and social science or modern theism, can offer only a partial answer to our questions about ultimate goods and goals in a modern world. At worst rival understandings become simplistic caricatures.

The task of the conferees is not to attempt some sort of consensus, but to articulate a version of theological

understanding that provides a full account of the religious and moral life that is at once informed by tradition and at the same time deeply responsive to a wide range of human goods and experiences. Broadly we aim to articulate fundamental affirmations about human values and aspirations. Precisely we aim to articulate the critical principle by which our selves are understood and evaluated in ultimate terms.

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**Michael Medford**

PhD Student in Theology and Personality

My background is Lutheran Christian, and I claim this faith tradition as my own. My study in the psychology and sociology of religion has heightened my awareness of the ways that religion can become escapist, pathological, or destructive by operating as death-denial, coping mechanism, or idolatrous quest for absolute security, certainty, or control. I focus my faith on those aspects of the Christian tradition(s) that counter the above--that foster a genuine coming-to-terms with all that reality has to offer, which, in faith, is understood as gift of God. I know my faith claims to have more the character of hypothesis than fact, but they are hypotheses that I have bet my life on. My faith helps me to live life with an eye to the Cross, so as to be ever-mindful that the "good life" is not one of comfort but of neighbor-love, which often gets downright difficult and messy. Grace-consciousness helps free me up from self and other justification and condemnation projects so that I can live doxologically and truly participate in neighbor love.

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**Roy D. Morrison II**

Wesley Theological Seminary

I am a creedless Unitarian Universalist. I believe that the great religious orthodoxies inflict tremendous dehumanization along with the good that they achieve. I am not a supernaturalist or a theist. For at least forty-six years of my life, I have been developing my identify as a scientifically-oriented critical philosopher. Above all else, I am an epistemologist. My position includes critical physical realism, and the opinion that the scientific method yields the most reliable form of knowledge that humans can possess--though it cannot tell us what we most need to know or want to know. I prefer epistemic humility to the arrogance of faith. I understand science to have a physical reality as its subject matter. Within this context, an epistemology must sustain the rigorous correlation of empirical and non-empirical factors. Knowledge, then, is the coherent accumulation of pictures and notions that survive this process of epistemic correlation.

Having studied philosophical theology, the philosophy of science, comparative typologies of religion, theoretical psychodynamics, and having contemplated the tragedy of history, I believe that there is no objective referent for most of the conceptuality generated by religion and theology. I believe that there is probably an immanent source of the order and intelligibility in the cosmos--an ultimate reality. I do not believe that the human mind is equipped to develop a discrete, verifiable concept of that ultimate reality. Being religious, then, means the profound celebration of the splendor of reason,

nature, beauty, life, and love--coupled with an equally profound recognition of the limits of human knowledge and our general finitude. For me, books, scientific method, the cerebral architecture of the great thinkers, and great music are the pathways and the instruments of this celebration.

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**William R. Page**

Fellow, Center for Psychological Studies in the Nuclear Age,  
Harvard Medical School

I am a Unitarian Universalist who has been serving, for the past 2 1/2 years, as a consultant to the Long Range Planning Committee of the Unitarian Universalist Board of Trustees.

Much of this time has been spent in thinking about a mission for the UUA which could have a significant impact on the world. My suggestion to the Long Range Planning Committee and to the President of the Association is that the UUA take on the task of effectively using and spreading the word about the more accurate understanding of human nature that is emerging from research in the behavioral sciences. I see this task as central to implementing the goals which are stated in the Unitarian Universalist principles

I have studied this research in depth; it offers insights about dimensions of religious vision and freedom which can be very empowering for any denomination.

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**Karl E. Peters**

Rollins College

I consider myself a constructive theologian who does not explicitly try to affirm a particular religious tradition but who tries instead to understand what the word God might mean if one assumes a world view informed by and consistent with modern science. Working this way, I would say I am a naturalistic, evolutionary, empirical theist, who tentatively conceptualizes God as the creative process.

To say I am naturalistic means that I try to understand God as a kind of activity or event within the world of nature. To say that I am evolutionary means that I see change as fundamental and God as the kind of change that leads to new creations. To say that I am empirical means that I believe religious ideas, as well as scientific ideas, must meet the test of experience. By experience I do not mean special "religious" experiences but everyday sense experience that can be refined into controlled observations.

