Establishing a Center for the Study of Science and Religion
in affiliation with the Columbia Earth Institute
at Columbia University in the City of New York

The mission of the CSSR

As an institution, science has always embraced several implicit social goals, including widespread human prosperity, disease eradication, and, more recently, environmental integrity. Social consensus exists as to the importance of these goals, but differences constantly arise in how to pursue them. From the time of the Renaissance and Reformation, science has supplied not only explanations of natural phenomenon and their underlying mechanisms, but also the 'scientific method' for skeptical, non-dogmatic analysis of society and its values. Cosmopolitan Europeans embraced 'science' without touching a test tube or solving an integral but with the certainty that rational, materialistic analysis would yield optimal solutions to social as well as technical problems.

At the same time, the results of science have always presented a natural world that is filled with order, but have not not vested it with meaning. Alone, the data of science lead to the conclusion that the sole meaning of the natural world lies in its orderliness. Restricting the meaning of the natural world to its orderliness leaves us with a vision of the planet that is devoid of many valuable aspects of our own lives. This suggests that the vision may be incomplete, even inside the boundaries of its own experimental fields.

The experience of transcendence, whether personal or communal, is universal, suggesting that at a very minimum, ubiquitous religious expectations--altruism, ethical norms, spirit, and the hope of immortality--are data of sort, if only as peculiarly recurrent events in human brains. They must be taken into account in any comprehensive attempt at modeling or predicting human behavior. Yet, while every branch of science has an obligation to look at all the data derived from its observations, all sciences have by-and-large avoided examining the origin, content, utility or meaning of religious experiences and texts which emerge from within all cultures and all languages of our species.

As the business of prediction in science moves from atoms, organisms and devices to social dynamics, 'scientific' models of social and human behavior have been used to plan for implementation. In invoking the science in the development of models, science has developed a dogma of its own that informs areas well beyond the scope of empirical observation. In this extrapolation of its limited core, science finds itself on equal footing with religion in offering social and behavioral models that are not or can not be tested.
CSSR will therefore have a particular reason to focus on the science and scientists involved in social planning, scientific research policy, and strategies for the protecting the future of the planet. CSSR will address the possible vocational aspects of those men and women who work as scientists but are also called upon to render judgment on social or policy issues, and on the place of religion in the models of human and social behavior used to formulate and vindicate such judgments.
How will the Center work?

To avoid a diffuseness otherwise endemic to interdisciplinary efforts of this sort, the Center will undertake to study specific questions in specific venues. To give members of the Advisory Committee a place to start in their deliberation of priorities, here are four specific issues the Center may address, and four different formats for the Center's activities in addressing these issues. Others are welcome.

Issue #1: How may the insights of a religion contribute to the good practice of a science, and vice-versa?
Religious texts and traditions integrate millennia of close observation of the natural world. Can these texts be of any assistance to the practitioners of any current medical or social science? The discoveries of science offer serious challenges to the meaning given to the natural world by many religions. Can scientists help in the reinterpretation of sacred texts, so that they retain their religious significance without denying the facts about the natural world as deduced from direct observation?

Issue #2: What makes the religious and the scientific views of the natural world different, and are these differences bridgeable?
All religions share with all sciences a tacit acknowledgment that the human mind's current understanding of the natural world is incomplete; at the margin of what is known lie the most intractable issues that seem to separate science and religion. How do scientists understand such margins separating what is understood from what is not? How do people infused with religious conviction understand this margin in their minds? How do these mental representations of the experience of the outside world differ, and how are they the same?

Three presumptions common to many religions but poorly supported by data of the life sciences will illustrate this point:

a) The perfectibility of life, and in particular the perfectibility of humankind. Many religions depend on it, as do many secular utopian doctrines; natural selection, which calls upon random mutation to assure the constant emergence of new variations and eventually new species, appears to exclude it.

b) The presence of an ineffable, non-material element to human consciousness. Many religions depend on it; neurobiology, which explains mental processes as the product of the differentiated proteins of the neuronal cells of the central nervous system--Darwin's "mind as a secretion of the brain"--appears to exclude it.

c) The possibility of death's reversibility. Many religions depend on it; thermodynamic entropy and the storage of information in large molecular structures which decay into meaningless subunits upon death, appears to exclude it.