Within these naturalistic, evolutionary, empirical parameters, I think it is possible to develop a theology that is both scientifically credible and religiously meaningful.

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**Loyal D. Rue**

Luther College, Decorah, Iowa

I believe that all attempts to image reality (and especially ultimate, or divine, reality) are contingent caricatures. I further believe that attempts to image divine reality become relevant and significant to the extent that they enable us to respond to the personal, social, moral and intellectual problems we experience. In other words, the religious life is an exercise in pragmatic imagination for the sake of adaptation. The truth of a religious orientation is beside the point, whereas its adaptivity is to the point. How I came to these views from a conservative Lutheran background is one of the unexplained mysteries of the cosmos.

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**Karl Schmitz-Moormann**

Fachhochschule Dortmund

Born in 1928, I grew up in a Catholic family, fortunately somewhat outside the mainstream of those years in Germany (and against it). In a way, I always stayed a Catholic Christian though I quit the theological mainstream of thought but not my theological efforts to contribute to a better theology enabling the Christian to speak about God (and Salvation in Christ) within the context of his or her own present world which is largely, though not completely, circumscribed by the knowledge of the sciences. In these efforts I was largely helped through my intensive work on the papers--published and unpublished--of Pierre Teilhard de Chardin. My education was basically in philosophy and theology, but for the last thirty years I have made my way into understanding science, and into the history of science, enabling me to understand what scientist's speak about and to ask relevant questions. My workshop will concentrate on the ways of how to speak about [the Christian] God in our scientifically known evolving world.

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**Frank J. Tipler**

Tulane University

I am a physicist, pure and simple. I believe whatever the laws of physics tell me to believe. I became an atheist and a determinist at the age of 16, because it seemed clear to me that the laws of physics were deterministic and had no room for a personal God. As a consequence of some work in cosmology by Dyson, Linde, and Hawking, about five years ago I began to reconsider both my determinism and my atheism. I now believe, *qua* physicist, that there is an excellent chance we actually have free will, that a personal God exists, and that in the far future He shall resurrect us all to live forever. In other words, it is quite possible that the existence of God, the afterlife, and free will are implications of known physical laws.

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## Topical Workshop Synopses

### THE LIVES OF BUDDHA AND CHRIST: VISUAL IMAGES

**Robert Elinor**

New England College

One answer to "the God question" is Buddha; another is Christ. Considering Gautama the Buddha and Jesus the Christ as incarnations of "ultimate reality," we focus on similarities and differences in the stories of their lives. Are they local inflections of a universal archetype?

Visual images are the most immediate and often the clearest and most complete expression of religious experience. To what extent do images of Buddha and Christ embody the incarnation?

Lots of slides. More looking than talking.

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### MUSIC -- THE UNIVERSAL LANGUAGE IN WORSHIP OF THE GODS?

**Frank Toppa**

Musician

Tom Gilbert remarked, "Music is a language that all people, even those with radically different concepts of God, can share and enjoy together." Yet, every older generation never fully comprehends what the music of youth has to say; classical musicians hear only monotonous repetition in a jazz percussionist's intricate rhythm patterns; and even during IRAS week, a great difference of opinion attends the choice of hymns in worship.

This workshop will explore whether music is a universal language. If it is, we will discuss whether its language transcends the dogma of different religions as well as their individual sects.

The workshop will start in the secular world of the classical sonata during the golden age of Haydn, Mozart, and Beethoven. Although many observations can be made about the sonata, its primary characteristic was a movement from tonic tranquility to a dominant key of higher tension. We will attempt to answer: Was this movement to greater tension a musically universal expression of some aspect of the human experience? Or was it merely an expression of that geographic world at that time in history? Do we in the 20th century West hear and understand its original intent? Does it speak in the same way to non-Western cultures? Could our lack of truly understanding the sonata be part of the basis of its universality -- that of benign ignorance? Or is there something truly transcendent about its language?

From our observations we will then proceed to the following areas of inquiry:

1. Music in the secular Western world (especially classical, jazz, popular, rock, folk, rap, new age, etc.).
2. Music in Western religions.
3. Secular music in the non-Western world.
4. Religious music in the non-Western world

Participants are encouraged to bring to the group their own special interests, areas of musical and non-musical expertise, as well as their long standing assumptions about the meaning of music. At the end of the week some may wish to apply their own conclusions to the role of music in religious practices and in the expression of the God concept.

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### CHILDREN AND THE GOD QUESTION

**Evelyn Pitcher**

Child Psychology, Tufts University (Emeritus)

The "God question," or religious ideas, are part of our human heritage, beginning in childhood, which prompt us to settle who we are and how we should live our lives. The child first responds and reflects in involvements with parents. The nature of parental care, and models of parental behavior, provide a background from which children fantasize widely about sources of power. Such fantasies can lead to concepts of God beyond the limits of representation.

The type of illusion which the child selects to respond to the God question is related to the spiritual concerns of the child's evolving self. Symbolic resolutions differ in early and middle childhood, and in adolescence.

#### References

- Coles, R. *The Spiritual Life of Children*, Houghton Mifflin, 1990
- Heller, D. *The Children's God*, University of Chicago Press, 1986
- Rizzuto, Ana-Maria, University of Chicago Press, 1979
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## Religious Views of Other Participants

### COSMIC EVOLUTION: THE "RELIGION" OF A SCIENTIST

**Eric J. Chaisson**

Space Telescope Science Institute and Johns Hopkins University;

The subject of cosmic evolution is my religion. The process of change itself (especially developmental change) is my God. And global ethics and a planetary culture, which cosmic evolution mandates, are the key to the survival of technologically competent life forms, both here on Earth and perhaps elsewhere in the Universe.

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### THE EXPLORATORY JOURNEY OF LIFE

**Thomas L. Gilbert**

Chicago Center for Religion and Science

I regard human life, individually and collectively, as an exploratory journey guided by our provisional answers to the fundamental religious question, "How should we live--and why?" I believe that answers to the fundamental religious question are strongly linked to our provisional answers to the fundamental scientific question, "How does the world work?"

Extant answers to the fundamental religious question have evolved over many millennia in the myths, rituals, and teachings that constitute our religious heritages. Our answers to how we should live are largely implicit in the patterns of behavior we adopt subconsciously from the culture in which we are raised. The answers to "why" are usually in the form of myths that must be interpreted. Different individuals and different religions give different answers. I regard the answers as "visions"--projections of our own experience and of experiences reported and interpreted by others, especially those of the community of faith into which we are born or which we join, but also of other communities of faith with which we come into contact. We do not yet understand how a vision in the foregoing sense evolves, so that we do not yet have a means that can be called a "method" for constructing a vision. Our current visions can be best understood in the context of an ongoing physical, biological, and cultural evolutionary process that started several billion years ago.

Methods that are specifically adapted to constructing "maps of reality"--provisional answers to the fundamental scientific question "How does the world work?" that strongly influence our visions--have evolved over the past few centuries and are commonly referred to, collectively, as the "scientific method." I believe that the scientific method and the knowledge acquired by applying it are a crucial means for examining our current visions and revising them as we proceed with the exploratory journey of life.

The word "God" has different meanings for different people in different contexts. It is a symbol for a variety of human experiences, especially (for Christians) those that can be characterized by such words as "sacred," "holy," "divine," and "numinous," and for insights gained from deep reflection on our experiences and the experiences of others. The word is also used to symbolize the "ultimate" concept of the creator of the universe--the "creator" of "all-that is," which includes anything and everything we can experience with our unaided or aided senses or infer on the basis of our mental constructs, and the totality of our physical, biological, and cultural environment. In this sense, the symbol "God" may be used to refer to an ultimate vision of what lies at the end of the exploratory journey. I do not believe that humans, with their finite capacities to experience and to conceptualize experience, can comprehend the "ultimate" in the foregoing sense, or validate--by any criteria--statements regarding what is truly "ultimate." For these reasons, I prefer the symbol "?" to the symbol "God" whenever it is used in the foregoing "ultimate" sense, and regard the symbol when used in this sense as a pointer that points beyond the horizon of the known or knowable.

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**Mary Hesse**

Cambridge University

I am a philosopher of science and a practising member of the Church of England. I attend a church that maintains the traditional 1662 Prayer Book liturgy. I regard religion as importantly a social as well as individual matter, and do not consider that individuals can properly construct their own religion, whether from traditional, philosophical, or scientific sources. We are all born into a culture with specific spiritual and ethical history and symbolisms, and I believe that all one person can do in a lifetime is critically to respect these, and grow from them, while learning as much as possible about other cultures that impinge upon us. In my present position in this pilgrimage I have tried to appropriate the understanding of God contained in the Old Testament, but do not regard myself as having yet internalized the claims and insights grafted on to this by Christian spirituality. I do not believe that science has any negative consequences for religion viewed in this way, but on the other hand I do not believe that natural science (cosmology, evolution theory, etc.) has any importantly new or unique insights to provide. We should now look to the social sciences for these.