Issue #3: How would an understanding of religious experience and motivation modulate current economic models of human behavior on a global scale?
Planet-wide, people make decisions about their future and the future of their children for religious as well as economic or scientific reasons. Linked to nationalism, organized
religion has been a potent factor in the political process -- witness the creation of a nuclear weapon by Pakistan -- yet global modeling of human behavior has traditionally held to the presumption that competition for resources is not limited by any but economic factors. Values that transcend competition often emerge from religious insight; without them, models of human impact on global environments are bound to be miss important alternatives.

Issue #4: What are the demands a religion makes on its adherents and the demands a science makes on its practitioners, and are these demands reconcilable?
Science demands a skeptical attitude toward any explanation of for the phenomena of the natural world. While no religion demands such skepticism, many encourage argument and struggle with the tenets of faith. At the same time, most religions and most sciences do make behavioral demands, expecting certain behaviors regardless of personal belief. What are the significant differences between the restrictions on behavior mandated by various religions, and the behaviors required by various sciences?

Formats for the center's Programs:

Format #1: Curricula.
The Center's associated faculty will initially offer undergraduates and graduate students assistance in assembling programs of study that bridge religion and the sciences. In bridging the sciences to religion, evolution seems the natural choice. In the physical sciences, from cosmology to Earth Sciences, change over time is the mark of an historical process. In the life sciences, where DNA-based inheritance assures the propagation of variant form and function, natural selection is central.

Natural selection appears in courses in the Biology and EES departments, and the curricula of the College's core, where Darwin is read. It also appears in a very few graduate biology courses, in the EES-biology major, in a series of 3000-level biology courses, and in at least one biology course for non-scientists. Mind/brain issues appear in many courses in the departments of biology and psychology, and in their joint Neurosciences and behavior major. Matters of mortality are essentially absent from the undergraduate curricula in the sciences, but do appear in the Core, in courses offered by the Religion and History departments, and in a course on Freud taught by psychoanalysts, offered in the department of English and Comparative literature.

Opportunities for new courses which attempt to lay out these three issues at the religious/scientific boundary include [a] offerings in Economics and the social sciences incorporating religion into social models currently dominated by economic theory; [b] rejuvenation of the defunct Senior colloquium, a capstone of the core, team-taught by faculty of two divisions of the Arts and Sciences; [c] new courses in science for non-scientists; [d] A curriculum now in preliminary planning stages, for a major in the philosophy of biology, sponsored by the departments of Biology, Philosophy and Religion; and [e] a complete curriculum--initially a pre-med concentration, and
eventually a major—in Religion and science per se, drawn from existing courses and ones created by the faculty associated with the Center.

To create and teach these curricula, the Center would establish links to faculty in the Center for environmental Research and Conservation; the Columbia Earth Institute; the Columbia College committee on Instruction; the Departments of Religion, Philosophy, Chemistry, Biology and English/Comp Lit; the School of Public Health; the School of Law; the New York State Psychiatric Institute, the Center for Psychoanalytic Training and research, and the University Seminars.

With the Centennial of the publication of "The Interpretation of Dreams," in 2000 the Center for Psychoanalytic Training and Research will present a series of symposia on Freud's impact on various fields. The Center for the study of Religion and Science will contribute to these proceedings, as Freud dealt with many of the issues it undertakes to examine, and as he himself struggled with the problem of integrating the scientific and religious aspects of his own personality all his life.

Format #2: Public Programs
The Center will sponsor workshops, forums, lectures and debates. The workshops will be closed sessions designed to encourage open discussion of delicate and controversial issues. The open forums will be aimed at a variety of audiences: school-children; undergraduates; the general public; congregations of churches, mosques and synagogues; lay leadership of religious organizations; scientific organizations. The Center will draw from the experiences here of the Program in Judaism and the Life Sciences, which has held successful public meetings and seminars with physicians and religious leaders.