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## Candlelight Services: Biographical Sketches

The day ends, except for the owls, with a candlelight service that is a longstanding tradition of the IRAS Star Island conferences. Services are led by conferees recruited by the Coordinator of Candlelight Services. The congregation gathers at the East end of the Oceanic porch each night, a few minutes before the start of the service. The Pelicans hand out candles and the congregation proceeds up the path to the chapel in silence. Candles are hung on the horizontal crosses to provide light for the service and retrieved after the service to light the walk back down the path, also in silence. Biographical sketches of the Candlelight Service leaders for 1991, compiled by Julie d'Aquili, the Candlelight Coordinator for 1991, are given below.

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SATURDAY, JULY 27

**Julie d'Aquili**

At 22, Julie already has a business in women's fashion. Her interests in poetry and art also occupy her time. She happens to be a Roman Catholic; however, she comments "You wouldn't guess it from my unorthodox views." She attributes her love of history, anthropology, sociology, and formal religions to her father, Eugene d'Aquili. Her hobbies include reading, swimming, travelling, and collecting unusual accessories.

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SUNDAY, JULY 28

**Jim Ashbrook**

When asked to give some insight about himself, Jim Ashbrook mysteriously replied, "I lust after my neighbors rocks; carved up brains in medical school; am an interpreter of dreams, and a wooer of dragons."

Jim is an ordained minister of the American Baptist Churches, USA, spent 10 years in parish ministry and 31 years as a seminar professor. He is, currently, Professor of Religion and Personality at Garrett-Evangelical Theological Seminary, a Methodist Seminary, and an advisory member of the Graduate Faculty of Northwestern University in Evanston, Illinois.

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MONDAY, JULY 29

**Margaret and Roy Morrison**

Margaret has just been promoted to supervise the 21 high school counselling departments in Montgomery County, Maryland. For those "new" to Star, it should be noted that she is quite a poet who keeps us entertained on Talent Night. Her other hobbies are landscaping her yard, reading, and collecting exotic fish in either their 44 gallon tank inside or their 130 gallon tank outside.

Margaret's husband, Roy is a professor of religion and philosophy of science. His hobbies are high-tech computers and model railroads. Roy describes himself as a creedless Unitarian Universalist. Both Margaret and Roy are looking forward to retirement in 2 years.

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TUESDAY, JULY 30

**Larry Fagg**

Larry Fagg describes himself as a wayward Episcopalian. Despite his attitude (or perhaps because of it) he received his PhD in physics from Johns Hopkins in 1953. His professional field is experimental nuclear physics. He has, as a sideline, written a book called *The Two Faces of Time* (1985). His hobby is skiing--that is, when he is not managing his 72 acre farm of chestnut trees.

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WEDNESDAY, JULY 31

**Ruth and Weiant Wathen-Dunn**

Ruth and Weiant first came to Star Island in 1953, and have been attending regularly since 1967. Both are Unitarian. Weiant is a retired physicist, and IRAS secretary. Ruth is an artist who illustrates for *Voice*, a weekly magazine published in their area. Ruth also illustrates for the *Star Beacon* and volunteers regularly to supervise most flower arrangements on the island.

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THURSDAY, AUGUST 1

**Jeannette Hopkins**

Jeannette is a whirlwind. A Unitarian, she is a lay minister, writer, book publisher, and consultant to a major publishing company. At one time she was senior editor for Harper-Row Press. She recently moved to Portsmouth, New Hampshire, and has already become a presiding member of the community council. She enjoys working in her garden, which she calls "English Cottage." She has been attending Star Island Conferences since 1952.

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FRIDAY, AUGUST 2

**Karl and Nicole Schmitz-Moormann**

Karl and Nicole were not available for interviewing, so that we must depend on reports from others and wait until they arrive for more detailed information. Karl is Professor of theology and social work at Fachhochschule Dortmund in Germany, editor of the the complete works of Teilhard de Chardin, and a charming fellow. Nicole is French, and every bit as charming and intelligent.



*Star Beacon* and Biographical Supplement:

Editor: Jane Bengtson  
 Editorial Assistants: Scott Gunn, Stephen Lapointe  
 Contributors: James Ashbrook, Steven Atkins,  
 Barbara Avakian, David Burwasser, Sean Daly,  
 Ellie d'Aquili, Julie d'Aquili, Marge Davis, Bill Falla,  
 Tom Gilbert, Ursula Goodenough, Carol Gorski,  
 Scott Gunn, Nina Habibi, Phil Hefner, Ray Harris,  
 Kyra Kaiser, Stephen Lapointe, Michael Medford,  
 Margaret Morrison, Jim O'Dell, Sally Schlegel,  
 Sharon Stein, Herb Stevens, Melvin Sweeney,  
 Patricia Thurlow, Joan Walsh, H. Louise Williams  
 Artists: Tyker Hanslin, Betty Lau, Ruth Wathen-Dunn  
 Cartoonists: Barbara Avakian, Jason Homer,  
 H. Louise Williams  
 Production & Coordination: Barbara and Peter Avakian,  
 David Burwasser, Jan Barton, Connie Conklin,  
 Sally Schlegel, Dorothy Towey, H. Louise Williams,  
 Neil Wollman  
 Sunday Mass: Frank Budenholzer  
 Variety Show Coordinator: Barbara Avakian

**PANEL MEMBERS**

Panels are chaired by the chairperson for the day. Panel members for disciplinary panels (Sunday through Thursday) consist of speakers for the day plus a few additional members from other disciplines.

**SUNDAY**

Frank Budenholzer, Chair

Anna Case-Winters	Daphne Hampson
Lindon Eaves	Arthur Peacocke
Gordon Kaufman	George Pugh

**MONDAY**

Wentzel van Huyssteen, Chair

James Ashbrook	Gordon Kaufman
Nancy Frankenberry	Roy Morrison
Mary Hesse	Deborah Tooker

**TUESDAY**

Lawrence Fagg, Chair

Phillip Benyamin	Mary Hesse
Frank Budenholzer	George Pugh
Eric Chaisson	Frank Tipler

**WEDNESDAY**

Solomon Katz, Chair

Eric Chaisson	William Page
Lindon Eaves	Arthur Peacocke
Daphne Hampson	Karl Schmitz-Moormann

**THURSDAY**

Evelyn Pitcher, Chair

James Ashbrook	Solomon Katz
Eugene d'Aquili	Mary Hesse
Nancy Frankenberry	Robvert Sorensen

**FRIDAY**

Karl Peters, Chair

Ian Barbour	Ward Goodenough
Lindon Eaves	Mary Hesse
Daphne Hampson	Wentzel van Huyssteen

**SCHOLARSHIP STUDENTS**

Scott A. Gunn	Michael Medford
Stephen Lapointe	Sharon Stein

**IRAS OFFICERS AND COUNCIL**

OFFICERS

Marjorie H. Davis	President
Solomon Katz	Vice-President for Science
John Bowker	Vice President for Religion
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Robert Sorensen	Vice-President for Development
Weiant Wathan-Dunn	Secretary
Thomas Fangman	Treasurer
Philip Hefner	<i>Zygon</i> Editor
Karl Peters	<i>Zygon</i> Editor

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Marjorie Davis	Solomon Katz
Mary Lou d'Aquili	Karl Peters
Lindon Eaves	Loyal Rue
William Falla	Jeffrey Wicken
John Fryer	

# REFERENCES

## THEOLOGY

### **Anna Case-Winters**

#### Primary References

Anna Case-Winters, *God's Power: Traditional Understandings and Contemporary Challenges*, Westminster Press, (1990)

Sallie McFague, *Models of God: Theology for an Ecological, Nuclear Age*. Fortress Press, (1987)

Eberhard Jungel, *God As the Mystery of the World*, Eerdmans, (1983)

#### Supplementary Reading

Jurgen Moltmann, *The Trinity and the Kingdom*.

Jurgen Moltmann, *Crucified God*.

### **Daphne Hampson**

Daphne Hampson, *Theology and Feminism*, Basil Blackwell Inc., Cambridge, (1990)

Daphne Hampson and Rosemary Ruether, *Is There a Place for Feminists in a Christian Church?"* Pamphlet, available from author and Star Island bookstore.