A workshop appropriate for the Center is already in planning stages in collaboration with the Dialogue on Religion and Science of the American Association for Advancement of Science, for the fall of 1999. The Dialogue Program of the AAAS will provide the venue and administrative backup for a discussion and a workshop on the place of religion in the lives of practicing scientists who take their prayers seriously, and who also consider our three eschatological questions—questions of the ends of things, and therefore of their purposes—to be as important as the questions of natural mechanism which they address in their laboratories.

The issue to be raised in the Workshop is not whether one or another religion comes closer to the data of science, but why it is possible for anyone to be a productive scientist and a religious person, and whether in fact a religious commitment is not only possible, but important for the science that a person does. Beyond the three more-familiar monotheistic religions, the Workshop has reached out to Hindu, Buddhist and Confucian scientists as well. This workshop will give us a chance to discover whether or not there is a core of beliefs and values they all share which permits them to remain engaged and productive as scientists while also remaining bound by the expectations of their faith. We would expect it to stimulate further discussions of how a scientist chooses her or his
field and system for study, and the ways in personal history of its practitioners determine the course of a field.

The AAAS Workshop will be announced later this year in a policy paper in *Science*, and the AAAS will publish its proceedings. The AAAS Workshop has also been invited to organize a Symposium at the 2000 meeting of the AAAS in Washington DC; the Columbia Center would very likely participate in that Symposium.

Format #3: Publications
The Center will sponsor a new series of peer-reviewed scholarly books on these issues in science and religion, as well as books on other topics at the junction of the two intellectual systems. The series of books will published by Columbia University Press, under the editorial supervision of a Board which will include Adin Steinsaltz and former UTS President Don Shriver. The first of these books will be the 1999 Schoff Lectures, "The religion of science and the Science of religion." The Center will also publish the proceedings of certain of its public meetings, when those meetings generate sufficient interest.

The Center expects to make optimum use of web resources, and will create a web site similar to the Earthscape and CIAO web sites set up by Columbia University Press to web-publish and cross-reference the proceedings of meetings held under the auspices of the Columbia Earth Institute.

Format #4: The University Seminar on Science and Religion
From 1996-1998 the Ford Foundation sponsored a remarkable experiment: the creation of an inter-school, interdisciplinary seminar in which senior faculty from all Columbia campuses and colleagues from the worlds of law, medicine, and letters met to discuss a series of shared texts from a double vantage point. Each member of the seminar agreed to explicitly articulate responses to the text from both a professional and a personal perspective. By assembling members rich in diversity -- ethnic, racial and sexual -- the seminar became a place of unexpected meetings and unusual emotion honesty.

The CSSR will organize a similar small, selective senior-faculty seminar on topics in science and religion. Based on the experience of the Ford Seminar, this will be a place where effective, important members of different intellectual and spiritual communities may learn to recognize the stranger in themselves, and to benefit from insights that otherwise they would not allow themselves to consider.

Collaborations with other Organizations
The CSSR will build on current links at Columbia: to the Columbia Earth Institute, the Center for Environmental Research and Conservation, the University Seminars, the Kraft Center for Jewish Campus life, the Center for History and Medicine, the Heyman Center for the Humanities, the Center for Psychoanalytic Training and Research, the New York
Presbyterian hospital Program on Death and Dying, the Program of Humanities and Medicine in the Department of Medicine, and the University Chaplaincy.

It has already established informal links as well to the American Association for the Advancement of Science, the Roman Catholic Archdiocese of New York, the Jewish Theological Seminary of America, Yeshiva university, and the Union Theological Seminary, many local churches and synagogues; and to Thanksgiving Square in Dallas, the Philadelphia Center for Science and Religion, the Dartmouth College Ethics Institute, the Hastings Center, the Aleph Society, the Jewish-Christian Studies Center of the General Theological Seminary, the ELSI program of the National Center for Genome Research, PBS, NPR, the 92ndY, the American Museum of Natural history, the Notre Dame HP Program, the Harvard Center for the Study of World Religions, and the Yenching Institute.