### **Philip Hefner**

#### Primary References

R.W. Burhoe, *Toward a Scientific Theology*, Christian Journals Limited, (1981) (Order from CCRS, 1100 E. 55th St. Chicago Il. 60015-5199)

Willem Drees, *Beyond the Big Bang*, Open Court Press, (1991)

Ted Peters, *Cosmos as Creation*, Abdington Press

John M. Templeton, *The Humble Approach: Scientists Discover God*, The Seabury Press, New York (1981)

#### Supplementary Reading

Ian Barbour. *Religion in an Age of Science*, Harper and Row, (1990).

David Breed, Life and Thought of Ralph Burhoe (Order from CCRS, 1100 E. 55th St. Chicago Il. 60015-5199).

Robert J. Russell, William R. Streger, and George V. Coyne. *Physics, Philosophy and Theology*, University of Notre Dame Press, (1988)

John M. Templeton and Robert L. Herrmann, *The God Who Would Be Known: Revelations of the Divine in Contemporary Science*, Harper and Row, San Francisco (1989)

### **Gordon Kaufman**

#### Primary References

Gordon Kaufman, *Theology for a Nuclear Age*, Westminster Press, (1986)

Gordon Kaufman, *The Theological Imagination*, Westminster Press, (1981)

Gordon Kaufman, *An Essay on Theological Method*. Scholars Press, Atlanta, (1979)

#### Supplementary Reading

Henry Nelson Wieman, *The Source of Human Good*, Southern Illinois University Press, (1946)

Sallie McFague, *Models of God: Theology for an Ecological, Nuclear Age*. Fortress Press, (1987)

## PHILOSOPHY

### **Mary Hesse**

M.A. Arbib and M.B. Hesse, *The Construction of Reality*, Cambridge University Press, New York, (1986)

### **Nancy Frankenberry**

Nancy Frankenberry, *Religion and Radical Empiricism*, State University of New York Press, Albany, (1987)  
Charles Hartshorne, *Omnipotence and Other Theological Mistakes*, State University of New York Press, Albany  
Henry Nelson Wieman, *The Source of Human Good*, Southern Illinois University Press, (1946)

### **Roy Morrison II**

F.S.C. Northrop, *The Meeting of East and West*, Ox Bow Press

## PHYSICAL SCIENCES

### **Eric J. Chaisson**

Eric Chaisson, *Cosmic Dawn*, W.W. Norton, New York City, (1989)  
Eric Chaisson, *The Life Era*. W.W. Norton, New York City, (1989)  
Eric Chaisson, *Universe: An Evolutionary Approach to Astronomy*, Pentice-Hall, Englewood Cliffs, NJ, 1988

### **George Pugh**

Stephen Hawking, *A Brief History of Time*, Bantam Books, (1988)

### **Frank J. Tipler**

#### Primary References

John D. Barrow and Frank J. Tipler, *The Anthropic Cosmological Principle*, Oxford University Press, (1988)  
John Earman, *A Primer on Determinism*, Reidel Publishers, (1986)  
Hans Moravec, *Mind Children: The Future of Robot and Human Intelligence*, Harvard University Press, (1988)

#### Supplementary Reading

Frank J. Tipler, The Omega Point as Eschaton ..., *Zygon* **24**(2), 217-253 (June, 1989).  
Frank J. Tipler, Physics Near the Final State: God and the Resurrection of the Dead to Eternal Life. in *Laying Theological Claim to Scientific Understandings*, Phil Hefner (ed.).  
Douglas R. Hofstadter and Daniel C. Dennett, *The Mind's I*, Bantam, (1982)  
Robert Axelrod, *The Evolution of Cooperation*, Basic Books, (1984)  
David D. Freidman, *Price Theory*, South-Western Publishing Co., Cincinnati, 2nd edition, (1989)

## LIFE SCIENCES

### **Lindon Eaves**

L. J. Eaves, H. J. Eysenck, N. G. Martin, *Genes, Culture and Personality: An Empirical Approach*, Academic Press, London and New York, (1989)  
Robert Plomin and John. C. DeFries, *Behavior Genetics, A Primer*  
Martin, Eaves, et al The Transmission of Social Attitudes, *Proceedings of the National Academy of Science* (1986)  
Papers on genetics of normal and abnormal behavior in *Behavior Genetics*, *Archives of General Psychiatry*, and *Journal of Personality and Social Psychology*.

### **William Page**

C. J. Lumsden and E. O. Wilson, *Genes, Mind and Culture*, Harvard University Press, (1981)  
C. J. Lumsden, Sociobiology, God, and Understanding, *Zygon*, Vol. 24(1),83-108 (March 1989)  
William R. Page, A Biological Perspective on Self-Responsibility and Global Survival, draft manuscript,

### **Arthur Peacocke**

#### Primary References

Arthur Peacocke, *Theology for a Scientific Age*, Basil Blackwell, (1990)  
Arthur Peacocke, *Creation and the World of Science*, *The Bampton Lectures, 1978*, Clarendon Press, Oxford, (1979)  
Arthur Peacocke, *Intimations of Reality: Critical Realism in Science and Religion. The Mendenhall Lectures, 1983*, University of Notre Dame Press, (1984)

#### Supplementary Reading

Arthur Peacocke, *God and the New Biology*, Harper and Row, (1986)  
Arthur Peacocke (ed.), *The Sciences and Theology in the Twentieth Century*, University of Notre Dame Press,

(1981)

## PSYCHOLOGY AND RELIGION

### James Ashbrook

#### Primary References

James Ashbrook, *The Brain and Belief*, Wyndham Hall Press, (1988)

Garrett Green, *Imagining God: Theology and the Religious Imagination*, Harper and Row, San Francisco, (1989)

Rosemary Ruether, *Sexism and God-Talk: Toward a Feminist Theology...* Beacon Press, Boston, (1983)

#### Supplementary Reading:

Colwyn Trevarthen, Brain Sciences and the Human Spirit, *Zygon* **21**(2), 161-200, (June 1986)

Brant Wenegrat, *The Divine Archetype: The Sociobiology and Psychology of Religion*, Lexington Books/D.C., Heath and Company, Lexington, MA/Toronto

James B. Ashbrook, The Whole Brain as the Basis for the Analogical Expression of God, *Zygon* **24**(1), 65-81, (March 1989)

James B. Ashbrook, The Human Brain and Human Destiny: A Pattern for Old Brain Empathy With the Emergence of Mind, *Zygon* **24**(3), 335-356, (September 1989).

M. Davis and D. Wallbridge, *Boundry and Space: An Introduction to the Work of W.W. Wincicott,*, Brunner/Mazel, New York, (1981).

### Eugene d'Aquili

C. D. Laughlin, Jr., J. McManus, and E. G. d'Aquili, *Brain, Symbol, and Experience: Toward a Neurophenomenology of Human Consciousness*, Shambala Publications Inc., (1990)

Eugene G. d'Aquili and Hans Mol, *The Regulation of Physical and Mental Systems: Systems Theory of the Philosophy of Science*, The Edwin Mellon Press, (1989).

## ANTHROPOLOGY

### Ward Goodenough

#### Primary References

Erwin R. Goodenough, *The Psychology of Religious Experiences*, University Press of America, (1986)

Erwin R. Goodenough, *Toward a Mature Faith*, University Press of America, (1986)

#### Supplementary reading

Goodenough W.H., On Describing Religion in Truk: An Anthropological Dilemma, *Proceeding of the American Philosophical Society* **125**:411-415 (1981).

Goodenough W.H., Self- Maintenance as a Religious Concern *Zygon* **23**:117-128 (1988).

### Deborah Tooker

#### Primary References

Wilfred Cantwell Smith, *Belief and History*, University Press of Virginia, Charlottesville, (1977)

Rodney Needham, *Belief, Language and Experience*, University of Chicago Press, Chicago, (1972)

Dan Sperber, *Rethinking Symbolism*, Cambridge University Press, (1974)

#### Supplementary reading

S. J. Tambiah, Form and Meaning of Magical Acts: A Point of View in *Modes of Thought*, (R. Horton and R. Finnegan, Eds.), pp 199-229, Faber and Faber, London, (1973)

S. J. Tambiah, A Performative Approach to Ritual, *Proceedings of the British Academy*, London, Vol. LXV, Oxford Univ. Press, London, (1979)

Dan Sperber, Apparently Irrational Beliefs, in *Rationality and Relativism*, (M. Hollis and S. Lukes, eds.), pp149-180, MIT Press, (1982)

Robin Horton, African Traditional Thought and Western Science, in *Rationality* (Bryan R. Wilson, ed.), pp 131-71, Basil Blackwell, Oxford, (1970).

Deborah Tooker, *Identity Systems of Highland Burma: 'Belief' akha say and a Critique of Interiorized Notions of Ethno-Religious Identity*, 1990 MSS



## **Acknowledgments**

IRAS Star Island conference costs are, normally, covered fully by registration fees. Because of the unusually large number of speakers for the 1991 conference, costs exceeded registration income.

IRAS acknowledges, with gratitude, a generous gift from the Templeton Religion Trust to help defray conference costs, from *Zygon* to help defray overseas travel costs for Arthur Peacocke, and from speakers who contributed part or all of the cost of their expenses.

The contributions from lecturers who gave their time and talent with no remuneration other than minimal expense reimbursement, and from workshop leaders, panel members, and facilitators who gave their time and talent without remuneration are also gratefully acknowledged.

**Schedule for the 1991 IRAS Conference on *The God Question in an Age of Science*  
Saturday, July 27, through Friday, August 2**

Period	Activity	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Disciplinary Focus		Orientation	Theology	Philosophy	Physical Sciences	Life Sciences	Psychology	Anthropology
Chairperson		U. Goodenough	Budenholler	van Huyssteen	Fagg	Katz	Pitcher	Peters
8:00-9:00 a	<b>Breakfast</b>							
9:00-9:45 a	<b>Chapel</b>		Barrett	Barrett	Barrett	Barrett	Barrett	Barrett
9:45-10:00 a	<b>Free</b>							
10:00-12:15 a <sup>1</sup>	<b>Morning Lectures</b>		Kaufman Case-Winters	Morrison Frankenberry	Chaisson Tipler	Peacocke Eaves	d'Aquili Ashbrook	W. Goodenough Tooker <sup>2</sup>
12:15-12:30 p	<b>Free</b>							
12:30-1:30 p	<b>Lunch</b>							
1:30-4:00 p	<b>Free</b>				Appledore Excursion <sup>3</sup>		IRAS Annual Meeting <sup>4</sup>	Summary Panel <sup>5</sup>
4:00-5:00 p	<b>Workshops<sup>6</sup></b>	Star Island Orientation						
5:00-5:30 p	<b>Free</b>					IRAS/Zygon Reception		
5:30-6:30 p	<b>Social Hour</b>							
6:30-7:30 p	<b>Dinner</b>					Lobster Dinner <sup>7</sup>		Banquet
7:30-9:30 p	<b>Evening Lectures</b>	Gilbert Hefner	Hampson Panel	Hesse Panel	Pugh Panel	Page Panel	Panel Pelican Show <sup>8</sup>	Talent Show <sup>9</sup>
9:30-9:45 p	<b>Free</b>							
9:45-10:15 p	<b>Candlelight</b>	d'Aquili	Ashbrook	Morrison	Fagg	Wathen-Dunn	Hopkins	Schmitz-Moorman
10:15-10:45 p	<b>Free</b>							
10:45-11:45 p	<b>Owl Session</b>							Farewell Party

<sup>1</sup>There will be a fifteen minute refreshment break from 11:00 am to 11:15 am.

<sup>2</sup>Friday morning lectures start at 9:45 am in order to allow time for two speakers and a topical panel session.

<sup>3</sup>There will be an opportunity to visit Appledore Island, where a Marine Laboratory of the University of New Hampshire is located, on Tuesday afternoon, leaving at 2 pm and returning at 4 pm. Those who go on the Appledore Excursion may miss part of the Tuesday workshop session.

<sup>4</sup>The Annual IRAS Meeting will start at 2 pm, followed immediately by a meeting of the new IRAS Council. Council meetings are open; observers are welcome.

<sup>5</sup>The summary panel and subsequent open discussion will last about 1 1/2 hours, and is followed by free time.

<sup>6</sup>Workshops are regularly scheduled for every afternoon except Thursday. Workshop meetings on Thursday are optional, at the discretion of each group.

<sup>7</sup>There will be a lobster dinner on Wednesday, starting at 6:15 pm. Tickets (\$5.50 per person) must be purchased by Monday noon.

<sup>8</sup>The Panel Session at 7:30 pm will be followed by the Pelican Show at 9:00 pm. The Candlelight Service will start at 10:15 pm.

<sup>9</sup>The Banquet will be followed by the Talent Show at 8:30 pm. The Candlelight Service will start 15 minutes after the Talent Show ends.